

GOVERNMENT OF INDONESIA
MINISTRY OF PUBLIC WORKS



ASIAN DEVELOPMENT BANK



FINAL REPORT

Water Supply and Sanitation Project

PROJECT PREPARATION TECHNICAL ASSISTANCE
TA 4411-INO

VOLUME II: APPENDICES

DECEMBER 8, 2005

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Final Report
Water Supply and Sanitation Project
ADB TA 4411-INO

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Third Draft of RRP

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December 8, 2005

Appendix A:
Third Draft of RRP

ASIAN DEVELOPMENT BANK

RRP:

**REPORT AND RECOMMENDATION
OF THE
PRESIDENT
TO THE
BOARD OF DIRECTORS
ON A
PROPOSED LOAN
AND ASIAN DEVELOPMENT FUND GRANT
TO THE
GOVERNMENT OF INDONESIA
FOR THE
WATER SUPPLY AND SANITATION PROJECT**

August 2005

CURRENCY EQUIVALENTS

		(as of 1 July, 2005)
Currency Unit	-	Rupiah (Rp)
Rp 1.00	=	\$0.000102
\$1.00	=	Rp 9,770

ABBREVIATIONS

AMDAL	-	Analysis Mengenai Dampak Lingkungan (environmental impact analysis)
BAPPENAS	-	Badan Perencanaan Pembangunan Nasional (national development planning agency)
DALY	-	disability adjusted life years
DBO	-	design-build-operate
DPRD	-	Dewan Perwakilan Rakyat Daerah (RG legislative assembly)
EA	-	executing agency
EIA	-	environmental impact assessment
FOPIP	-	financial and operational performance improvement plan
GOI	-	Government of the Republic of Indonesia
HH	-	household
ID	-	institutional development
IEE	-	initial environmental examination
IPLT	-	instalasi pengelolaan lumpur tinjau (septic sludge treatment plant)
LIDAP	-	local institutional development action plan
LIHH	-	low income household
MDG	-	millennium development goal
MOF	-	Ministry of Finance
MOH	-	Ministry of Health
MOHA	-	Ministry of Home Affairs
MPW	-	Ministry of Public Works
NGO	-	non-government organization
NRW	-	non-revenue water
PDAM	-	Perusahaan Daerah Air Minum (RG water supply enterprise)
PERPAMSI	-	Persatuan Perusahaan Air Minum Seluruh Indonesia (association of Indonesian water supply)
PIU	-	project implementation unit
PMU	-	project management unit
PPMS	-	project performance monitoring system
PPN	-	Pajak Pendapatan Negara (value added tax)
RG	-	regional (local) government
Rp	-	rupiah
RUTRK	-	Rencana Umum Tata Ruang Kota (town plan)
SANIMAS	-	sanitasi masyarakat (sanitation by communities)
SLA	-	subsidiary loan agreement
SPAR	-	sub-project appraisal report
SSSP	-	small scale service provider
SUSENAS	-	survei sosial dan ekonomi nasional (national survey on social and economy)
TKPP	-	coordination team for project planning and monitoring

NOTE

In this report, "\$" refers to US dollars.

This report was prepared by PPTA 4411-INO Consulting Team from Black and Veatch Pte. Ltd., Singapore; PT Arkonin Engineering MP, Indonesia; PT Multi Tehniktama Prakarsa, Indonesia; and PT Waseco Tirta, Indonesia

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 - Kabupaten Bandung
 - Kabupaten Bogor

LOAN AND PROJECT SUMMARY

Borrower	Republic of Indonesia
Classification	Targeting classification: Targeted intervention Sectors: Water Supply and Sanitation Sub-sectors: Water Supply and Sanitation, Health and Social Services Themes: Sustainable economic growth, Governance, Environmental sustainability Sub-themes: Urban environmental improvement, inclusive social development, gender and development.
Environment Assessment	Category B. An initial environmental examination (IEE) was undertaken and the summary IEE is a core appendix
Project Description	The Project will provide improved water supply and sanitation services in eight cities and towns within the Provinces of Banten, North Sumatra, South Sulawesi and West Java. The project will respond to the water supply and sanitation needs of these urban communities, including low income households, by optimizing existing assets, expanding coverage, improving governance and building the capacity of local institutions. The Project will provide an estimated 620,000 people with safe drinking water. It will raise the coverage of piped systems from 25% to 53% within the selected locations during the five year period of the Project. City wide sanitation strategies will be developed in all eight Project locations. Improved sanitation facilities will be provided on a pilot project basis to 110,000 people and this will be supported by improved management of both the development and operation of urban sanitation systems. Improvements in sanitation will be further supported by public education programs in health and hygiene.
Rationale	<p>Indonesia comprises a population of approximately 220 million people, with 100 million living in urban areas. By 2015¹, the population will have increased to about 250 million, and the share of the urban population is expected to approach 60%, with more than 140 million living in urban areas. The increase in urban dwellers in the coming ten years is therefore expected to be around 40 million persons.</p> <p>Urban piped water supplies are generally provided by about 300 regional water enterprises (PDAMs). Currently 39% of the urban population is provided with a PDAM supply. Partly due to the parlous financial condition of many PDAMs, but also the evolving legal framework and uncertainties in the early stages of decentralization, there has been no significant investment in the sector for at least 5 years. Inadequate service delivery in the</p>

¹ Human Development Report 2005, UNDP.

sector in recent years continues to give significant impacts on human development outcomes. In several locations PDAMs are reporting sharply higher water losses, indicative of rapidly deteriorating systems due to sustained lack of maintenance.

In general it appears that Indonesia is lagging behind many other countries in the region in the provision and management of basic services. The situation in the water supply and particularly the sanitation sector is considered to be of more serious concern than in most other sectors. The main issues presently include: (i) the low coverage and efficiency of the water supply sector, evidenced by the high number of small water enterprises, and (ii) the acute environmental problem of gross pollution of water resources in urban areas caused by poor management of wastewater and severe deficiencies in solid waste management practices.

The Project will address these main issues by responding to the water supply and sanitation needs of selected urban communities, including low income households. The Project will assist by (i) optimizing existing assets, (ii) expanding coverage, (iii) improving governance, and (iv) building the capacity of local institutions.

ADF loan-financing is proposed for the sanitation works, the institutional development and capacity building (IDCB) and the public health and hygiene components of the Project. Improved sanitation will be vital if increases in urban water supply are implemented. IDCB will improve sustainability of the services provided under the physical investment by establishing a virtuous cycle of improved performance in delivery of services, increased willingness to pay and so greater allocation of resources to the sector. The public health and hygiene programs will target local communities and schools with campaigns to improve personal hygiene practices.

Impact and Outcome

The overall impact of the Project is to improve the urban environment and public health through the expansion of drinking water supply services and increased safe disposal of domestic wastewaters. The outcome is that, in the Project locations, there will be improved corporate governance in water supply utilities and increased awareness among decision makers and the community in general of the importance and benefits of environmentally friendly sanitation systems.

Cost Estimates

The total project cost is \$129 million equivalent, including a foreign exchange cost of \$18 million (14%) and a local currency cost of \$111 million equivalent.

Financing Plan

US\$ 90 million will be funded by the ADB and US\$39 million with counterpart funds (central and regional governments, consumers and the water companies). US\$10 million of the ADB loan will be ADF, which will be used for sanitation and capacity building.

Loan Amount and Terms	A loan of US\$80 million from the ordinary capital resources of the Asian Development Bank (ADB) will be provided under ADB's London inter-bank offered rate (LIBOR)-based lending facility. The loan will have a 25-year term including a grace period of 5 years, an interest rate determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.75% per annum, a front-end fee of 1.00%, and such other terms and conditions set forth in the draft loan agreement. The ADF loan will have 1.0% interest during an 8 year grace period and 1.5% thereafter. The total loan period will be 32 years.
Allocation and Relending Terms	75% of the ADB loan will be on-lent to regional governments in local currency with a 5.01% mark-up. Other terms will be the same as those from the ADB. The remainder of the ADB loan will be used by central government to finance capacity building. 12% of the ADF loan will be on-lent with the same mark-up and equivalent conditions. The remainder will be on-granted by central government for sanitation (47%) and capacity building (41%).
Period of Utilization	The loan will be used over a five year period
Estimated Project Completion Date	Late 2011
Implementation Arrangements	<p>The project implementation arrangements are such that for the on-lent portions of the ADB Loan, the Ministry of Finance will prepare a Sub-Loan Agreement directly with the Regional Government as represented by the Bupati (Walikota). The Bupati (Walikota) will in turn prepare a project related Performance Contract with the PDAM determining the conditions under which the funds will be allocated for water supply facilities.</p> <p>For grant funded works including the Community Based Sanitation components and the Consulting Assistance, funds will be directed from the Ministry of Finance to the Executing Agency, the Directorate General of Human Settlements (DGHS). The Community Based Sanitation works will be implemented direct through the DGHS. This work will be coordinated with Stakeholder Committees set up in each project location at the local level.</p> <p>A National Inter-Agency Coordination Committee will be formed consisting of Ministry of Finance, Bappenas, Ministry of Public Works, Ministry of Home Affairs and Ministry of Health. At the local level a Coordination Team for Project Planning and Monitoring (TKPP) will be formed under chairmanship of Bappeda and involving Regional Secretariat, Public Works Office, Public Health Office and PDAM. Bappeda will coordinate closely with the Stakeholder Committee, especially on sanitation components.</p> <p>The Project will be managed at the central level by a Project Management Unit (PMU) located within the DGHS. At the local</p>

level a Project Implementation Unit (PIU) will be formed within each of the PDAMs.

Executing Agency	Ministry of Public Works, Directorate General of Human Settlements
Procurement	In all eight of the Project locations the entire water supply works will be constructed in a single Design, Procure, Build and Operate (DBO) contract. The contractor will build new facilities which will be owned by the PDAM, but which the contractor will commission and then operate. The period of operation of the water treatment plant will be two years during which time the Contractor will work jointly with the PDAM to develop the distribution system. In Semarang, where works focus on distribution system expansion, separate contracts for materials and equipment and civil works are proposed for each of the first three years of the Project. A single contract for construction of an IPLT in Serang is proposed. Contract works are to be procured using ICB (9 no.) Contracts.
Consulting Services	179 person months of international and 1,801 of national consulting will be required. The areas of expertise of consulting services will include (i) DBO contract preparation, bidding and execution; (ii) AMDAL preparation and execution; (iii) project management (PM), including contract administration, civil and mechanical engineering expertise and financial control; institutional development and capacity building (IDCB); (iv) quality control (QC) over project execution, performing both physical works quality audits and also financial audits; (v) DED (Semarang only) and Construction Supervision consultants within the PIU; (vi) Data Collection and Analysis System (SIKD) support to RG (not funded from WSSP loan).
Project Benefits and Beneficiaries	<p>The water and sanitation development program in selected locations will assist in facilitating economic growth in the regions and also assist in the pursuit of equality through poverty alleviation. Economic growth will be facilitated by providing urban infrastructure improvements which support sustainable commercial, services and industrial development, and ensuring efficient utilization of urban infrastructure. Poverty alleviation will be assisted by providing improved environmental conditions in low income housing areas.</p> <p>Benefits of the water supply sub-project components will include (i) rehabilitation of existing water supply facilities serving 960,000 persons; (ii) provision of a clean water supply to a further 620,000 persons thereby improving the quality of life and the level of public health and also facilitating commercial, institutional and industrial development, and (iii) improved levels of water supply service for 960,000 million persons due to the development good governance</p>

practices in 13 water utilities.

Benefits of the sanitation sub-project components are: (i) development of city-wide sanitation strategies in 13 locations, (ii) reduction in pollution of surface and shallow groundwater and improvement in public health in urban areas covering 530,000 persons due to provision of a septic sludge treatment facility 420,000 and new sanitation facilities for 110,000, and (iii) more effective development, management and operation of sanitation facilities.

Risks and Assumptions

The main project risks relate to (i) the projected demand and/or willingness to pay for water supply and sanitation services not materializing, (ii) stakeholder committees not providing the necessary input to the project implementation, (iii) land acquisition and water abstraction rights not being finalized in accordance with project schedules, (iv) counterpart funding not being provided by RGs in accordance with the Project requirements, (v) institutional development and capacity building of PDAMs not being achieved to the levels required to support the significant increase in sizes of systems, (vi) PDAMs failing to develop the good corporate governance which might lead to proper management of systems, (vii) regular water supply tariff increases to adequate levels being politically unacceptable, (viii) appropriate use of water and improved hygiene behaviour not being achieved in households, (ix) the correlation between improved sanitation and improved health not proving robust, and (x) sanitation facilities not being fully utilized in line with their proposed use, especially in schools.

These risks will be mitigated by measures including (i) use of contingencies in cost estimates, (ii) project implementation monitoring arrangements, (iii) support from key central government agencies in the implementation of the project, (iv) appointment of project implementation consultants, (v) a series of specific assurances being obtained from Govt, and (vi) regular ADB project reviews.

THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed loan, and (ii) a proposed grant, both to the Government of Indonesia for the Water Supply and Sanitation Project.

RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES

A. Performance Indicators and Analysis¹

2. As with most Asian countries, urbanization is driving Indonesia's economic growth, but this is being constrained by the lack of investment in infrastructure, particularly in the water and sanitation sector. In these rapidly expanding urban areas, the supply of water and provision of sanitation services is a high priority, especially the provision of access to suitable services for low-income communities. Improved access to safe water and basic sanitation, by halving (by 2005) the proportion of people without sustainable access to safe water and basic sanitation, is a key aspect of meeting the Millennium Development Goal (MGD) Goal NO.7 - Ensuring Environmental Sustainability².

3. From a Project viewpoint the imperative in participating Regional Governments (RGs) and their PDAMs is sustainable expansion of piped water supplies. With the exception of Semarang, the problem is one of coverage, before any other. Coverage in the Project locations is low. In the proposed Project areas it is around 25% which is well below the national average of 39%.

4. What is the cause of this low coverage? Increasing difficulty in obtaining satisfactory water sources, low labor productivity, high water losses, poor management and ineffectual governance have all contributed to a vicious cycle of poorer service, lower willingness to pay and consequent ever lower performance. And all at a time of rising expectations as to the level of service government should be providing.

5. A low state equilibrium is then reached. Poor governance means low transparency in how the water enterprise (PDAMs) resources are being used while low accountability reinforces stakeholder perceptions that providing further resources to the PDAM is not the solution. This lack of trust is especially evident in tariffs that are set with little reference to costs.

6. Poor sanitation impacts negatively on public health, with the burden falling disproportionately on the poor. But the benefits are unclear to a household of any payment the household makes to the government to collectively solve "the problem". Sewerage serves less than 3% of the total urban population³. However, most of the systems are not operating properly, subsequent lack of cost recovery contributing to a less than optimal level of maintenance. In some cases inappropriate project design and poor construction standards have contributed to the problem.

7. Approximately 75% of existing access to sanitation in urban areas is through on-site sanitation since government policy makes households responsible for the treatment and disposal of wastewater. Around 50% of wastewater from toilets is passed to septic tanks for treatment. A further 25% is dealt with direct by leaching systems. Septic tanks provide only very limited removal of pollutants – around 33% - yet surveys in the late 1990s indicated that around 50% of effluent from septic tanks was discharging direct to surface drains. A further

¹ Assistance was provided in the provision of data and information through a Project Preparation TA No 4411-IND from February 28 to November 30, 2005 by Black and Veatch Pte. Ltd., Singapore; PT Arkonin Engineering MP, Indonesia; PT Multi Tekniklana Prakarsa, Indonesia; and PT Waseco Tirta, Indonesia

² Goal 7 - Ensure Environmental Sustainability, Target 10 - Halve, by 2015, the portion of people without sustainable access to safe drinking water and basic sanitation.

³ Risyana Sukarna and Richard Poilard, 2001, "Indonesia: Overview of Sanitation and Sewerage Experience and Policy Options", Urban Development Sector, World Bank, Jakarta, Indonesia

problem is that around 80% of bathroom, kitchen and laundry wastes are passed direct to surface drains without any form of treatment. Regulations generally require that septic tanks be provided with leaching systems; however, this regulation is not enforced. Septic tank effluent, along with untreated wastewater from kitchens and bathrooms, therefore flows into drainage systems creating costly and severe environmental pollution of surface waters in urban areas.

8. The benefits are mostly misunderstood and undervalued; the costs are very real but many are external to the polluter. In the WSSP project locations field surveys indicated that currently around 90% of the population are satisfied with their existing sanitation arrangements. The government then has little incentive to act in the collective interest on sanitation matters, especially when good sanitation involves improved coordination among a wide range of actors and the changing of individual behavior.

9. Householders firstly need facilities to safely remove excreta and urine from their immediate proximity – as well as behavior change – such as hand-washing and personal hygiene practices that aid this removal. The waste must then be stored and treated "on site" or transported safely to "off-site" treatment facilities. Subsequently the effluent from the treatment must also be disposed of safely into the environment. Finding and implementing "the solution" requires coordination of a much wider range of actors than does water supply.

10. Lack of leadership in devising collective solutions, communicating and planning public investments and the associated effort of structuring institutions frustrates efforts to significantly improve sanitation conditions in urban areas of Indonesia, the participating RGs being no exception. The "default" option of placing responsibility for sanitation (broadly defined) with PDAMs has served no-one well. Poor coordination, lack of leadership and low community awareness lowers access of the community to improved sanitation. The cause of the coordination, communicating and planning problems is largely rooted in governance arrangements, where the local elite have little incentive to consider the need of the broader community. But, with introduction of decentralization in 2001, local governance arrangements are changing rapidly in Indonesia.

B. Analysis of Key Problems and Opportunities

11. Urban piped water supplies are generally provided by about 300 regional water enterprises (PDAMs), while off-site sanitation services are usually provided by the regional government (RG) administration through either the city cleaning and parks agency or the public works agency. Coverage and levels of service in both sectors are well below desired levels. The economic crisis of 1997 affected particularly the poorer segments of society and since 1998 the Government has introduced many reforms with emphasis on good governance, transparency, and accountability. However, quite clearly, the WSS sector in Indonesia is in a very weak state, a condition that existed before the economic crisis in 1997/98 and has worsened since. Partly due to the parlous financial condition of many regional water enterprises (PDAMs), but also the evolving legal framework and uncertainties in the early stages of decentralization, there has been no significant investment in the sector for at least 5 years.

12. Inadequate service delivery in the sector in recent years continues to give significant impacts on human development outcomes, especially with regard to public health and the general urban amenity. In several locations PDAMs are reporting sharply higher water losses, indicative of rapidly deteriorating systems due to sustained lack of maintenance.

13. In general it appears that Indonesia is lagging behind many other countries in the region in the provision and management of basic services. The situation in the water supply and particularly the sanitation sector is considered to be of more serious concern than in most other sectors.

14. Regional autonomy through decentralization was accepted as an important pillar of progress in a nation with such geographical and ethnic diversity. Although initial actions by some regions may have given rise to a more cautionary approach, there is no doubt that the improvement of quality of life for the urban poor and the large majority living in rural agricultural areas needs a much greater sense of ownership and participation by the autonomous regions.

15. While laws on decentralization, enacted in 1999 and revised in 2003, enabled numerous initiatives for addressing the concerns of the sector, serious concerns about some main issues remain including: (i) the low coverage and efficiency of the water supply sector, evidenced by the high number of small water enterprises, and (ii) the acute environmental problem of gross pollution of water resources in urban areas caused by poor management of wastewater and severe deficiencies in solid waste management practices.

16. From a water supply viewpoint, the key question is how to achieve the objective of increased coverage? Breaking out of this cycle requires provision of an opportunity for investment in physical aspects as well as the institutional arrangements, and making use of a latent willingness of the community to pay for water supply because its benefits are immediate and private. A virtuous cycle of improved service, increased willingness to pay and so a greater allocation of resources must be established through project outputs.

17. Under regional autonomy, RGs are responsible for ensuring that sanitation services are provided within their region, similar to water supply and other basic infrastructure. While water supply is provided by PDAMs, which are enterprises owned by the RGs, responsibility for operation and management for sanitation in most cases rests with technical units within the RG administration. Because of limited budget allocation sanitation systems are often in poor state and lack maintenance. In many cases, RGs do not fully appreciate the magnitude of the sanitation sector problems, and the types of solutions available to effectively and efficiently address the serious environmental problems caused by the millions of households discharging septic tank effluent and untreated grey water into the urban drainage systems.

18. The national government is now making concerted efforts to improve the framework in which the services are provided. This started with promulgation of a new water resources law (UU 7/2004) in 2004 and a Government Regulation (PP 16/2005) in March 2005. The regulation, among other matters, requires PDAMs to provide "drinking" water rather than "clean" water, giving the deadline of 2008 for development of this service. It also outlines a legal and regulatory framework for water and sanitation in which policy making, regulatory and service provision roles are better delineated, the importance of planning highlighted and cost recovery moved centre-stage. Legislation is also being drafted to improve corporate governance of PDAMs and require improvement in local institutional arrangements, while a national level policy on capacity building is being formulated.

19. From the sanitation viewpoint an opportunity is now available to put sanitation onto the RG's agenda, where it is firmly placed under decentralization laws. A wider range of solutions must be sought than for water supply, starting with creation of clear leadership and coordination to guide a range of nascent interventions in community sanitation and public health. Creation of an effective RG level "Sanitation Advisory Board" or similarly named group to lead, communicate and help plan interventions is seen as critical.

20. While provision of water supply and sanitation works are essential to expanding coverage, sustained provision of planned services or growth in access is unlikely if the governance of the sector and the service providers in it are not reformed, along with their financial and operational performance. Current governance and management arrangements need reform to ensure the water supply and sanitation sector responds more to the community needs, to reorient it to more efficient and effective provision of services and to ensure those services are fairly distributed within the community.

21. Under decentralization, PEMDA now have full control over water and sanitation sector activities. They are also becoming more sensitive to community needs, but are still struggling with the need to introduce more community participation into decision-making in the sector. The WSSP project makes use of this environment to introduce initiatives of central government to improve the structure and governance of the sector.

22. Lessons learned under previous Bank projects which have been applied in this preparation include (i) the number of sectors covered by the project has been limited, thereby providing a solid focus of activities in inter-related sectors (ii) from a geographic viewpoint, the project limits itself to three clusters, one in western portion of Java Island, a second in South Sulawesi and a third in northern Sumatra, each cluster is to be supported by locally resident consulting assistance rather than the previous centrally based approach (iii) the project preparation has been carried out using a "bottom up process" with regular review of proposals and input from the participating RGs (iv) technical, financial, institutional, socio-economic and environmental surveys have been prepared in all locations along with full and comprehensive SPAR documents in both Indonesian and English (v) social impact and poverty alleviation have been given due regard in the project design (vi) project preliminary designs have been prepared on a site specific basis, not only for the physical works, but also for the institutional development and capacity building components (vii) a full and comprehensive PPMS has been prepared to monitor the effectiveness of not only the water supply and sanitation works but also the tasks directed at achieving good corporate governance in PDAMs (viii) special implementation arrangements have been devised as part of the project design and based on a proposed DBO approach to works construction, avoiding small contract packages which in the past resulted in inefficient procurement and increased risk of misuse of funds; (ix) the quality of works achieved in many of the previous projects was sub-standard and specialist, independent quality control consultants are proposed for the Project; (x) RG capacity to implement the Project has been assessed in all locations and special arrangements made to support this; (xi) the Project features a comprehensive institutional development and capacity building design and proposals for both LIDAP and FOIP activities.

23. ADB has five strategic development objectives. These are (i) promoting economic growth, (ii) reducing poverty, (iii) supporting human development, (iv) improving the status of women, and (v) protecting the environment. The objectives of the ADB's assistance to the WSS sector fall within the water policy of the ADB. This policy aims at assisting countries to adopt effective water policies and laws; and improve institutional capacities. It encourages the development of national action agenda for water and fosters an integrated approach to the management of water resources. While assisting in improving access to safe water and adequate sanitation, the policy encourages water conservation and system efficiencies through pricing mechanisms and improved regulation. Stakeholder participation and public-private partnerships are being encouraged within the context of the decentralization.

24. ADB's assistance to the water and sanitation sector in Indonesia aims at (i) improving the provision of safe drinking water and better sanitation to improve the health and living standards, (ii) promoting the sustainability of urban water supply through improved financial management and cost recovery practices, (iii) raising the efficiency of the water supply sector, (iv) building on the successes of existing on-site sanitation facilities (mainly self-provision) through the introduction of strategic wastewater management programs, (v) improving the institutional capacity of entities to operate and maintain urban and rural systems, and (vi) establishing an appropriate institutional framework for management of wastewater in metropolitan areas and large cities. The WSSP will provide quite significant support in the achievement of these aims.

THE PROPOSED PROJECT

A. Impact and Outcome

25. The Project area covers portions of five Provinces – Banten, North Sumatra, South Sulawesi and West Java. The Regional Governments included in the Project are Kabupaten Serang, Kabupaten Tapanuli Tengah, Kabupaten Barru, Kabupaten Jeneponito, Kabupaten Maros, Kota Palopo, Kabupaten Bandung and Kabupaten Bogor. The total population in these RGs is 8.6 million persons and within the WSSP water supply service areas, some 2.8 million persons currently reside. Bandung and Bogor are classified as major or metropolitan regional governments.

26. The overall impact of the Project is to improve the urban environment and public health through the expansion of drinking water supply services and increased safe disposal of domestic wastewaters. The increased coverage of efficient and effective water supply and sanitation services will lower the incidence of poverty. This will be achieved through a lowering of the incidence of water borne diseases and general improvements in the urban amenity and day-to-day living conditions of the population in the Project area. With the reduced prevalence of water borne diseases the general public health will improve and the child mortality rate especially will be reduced.

27. The outcome is that, in the Project locations, there will be improved corporate governance in water supply utilities and increased awareness among decision makers and the community in general of the importance and benefits of environmentally friendly sanitation systems. The population accessing piped water supply will increase from 25% to 53% by the year 2010. Improved sanitation services will be provided to 110,000 persons by means of community sewerage systems and community sanitation centres. School children in particular will benefit significantly from having sanitation facilities provided under the Project.

B. Outputs

28. Increase access to piped water supply will be achieved by first rehabilitation of existing systems and then system expansions. The Project includes a number of physical works directed at optimizing existing assets. The primary focus in this area has been the rehabilitation of pipe work systems. The commitment to optimizing existing assets is evidenced in the following Project activities: (i) Transmission pipe replacement, where old pipes are leaking and causing excessive water losses; (ii) Rehabilitation of the existing treatment plant in Palopo, (iii) Increased service reservoir capacity in Serang and Maros to allow for optimal use of existing distribution systems; (iv) Replacement of bulk water meters; (v) Distribution pipe replacement in Tapanuli Tengah, Barru and Palopo; (vi) Meter replacement programs in Barru and Bogor; (vii) Refurbishment of the existing PDAM offices in Barru. In addition to the above, UFW reduction programs are included in works in all locations. The Project will provide measuring equipment enabling performance contracts with PDAM management.

29. Increased coverage of piped water supply service will include the following activities. 11 water abstractions totaling 1,810 liters per second will be constructed along with transmission mains and associated facilities. In all locations conventional drinking water treatment plants will be provided operating on the basis of clarification and filtration processes. These plants will have a total capacity of 1,575 liters per second. 10 new services reservoirs will be provided of total capacity 26,850 cubic meters. Transmission pipes of 204 km and distribution pipes of 1,380 accommodating a possible 157,178 extra house connections will be constructed.

30. Sanitation facilities will be provided in the form of (i) 30 Community Sanitation Centres (CSC) 3 no. per RC except 6 no. in RG Metropolitan; (ii) 30 Simplified Community Sewerage

Systems (SCSS) 3 no. per RG except 6 no. in RG Metropolitan; (iii) 200 School Sanitation Centres (SSC) 20 no. per RG except 40 no. in RG Metropolitan. These physical components will be supported by preparation of city-wide sanitation strategies and sanitation awareness campaigns targeted at decision makers, civil society, community leaders and households. A new IPLT will be provided in Kabupaten Serang and in all locations assistance will be provided to improve management of sanitation systems in general and septic sludge collection and disposal operations in particular.

31. The Project will also address the need for good corporate governance in PDAMs. This will lead, importantly, to cost reflective water tariffs. Institutional development and capacity building activities will include (i) implementation and routine update of a Local Institutional Development Action Plan (LIDAP) for both sectors overseen by the Water Supply and Sanitation Advisory Board and TKPP; (ii) Develop performance contracts between selected regional government owners and their PDAM; (iii) Implementation and routine update of a Financial and Organizational Performance Improvement Plan (FOPIP); (iv) Training of agency management and operational personnel to improve competencies in activities associated with successful project delivery.

C. ADF IX Grant Component

32. ADF loan-financing is proposed for the sanitation works, the institutional development and capacity building (IDCB) and the public health and hygiene components of the Project.

33. Improved sanitation will be vital if increases in urban water supply are implemented. Community Based Sanitation, as is proposed in the Project provided through the SANIMAS approach, which is an established approach to urban sanitation in Indonesia. This approach is currently the preferred approach of DHGS, the Executing Agency. Such an established approach makes these components appropriate candidates for ADF funding.

34. IDCB will improve sustainability of the services provided under the physical investment by establishing a virtuous cycle of improved performance in delivery of services, increased willingness to pay and so greater allocation of resources to the sector. One important lesson of experience from past projects in the water supply and sanitation sector is that the physical investments are not fully effective and efficient because the institutions (the formal and informal rules) governing where and what the investments will be made, how they will be made, and how they will be operated, are not sufficiently developed to enable the necessary decisions to be made in a manner that responds to community needs and which are fair to all stakeholders. The WSSP is designed to improve the institutions so that better physical investments are made with the benefits being more widely distributed in the communities. Improvements will target reform of the structure of the sector, introduction of better governance practices and the building of capacity of organizations and individuals.

35. The public health and hygiene programs will target local communities and schools with campaigns to improve personal hygiene practices. Sanitation and hygiene behavioural change programs will form an integral part of the WSSP. The programs are designed to extend the health improvement impact of the Project investments. The objective of the Programs is to extend the health benefits of improved water and sanitation facilities by enhancing community awareness of the linkages between improved facilities, improved sanitation and hygiene behaviour and community health.

D. Special Features

36. The Project has several special features including (i) the requirement of RGs to set-up Stakeholder Committees in each location to assist in the development and implementation of the Project (ii) the proposal that in each location the works will be implemented by means of a single design, build and operate contract (DBO), so that facilities are fully operational and staff properly trained prior to handover of facilities to PDAMs (iii) the considerable attention which has and will be given to institutional development and capacity building in the Project;

(iv) the proposal for the PPMS to include a system for monitoring Good Corporate Governance within the PDAMs (v) the proposal that PDAMs will be required to prepare and implement Performance Contracts with the RGs.

E. Cost Estimates

37. The total project cost is estimated at \$129 million equivalent, comprising \$18 million in foreign exchange costs and \$111 million equivalent in local currency costs, including taxes, duties and financing charges. A summary of cost estimate is given in Table 1 and Appendix 6 gives detailed cost estimates and the assumptions behind them. These cost estimates are based on projects in thirteen regional governments.

Table 1. Project Cost Summary (US\$ Million)

Description	Foreign Exchange	Local Currency	Total Cost	%
A. Base Costs (including taxes)				
1. Water Supply	2.8	63.9	66.7	52%
2. Sanitation/Health	0.1	5.3	5.4	4%
3. Technical Assistance	3.0	13.6	16.7	13%
Subtotal (A)	5.8	82.9	88.7	69%
B. Contingencies				
Physical	0.3	5.3	5.6	4%
Price	0.3	13.9	14.3	11%
Subtotal (B)	0.6	19.3	19.9	15%
C. Financing Costs				
IDC, Charges & Fees	11.7	8.4	20.0	16%
Subtotal (C)	11.7	8.4	20.0	16%
Total	18.2	110.5	128.7	100%

Source: see Table 1, Appendix E. Note that the foreign/local split is based on the origin of the goods in order to prepare the price contingency estimate.

38. A cost estimate has been prepared for implementing a "standard" LIDAP and another for a "standard" FOPIP over five years. Each is about Rp 10.8 billion (US\$ 1.1 million), but include several activities which could be done more efficiently at a central level (model PERDA etc). On this basis the IDC component would have costed 14 x 2 x Rp 10.8 billion, or Rp 302 billion. This could be up to 20% of the project, which in the circumstances of this project, is obviously not acceptable. About half or less of this was considered possible. The figure was therefore reduced by capturing the economies of scale and applying an arbitrary factor to the standard package, based on PDAM size. Foreign expert's costs were collected at a higher level, as were some local consulting costs.

39. For the LIDAP the estimated cost over 5 years is allocated for undertaking both the water supply and sanitation components of the LIDAP. The two sectors have been combined because at the LIDAP level institutional development efforts should be integrated as much as possible. As noted, the cost of providing a "standard package" has been estimated and then an allocation as a percentage of this made to each RG, based on an estimate of the total available funds for IDC activities.

40. Costs should be shared between central government, PEMDA and the PDAM, depending upon where the work is done and who benefits directly from it. The cost of implementing the LIDAP should probably be funded by a central government grant. The FOPIP should have a substantial component paid for by the PDAM itself, as ultimately, they benefit from the improved efficiency and the sector should pay its own way out of revenues generated in the sector. Local, provincial or central government may contribute depending on the specificity of the activity. For example, model documents, systems, tools and techniques prepared centrally for project-wide application should be charged to central government. Technical assistance provided specifically to the PDAM, as well as materials

and equipment, should be charged to the PDAM. If the PDAM or regional government funds the FOPIP, it is counted as counterpart funds.

F. Financing Plan

41. The Government has requested a loan of US\$ 80 million from ADB's ordinary capital resources and a grant of US\$10 million from the Asian Development Fund to help finance the Project. The loan will have a twenty five year term, including a grace period of five years, an interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.75% per annum,⁴ a front-end fee of 1.00% (the fee will be capitalized in the loan)⁵ and such other terms and conditions set forth in the draft loan agreement. The Government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility on the basis of these terms and conditions,⁶ and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB.

42. The ADF loan will have 1.0% interest during an 8 year grace period and 1.5% thereafter. The total loan period will be 32 years. The financing will be used to finance pilot sanitation and health projects and to co-finance capacity building, all on-granted by the central to regional governments. A portion of the ADF loan will also be on-lent to finance a sludge treatment plant.

43. The ADB and ADF will finance all foreign costs or 70% of total costs. Counterpart funds will be provided by central and regional governments, by consumers and by the water supply operating agencies. Since operations of the latter are not subsidized, their funding is borne ultimately by the consumer. Consumer funding includes a small amount of in-kind contributions by beneficiaries. Central government will on-lend the ADB loan in local currency with a 5.01% mark-up and will finance this element of the sub-loan IDC. It will also finance RG capacity building funded by a separate ADB loan⁷. Regional government funding includes land acquisition and resettlement, plus equity investment in water companies and sludge treatment.

Table 2. Project Financing Summary (Nominal Prices)

Source of Funds	US\$ Million			
	Foreign	Local	Total	Percent
A. ADB				
1. ADB Loan	80.2	0.0	80.2	62.3%
2. ADF Loan	10.0	0.0	10.0	7.8%
ADB Total	90.2	0.0	90.2	70.1%
B. Counterpart Funds				
1. Central Government	0.9	8.4	9.2	7.2%
2. Local Government	0.0	5.0	5.0	3.9%
3. Consumers	0.0	12.7	12.7	9.9%
4. Operating Agency	0.0	11.5	11.5	8.9%
Counterpart Total	0.9	37.6	38.4	29.9%
Total	91.1	37.6	128.6	100.0%

Source: staff estimates. The foreign share is higher than that for costs given in Table 1 since the ADB is willing to finance local costs up to a 70% total share.

⁴ {Where commitment charges form part of interest during construction, show these as separate line items in the cost estimate table.}

⁵ {When the borrower opts to capitalize the front-end fee (to be discussed and confirmed by the fact-finding or appraisal missions), include the bracketed clause and indicate the fee as a line item in the cost estimates table.}

⁶ {Include the reasons in the minutes of the loan negotiations.}

⁷ Loan number????

G. Implementation Arrangements

1. Project Management

44. The project organization structure is such that for the on-lent portions of the ADB Loan, the Ministry of Finance will prepare a Sub-Loan Agreement directly with the Regional Government as represented by the Bupati (Walikota). The Bupati (Walikota) will in turn prepare a project related Performance Contract with the PDAM determining the conditions under which the funds will be allocated for water supply facilities.

45. For grant funded works including the Community Based Sanitation components and the Consulting Assistance, funds will be directed from the Ministry of Finance to the Executing Agency, the Directorate General of Human Settlements (DGHS). The Community Based Sanitation works will be implemented direct through the DGHS. This work will be coordinated with the Stakeholder Committee and the TKPP, led by Bappeda, at the local level.

46. At National level, the EA for the Project will be the Directorate General of Human Settlements. National inter-agency coordination will be done through a committee with representatives from Ministry of Home Affairs, Ministry of Finance, Ministry of Health, Ministry of Public Works and Bappenas. A financial management assessment is not necessary at this level since the agency has been involved in many previous projects for the ADB and other MLDs.

47. At the Regional Government level a Coordination Team for Project Planning and Monitoring (TKPP) will be set up which will chaired by BAPPEDA and include representatives of the local Public Works office, the Regional Secretariat, the local Health office and PDAM. This team will coordinate its activities with the Stakeholder Committee.

48. A Project Management Unit will be set up at Central Government level within the Executing Agency, DGHS. This unit will direct the Consulting Services and coordinate the implementation of the project works with the Project Implementation Units, which are set up within the PDAMs.

49. At Central level the PMU will have the following tasks and responsibilities: (i) Coordinate the activities of the PIUs in the PDAMs; (ii) Coordinate the activities of the Stakeholder Committees, particularly with regard to the community based sanitation elements of the Project; (iii) Advise on procurement related matters; (iv) Select and manage the Consultants for DBO contract preparations, Project management, and Institutional Development and Capacity Building; (v) Coordinate activities with the Quality Control Consultants to ensure best practices in construction activities, consulting services and project financial management; (vi) Review specific reports, with special regard to environmental and social development activities, and forward a copy to the ADB; (vii) Ensure that all relevant ADB policies and guidelines are complied with particularly procurement, financial management and safeguards against corruptive practices and negative social and environmental impacts; (viii) Prepare periodic reports, such as progress and audited financial reports, to the ADB as required.

50. The Regional Governments will provide staffing, accommodation and facilities for a Project Implementation Unit located in the PDAM. The total number of staff to be assigned to the PIU will be eight persons, on average. In addition the PIU will accommodate the DED (where necessary) and Supervision Consultant staff who will be procured direct by the Regional Government. The Project Management, Institutional Development and Capacity Building Consultant, who will be procured by, and under the direction of, the Executing Agency will also provide one full time specialist Consultant to work within the PIU.

51. The tasks and duties of the PIUs will include: (i) Where necessary prepare documentation and procure project contract packages, including local consulting services, as

part of the project; (ii) Direct and administer the execution of the project contract packages; (iii) Carry out necessary surveys and gather data as is necessary and required as part of the PPMS; (iv) Monitor and report to PMU on compliance with Loan Covenants on a bi-annual basis; (v) Prepare periodic reports including progress and financial management reports for submission to the PMU, PMU will collate these reports and forward them to the ADB; (vi) Review specific reports as necessary, particularly social assessment and environmental reports, and ensure actions as outlined in the reports are carried out at the local level. Ensure that all relevant ADB policies and guidelines are complied with particularly procurement, financial management and social and environmental safeguards; (vii) Ensure compliance with quality and best practices of consultancy services and physical works carried out by contractors.

2. Implementation Period

1. The implementation period for the project is five years. The first year of the project will generally be devoted to development of water sources and construction of water treatment facilities and associated headworks. A further important activity during the first year of the Project will be the preparation of city-wide sanitation strategies in all locations.

52. The second and third years of the Project will focus on the rehabilitation and development of water distribution systems. This work will also include campaigns focused on getting new customers connected to the developing systems.

53. The sanitation works in the second, third and fourth years will include development of Community Sanitation Centres and Simplified Community Sewerage Systems. These will be done through a community based development process.

54. The Institutional development and Capacity Building work will include the FOPIP, LIDAP and public education programs in health and hygiene. Much of the activity in these portions of the Project will proceed throughout the full five year project period.

3. Procurement

55. The entire water supply works, with the exception of the works in Semarang, will be constructed in a single Design, Procure, Build and Operate (DBO) contract. DBO implementation brings all three functions together into a single contract. The contractor will build new facilities which will be owned by the municipality, but which the contractor will commission and then operate. The period of operation of the water treatment plant will be two years during which time the Contractor will work jointly with the PDAM. The contractor will be required to both rehabilitate the current distribution system and develop the new distribution system working with the PDAM. In parallel with the rehabilitation and development of the distribution system the Contractor will be required to mount a joint marketing campaign with the PDAM so that around 80% of the design assessment for new connections will be added to the system over the two year period of joint operation. The Contractor must bring UFW to an acceptable level and the operation of the system to a level whereby drinking water is supplied to customers on a 24 hour basis and with adequate pressure. The system would therefore be brought to the operating level required by PP16/2005. The DBO contract would include a bonus paid on achievement of the required level of operation. The WSSP works will be procured almost entirely on an ICB basis.

56. The sanitation works including the Community Sanitation Centres, the Simplified Community Sewerage Systems and the School Sanitation Centres will be developed using a community based approach involving the local community in the development and construction of facilities.

4. Consulting Services

57. 179 person months of international and 1,801 of national consulting will be required. The areas of expertise of consulting services will include (i) DBO contract preparation, bidding and execution; (ii) AMDAL preparation and execution; (iii) project management (PM), including contract administration, civil and mechanical engineering expertise and financial control; institutional development and capacity building (IDCB); (iv) quality control (QC) over project execution, performing both physical works quality audits and also financial audits; (v) DED (Semarang only) and Construction Supervision consultants within the PIU; (vi) Data Collection and Analysis System (SIKD) support to RG (not funded from WSSP loan).

5. Disbursement Arrangements

58. The primary fund flow arrangement is from the Central Government, through the Regional Government to the PDAM. The Regional Government will be required to have a formal Performance Agreement with the PDAM which clarifies conditions for use of the funds, agreed performance targets and improved autonomy of PDAM.

6. Accounting, Auditing, and Reporting

59. The EA has implemented a number of similar Projects financed by the ADB over many years. Its financial management capacity is considered quite adequate. The EA will provide ADB with Quarterly Progress Reports on project implementation, including full financial data, within 30 days of each quarter calendar period. The Progress Reports will be in English and include information on disbursement and physical progress of works, along with the status of support programs.

7. Project Performance Monitoring and Evaluation

60. The project design and monitoring framework is based on achieving project objectives through a series of related activities (cause and effects) which lead to delivery of improved water supply and sanitation services in a sustainable manner. To effectively monitor performance of the project, measurement is necessary of activities (i.e. inputs), outputs, and outcomes/impacts in a chain of cause and effect. To measure, indicators of performance are needed. Three sets of indicators will be used for the Project (i) water supply (ii) sanitation and (iii) good governance.

61. Implementation of the System will begin upon project launch, with assistance from the Project Management Consultants. The QA consultants will provide independent validation of the data. The water supply, sanitation and good governance elements of the System are described below.

62. For water supply, all indicators are part of the PERPAMSI benchmarking system, which is a service available to PDAMs for assessing performance on an annual basis. The PPMS will use the benchmarking indicators, as it enables comparisons with peers and has a number of other advantages, including enabling the PPMS to become a sustainable performance improvement tool and act as an aid to increasing transparency.

63. There are no widely accepted indicators of performance of the sanitation sector. Trends in the sector performance therefore cannot be detected. Without trends it is difficult to identify performance improvement actions in a logical manner. Current values and targets for 2010 will be set as part of the WSS Sector Planning in the first year of the project.

64. Objective monitoring of improved governance requires agreement on a definition of the practices that constitute governance, indicators of the practices, measurement of how well the practices are currently being implemented as well as targets for the future.

65. Details of indicators are provided in Appendix 9.

8. Project Review

66. The EA and ADB will jointly review progress annually. Quarterly Progress reports from the PIUs in each Project location will be compiled into a single report by the PMU for submission to the EA and ADB on a quarterly basis. A comprehensive Mid-Term Review will be carried out by the ADB working with the QC consultant.

TECHNICAL ASSISTANCE

67. Technical assistance will include DBO Contract Preparation, AMDAL Preparation, Project Management, Quality Control and Institutional Development and Capacity Building.

68. The recruitment of the DBO Contract Preparation Consultant should commence during the second quarter of 2006, possibly after the Tim Penilai have completed their review of the SPARs and RG loan requests. This Consultant will be required to: (i) Prepare pre-qualification documents and guidelines on short-listing of contractors; (ii) Prepare outline designs and general arrangement drawings for proposed water supply works; (iii) Prepare schedules of quantities based on outline designs; (iv) Prepare performance based specifications for the works; (v) Compile bid documents.

69. AMDAL Consultants will be procured using GOI standard Terms of Reference for these Consulting services.

70. The recruitment of the Project Management Consultant should commence immediately the Loan has been signed. This consultant would be based in Jakarta working alongside the PMU. It is also proposed that the Consultant have a branch office in Makassar. Additionally the Consultant would have one staff resident in each of the eight Project locations working alongside the PIU staff. This Consultant will be required to: (i) Maintain a master schedule of all Project activities and monitor performance against progress, identifying problem areas and working with the PMU and PIU to solve these problems; (ii) Monitor financial performance of the Project and report to PMU as necessary; (iii) Coordinate the activities of the Stakeholder Committees, particularly with regard to the community based sanitation elements of the Project; (iv) Ensure compliance with quality and best practices of consultancy services and physical works carried out by contractors, this work would include design review and checking responsibilities; (v) Advise on procurement related matters; (vi) Coordinate activities of all Consultants working on the Project to ensure optimal and effective utilization of resources; (vii) Coordinate activities with the Quality Control Consultants to ensure best practices in construction activities, consulting services and project financial management; (viii) Review specific reports, with special regard to environmental and social development activities, and forward a copy to the ADB; (ix) Ensure that all relevant ADB policies and guidelines are complied with particularly procurement, financial management and safeguards against corruptive practices and negative social and environmental impacts; (x) Carry out necessary surveys and gather data as is necessary and required as part of the PPMS; (xi) Monitor and report to PMU on compliance with Loan Covenants on a bi-annual basis; (xii) Prepare periodic reports, such as progress and audited financial reports, to the ADB as required.

71. The Quality Control Consultant would be a separate and independent Consultant who is recruited through a higher level office in the DPU. The Consultant would ensure quality control of works in two areas: (i) Construction of physical works including random checks of works to ensure that specified technical standards are being observed in Construction; and (ii) Contractual and financial audits to ensure that corrupt practices are not being employed in the execution of the Project works.

72. Although designated as a separate Consultant it is possible that the Project Management and the Institutional Development and Capacity Building Consultants will be employed under a single major contract. The Consultant Team Leader, in such an event, would be expected to be a Project Management specialist and be responsible for direction

and management of the Consulting Team as a whole. The IDCB Consultant would be responsible generally for the implementation of the FOIP and LIDAP along with the development and implementation of the Public Health and Hygiene activities. This Consultants tasks would include: (i) Local Institutional Development Action Plan activities for Water Supply and Sanitation; (ii) Financial and Operational Performance Improvement Plans.

73. The performance of the PDAM depends upon factors which are under their control and others which are not. This plan concerns those factors under the control of the directors and personnel. The Plan is based mainly on the project objectives and activities, the results of an organizational audit conducted by survey among PDAM personnel, and the opinions of senior PDAM managers and the consultants.

74. In addition it is proposed that each of the participating PDAMs seek short-term improvements in their financial performance through the introduction of basic business procedures by means of an immediate Action Plan as outlined in the SPAR documents. With the exception of meter exchanges, none of the recommendations requires capital investment.

PROJECT BENEFITS, IMPACTS, AND RISKS

A. Environmental Impacts and Benefits

75. In general the proposed water supply systems consist of 5 main components, which are: (i) water resource development (ii) raw water transmission (iii) water treatment plant (iv) treated water transmission and storage, and (v) distribution. In addition, sanitation works comprising MCKs, small community sewerage systems and toilet blocks at schools will be constructed. Land acquisition is required for these works, but for the sanitation sector, the development by means of a community based approach and the locations of the particular sub-projects will not be known until the second and later years of the Project. The community based approach will ensure that problems with land acquisition are minimized or avoided.

76. The IEE studies reveal that no significant negative environmental impacts are likely to occur due to the pre-construction, construction and operation activities. Recommendations are made to mitigate expected negative impacts in the IEEs.

77. Positive impacts of the Project will be economic improvements and better sanitation conditions in project areas. Environmental management and monitoring will be required during preconstruction, construction and operation period. The cost of these measures has been included in the project budget.

78. The Project may have some environmental impacts, both positive and negative, including (i) the changes to morphology and the reduction of vegetation (during construction) (ii) road and path damage (during construction) (iii) social conflict due to land acquisition, labor recruitment and using equipment and material from outside the project area (during construction) (iv) water body contamination during land development, operation of the base-camp and the material storage (during construction) (v) river disturbance (during construction), (vi) public utility damage (during construction) (vi) disturbance to the public utility users (during construction), (vii) improved access to safe drinking water (viii) improvements to sanitation systems and public health.

B. Social Dimensions

79. Based on the gender analysis it was found that both the water supply and sanitation components of the project will have positive impacts on family health and hygiene and consequently be time saving for women as the major care givers particularly the female headed households who have less chance of an alternative care giver. Community

education and involvement is considered essential to ensure the success of each sanitation strategy to be developed for each Town or District. The target areas will be focused on areas in which water supply is improved. Technical assistance will be included in the loan which will target neighborhood level women's organization to develop the sanitation program.

80. Concerning poverty alleviation in the Project, the overall number of poor households was estimated at 54,726 involving a population of 267,658 and the number of vulnerable households was estimated at 20,864 households making up a population of 102,045.

C. Institutional Benefits

81. The institutional benefits will be centrally founded in development of an improved management structure of PDAMs. Key features of this reformed structure include (i) Separation of policy making, operations and regulation with overall responsibility for system design being returned to PEMDA; (ii) Funding designed to improve incentives to be efficient; (iii) Increased autonomy for the PDAM, but more accountability through clear roles and responsibilities for the Board of Supervisors and Directors. The challenge is to ensure the reforms are successfully designed and implemented in the face of the resistance to change that can be expected of any reform. The "soft" factors need attention.

82. From the viewpoint of sanitation, institutional benefits are expected be the major impact of the Project. The development of city wide sanitation strategies, which include a clear delineation of responsibility for all facets of urban sanitation, will be a major contribution of the Project.

D. Economic Analysis

83. The economic analysis covers both the Project as a whole, and the individual subprojects. Appendix 16 provides further details. For the Project as a whole, the analysis covers the economic rationale for public intervention, the goals of the investment plan, and the general design of the plan. The economic rationale is sound, based on achieving Millennium Development Goals, decreasing health risks, control of externalities (water pollution) and managing natural monopolies (water supply and wastewater treatment).

84. Sanitation sub-projects have been evaluated and found to be economically sound. The situation for water supply sub-projects is more complex. ADB sub-project analysis for the sector is based on the costs of supply from alternative traditional water sources. Even allowing for the costs of time, these are below the costs of piped water supply in most sub-projects. Adding in health benefits, only eight of the eighteen sub-projects have an EIRR greater than 12% and the overall average is only 9.2% (7.9% if capacity building costs are included). There are additional convenience benefits from piped water but adding these in would still leave at least three sub-projects classified as unviable. Sensitivity and risk analysis indicates that the economic internal rate of return is reasonably robust under adverse cost related and timing conditions but that lack of demand could undermine success in all but two projects.

E. Financial Evaluation

85. The financial evaluation is based upon tariffs agreed by the PDAM and local government. They were calculated as the maximum of those required for (a) cash cost recovery and (b) partial full costs, including booked depreciation and debt interest. On average, these call for a 250% increase over 2005 levels. Such increases are bound to affect affordability. Using 4% of expenditure as the guide, the average present consumer could afford forecast average consumption at forecast tariffs. New customers, who would have lower incomes, could not and would have the choice of paying more than 4% or consuming less, possibly making up the difference from lower cost traditional sources. People on the poverty line could, on average, afford present tariffs. Forecast tariffs would be unaffordable to them but for some people might be less than alternative water costs

including time. The position for the poor could be ameliorated by carefully placed public taps, the already legislated and used "poor" tariff and by decreasing the minimum monthly amount for which they must pay.

86. The financial evaluation of subprojects was undertaken in real terms using constant 2005 prices. The project cost estimates and financial projections in nominal terms after tax were converted to real terms by adjusting for foreign and domestic inflation and currency fluctuation. The financial internal rate of return for each subproject is more than the weighted average cost of capital, also computed on an after tax basis. The average financial internal rate of return for the thirteen water supply subprojects is 5.8%, which compares favorably to the weighted average cost of capital of 1.2%. Sensitivity and risk analysis indicates that the financial internal rate of return is robust under adverse cost and time related conditions, but that lack of demand or willingness to raise tariffs could create problems for nearly half of the sub-projects. Therefore, while the subprojects are considered financially viable and sustainable there are risks. Appendix 15 presents the financial evaluation of subprojects. Supplementary Appendix D provides financial projections prepared for each IA.

F. Risks

87. The main project risk relates to the level of demand and/or willingness to pay for water supply and sanitation. Political will to raise tariffs is a related risk. Investment in water supply has been severely constrained since the SE Asian economic crisis. This has created the pre-conditions for successful investment but does not mean that any investment will be viable. Some managers and officials believe otherwise and as a result the projects proposed are often over-designed. In some cases, this could be dealt with in project preparation. In others, significant risks remain.

88. Regarding sanitation, all studies and surveys show similar lack of demand and willingness to pay. This is less unreasonable than policy makers believe since, although there is little formal sanitation, the national propensity to boil drinking water and regular and heavy rainfall mean that sanitary health in Indonesia is well above average, both for the region and the world. This risk has been dealt with directly and is reflected in both the low share of sanitation in project costs and the reliance on pilot projects.

89. The other risk relates to the low level of capacity currently found at the RG level. This lack of capacity manifests itself in a number of ways including (i) immature or under-performing IAs; (ii) lack of awareness of policy and reform issues; (iii) lack of political will to raise utility charges in practice; (iv) low level of operational and managerial capability for water companies and sanitation sections; and (v) limited IA awareness of ADB requirements.

90. From an institutional viewpoint, one of the largest risks is that RGs will not take the reform agenda of the LIDAP seriously, especially once they have accessed loan funds for physical projects and the agenda has come under pressure from opponents to reform. Changes in key persons must also be accounted for. A second risk is that sufficient qualified technical assistance with appropriate expertise for IDCB will not eventuate.

91. During the project preparation, a comprehensive analysis of project risk was undertaken and sensitivity analysis has been performed accordingly on both the benefit and cost streams. This analysis gives informative results. The risk analysis performed also identifies appropriate risk mitigation measures, which include (i) use of contingencies in cost estimates; (ii) appointment of project implementation consultants; (iii) project implementation monitoring arrangements; (iv) support from higher levels of government (notably at the national level); (v) a series of specific assurances from the Government; and (vi) regular project reviews by ADB.

G. Overall Assessment

92. Traditional economic and financial analysis shows considerable variation in project benefits between sub-projects and that most if not all are open to some form of risk. Against this, however, must be set institutional benefits which would result from ADB involvement. The lack of investment in recent years, combined with the lower level of central supervision resulting from decentralization, has led to a very uneven and often low state of institutional capacity. This means that physical investment without institutional and capacity building support will produce little benefit. This is realized at national but not local level and is an example of potential ADB value-added to the Project. Relatedly, and also a combination of the crisis and decentralization, is the large level of outstanding debt which now dominates the water supply sector in Indonesia. The companies involved in the Project have either no debt or have agreed to reschedule without write-off. Supporting such companies must be beneficial to development of the sector as a whole. Finally, is decentralization itself. Regional governments obviously vary in their ability to take on their new responsibilities but few have shown significant ability to handle large debt funded projects. This does mean that the loan would be part of a learning curve; it does not mean that the risk should not be taken. As a result, the integrated benefits and impacts of the Project should outweigh the costs, and are robust enough to be beneficial despite potential risks.

ASSURANCES

A. Specific Assurances

93. In addition to the standard assurances, the Government of Indonesia through its Directorate General of Human Settlements has given the following assurances, which are incorporated in the legal documents:

1. Sector Reform

94. Reform of the sector structure, as set out in the Supplementary Appendix D will be pursued. In particular: (i) A Project Management Office will be established in Bappeda, staffed with sufficient competent personnel on a full time basis and will act as the secretariat to the Stakeholder Committee; (ii) A Stakeholder Committee will be established within 6 months of loan signing; (iii) A Strategic Development Plan for the water sector will be developed in the first year; (iv) A Badan Pengawas will be appointed maintained for the PDAM in accordance with the law; (v) A Performance Contract with indicators, targets and incentives will be agreed between the PDAM and PEMDA, after Stakeholder Committee comment; (vi) An independent third party will be appointed to audit the Performance Agreement each year and provide advice to the PEMDA. (vii) Automatic tariff increases on an annual cycle will be introduced - set at levels to ensure full cost recovery (as defined by PP 16/2005) starting in 2006; (viii) The Badan Pengawas will introduce a program of good corporate governance; (ix) An Internal Performance Team will be established immediately in the PDAM; (x) The Annual Review and Update of the LIDAP and FOPIP will be completed by September each year, based, among other criteria, on the PPMS results; (xi) The mandatory activities of the FOPIP will be implemented; (xii) TA consultants will be given access to all records, as will the QA consultant.

95. For the Sanitation sector: (i) Agreement in writing to the Development of a Town/District wide Sanitation Strategy which would be coordinated by a representative Stakeholder Committee; (ii) Provision in the sanitation strategy for funding of an agreed number of proposals from organizations representing women and low income communities. (to be integrated into TOR for supervision consultants) (iii) Provision of coordinators for assisting communities in preparation of sanitation action plans following completion of sanitation strategy. (This provision may be integrated into TOR for consultants) or provided by each Town/District as part of their counterpart funding).

2. Land Acquisition and Resettlement, Water Sources and Environment

96. Full disclosure of the details of proposed land acquisition with the details already requested from all regional governments in the land acquisition, resettlement, environmental checklist and supplementary questions by loan negotiations

97. Agreement in writing to the provisions of the Land Acquisition and Resettlement Framework in Appendix of DFR by loan negotiations.

98. Each participating regional government to obtain the necessary water abstraction permit (SIPA) prior to loan effectiveness.

99. Kabuapten Bandung to finalize the necessary AMDAL for the Cisangkuy River water abstraction within three months of loan effectiveness. AMDAL's required for water supply transmission mains in Kota Palopo, Kabupaten Bandung and Kabupaten Bogor, be finalized within nine months of loan effectiveness.

100. The EA and RGs will ensure that the project facilities are constructed, operated, maintained and monitored in strict conformity with (i) all applicable laws and regulations and standards for environmental protection, health, labor and occupational safety; and (ii) the environmental mitigation and monitoring measures detailed in the approved AMDALs and IEEs for the Project.

B. Conditions for Disbursement

101. Execution of delivery of each Sub-Loan Agreement between the Ministry of Finance and the participating Regional Government and issuance of a legal opinion on such Sub-Loan Agreement by counsel acceptable to the ADB.

RECOMMENDATION

102. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the loan of US\$80 million to the Government of Indonesia for the Water Supply and Sanitation Project from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; a term of twenty five years, including a grace period of five years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan and Project Agreement presented to the Board; and
- (ii) the loan in various currencies equivalent to Special Drawing Rights US\$10.0 million to Government of Indonesia for the Water Supply and Sanitation Project from ADB's Special Funds resources with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan and Project Agreement presented to the Board.

{Name}
President

Date^a

^a {Use date of the President's approval of the RRP for submission to the Board.}

DESIGN AND MONITORING FRAMEWORK

REF	DESIGN SUMMARY	PERFORMANCE TARGETS	DATA SOURCES/ REPORTING MECHANISMS	ASSUMPTIONS AND RISKS
IMPACT				
IM1	Lower incidence of diarrhea	Reduce to 75% of current figure in project area by 2010	Annual health statistics	Correlation between good sanitation and good health is robust
IM2	Provide efficiently economic infrastructure	Cost per HH served is less than: WS: Rp6.4M/HH Sanitation: Rp3.0M/HH	Project records in PPMS	Health statistics are accurate and consistent
OUTCOME				
OC1	Increased access to improved water services for urban population	Increase number of persons accessing piped water from 25% to 53% by year 2010	Annual performance audit and evaluation, based on coverage indicators in the PPMS i.e. new connections, MCKs and sewerage systems operational	Appropriate use of water and appropriate hygiene behavior in house
OC2	Increased access to improved sanitation services for urban population	Improved sanitation services provided to 110,000 persons by year 2010		Sanitation improvements fully utilized
OUTPUTS				
OP1	Cost reflective average water tariffs	Operating ratio more than 100% within 2 years	Indicator in Benchmarking System	Regular tariff increases are politically acceptable
OP2	Reduced NRW	NRW reduced by 2% per year in period 2007 to 2010	Indicator in Benchmarking System	Incentives for maintaining high water losses removed.
OP3	Improved corporate governance of PDAMs	A "good governance index" composed of 7 criteria. Baseline score year 2006 and target year 2010 to be determined.	Annual survey of about 10 key informants in the RG.	Owners trust Board of Supervisors Directors responsive to demands of Board
OP4	Increased awareness among decision-makers of sanitation benefits	Annual increase in sanitation budget more than 5% for 2006 to 2010	Indicator in PPMS	Sanitation will receive more attention and DPRD will increase budget.
OP5	School sanitation improvements	200 new water supply connections and 200 new toilet blocks by 2010	Annual count for PPMS	New facilities are allocated to children and they make use of these.
OP6	Increased safe disposal human waste	Effluent from IPLT passes environmental standard	Operation records of IPLT	Regulations on indiscriminate dumping are enforced

REF	ACTIVITIES	INPUTS
1	WATER SUPPLY WORKS	
1.1	Rehabilitate existing water supply facilities Milestones: (1) Bid docs complete (2) Contractor mobilized (3) Facilities handover	Bid documentation Civil, hydraulic, electrical & mechanical works
1.2	Provide measuring equipment enabling performance contracts with PDAM management. Milestones: (1) Bid docs complete (2) Equipment installed (3) Equipment in use for performance assessment systems	Design and install meters etc. Design and procure technical support
1.3	Instigate a program to reduce non-revenue water (NRW). Milestones: (1) Decree for Surveys teams (2) Budget for work (3) Equipment procured (4) 2% target reduction in NRW by 2010	"Cadastre" surveys Customer meter program Zoning etc
1.4	Incremental production and network expansion to reach access targets set in SPAR Milestones: (1) Contractor(s) mobilized (2) Production designs complete (3) Production works complete (4) Distribution Network designs complete (5) Network expansions complete	DBO tender docs DBO contractor Supervision and hand-over consultants
2	SANITATION WORKS	
2.1	Sanitation awareness campaigns targeted at (1) decision makers (2) civil society and (3) community leaders and households Milestones: (1) Stakeholder Committee approves content (2) Campaigns conducted (3) Effectiveness evaluation	Prepare materials Conduct Information Dissemination Campaigns
2.2	Construction of pilot MCK and Simplified Community Sewerage systems. Milestones: (1) Community agreement (2) DED complete (3) Construction complete (4) Connections achieved (5) Management sustained	Community development activities DED Bid, construction, initial operation
2.3	Conduct a Schools Sanitation Program, including physical works to upgrade all sanitary facilities and child behavioral change. Milestones: (1) Materials ready (2) Targets service standards achieved for facilities (3) Effectiveness evaluation	Prepare docs. Construct facilities Deliver behavioral component
2.4	Sludge Treatment Plant (IPLT) rehabilitation or new construction Milestones: (1) FS complete (2) EIA complete (3) Land acquisition (4) DED (5) Construction complete (6) Operating budget secured (7) Quality of effluent acceptable	Complete EIA Land acquisition Bid documents Construction contract Supervision
3	INSTITUTIONAL DEVELOPMENT AND CAPACITY BUILDING	
3.1	Implementation and routine update of a Local Institutional Development Action Plan (LIDAP) for both sectors overseen by the Water Supply and Sanitation Advisory Board and TKPP. Milestones: (1) Standard package complete (2) RG completed choice/ adaptation (3) Yearly actions complete (4) Yearly up-date	Consultancy to prepare a "standard" package Adaptation by RG Materials, equipment, remuneration & services.
3.2	Develop performance contracts between selected regional government owners and their PDAM. Milestones: (1) Model performance contract (2) Specific contract available for each PDAM (3) Performance audit end of first year.	Standard agreement and indicators Adaptation for PDAM Assistance to PDAM to negotiate with RG
3.3	Implementation and routine update of a Financial and Organizational Performance Improvement Plan (FOPIP) Milestones: (1) Baseline performance indicators established (2) Strategic Plan updated and targets approved (2) Annual plan approved (3) Yearly actions completed (4) Years results in terms of performance indicator improvement measured	Annual surveys Benchmarking of Indicators as per FOPIP Update Strategic Plan Annual updated FOPIP

REF	ACTIVITIES	INPUTS
3.4	Training of agency management and operational personnel to improve competencies in activities associated with successful project delivery Milestones: (1) Training plans as part of FOPIP (2) Completion of annual training program (3) Numbers of accredited personnel	Training course preparation Training delivery Accreditation system establishment
3.5	Consultant design and supervision services for DBO contracts. Milestones: (1) Approval of TORs (2) Appoint consultant (3) Bid document (4) Progress payments of DBO contractor	Preparation of TORs Procurement of services Consultant services
3.6	Consult Services for (1) city-wide sanitation strategies (2) IDCB design and implementation and (3) construction supervision. Milestones: (1) Sign-off of Plan by Board of Supervisors (PDAM) or Sanitation Advisory Board (2) Progress compared with planned and (3) Actual disbursement compared with planned.	Preparation of TORs Procurement of DED / ID consultants Delivery of DED / ID services
3.7	Management Services to the Executing Agency for overall WSSP project management. Milestones: (1) Actual mobilization of services (1) Satisfactory establishment of the PPMS (3) Disbursement	Preparation of TOR Procurement of Services Delivery of Consultant Services
3.8	Independent technical and financial audit services. Milestones: (1) Approval of TORs (2) Appoint consultants / auditors (3) Recommendations made (4) Follow-up actions.	Preparation of TOR Procurement of services Delivery of services

Abbreviations:

DBO	-	design-build-operate
DED	-	detailed engineering design
EA	-	executing agency
EIA	-	environmental impact assessment
FOPIP	-	financial and operational performance improvement plan
FS	-	feasibility study
HH	-	Household
ID	-	institutional development
IPLT	-	instalasi pengelolaan lumpur tinja (septic sludge treatment plant)
LIDAP	-	local institutional development action plan
MDG	-	millenium development goal
MOHA	-	Ministry of Home Affairs
NRW	-	non-revenue water
PDAM	-	Perusahaan Daerah Air Minum (RG water supply enterprise)
PERPAMSI	-	Persatuan Perusahaan Air Minum Seluruh Indonesia (association of Indonesian water supply enterprises)
PPMS	-	project performance monitoring system
RG	-	regional (local) government
Rp	-	Rupiah
SSSP	-	small scale service provider
SUSENAS	-	survei sosial dan ekonomi nasional (national survey on social and economy)
TKPP	-	coordination team for project planning and monitoring
TOR	-	terms of reference

WATER SUPPLY AND SANITATION SECTOR ANALYSIS

A. Summary

1. Indonesia comprises a population of approximately 220 million people, with 100 million living in urban areas. By 2015¹, the population will have increased to about 250 million, and the share of the urban population is expected to approach 60%, with more than 140 million living in urban areas. The increase in urban dwellers in the coming ten years is therefore expected to be around 40 million persons.

2. In many parts of Indonesia, scarce water resources must be allocated for both urban and, the more predominant, agricultural use, with water availability for many cities already becoming a serious issue. The quality of these resources has already deteriorated to unacceptably poor levels in many locations due to municipal and industrial wastewater and degradation within the catchment areas.

3. As with most Asian countries, urbanization is driving Indonesia's economic growth, but this is being constrained by the lack of infrastructure investment, including in the water and sanitation sector. In these rapidly expanding urban areas, the supply of water and provision of sanitation services is a high priority, especially the provision of access to suitable services for low-income communities. Improved access to safe water and basic sanitation, by halving (by 2005) the proportion of people without sustainable access to safe water and basic sanitation, is a key aspect of meeting the Millennium Development Goal (MDG) Goal N0.7 - Ensuring Environmental Sustainability².

Table 3. Summary of Water and Sanitation Conditions in Selected Countries

Country	HDI Rank	Population with Access to Improved Sanitation 2002 (1)	Population with Sustainable Access to an Improved Water Source 2002 (2)
Thailand	73	99	85
Philippines	84	73	85
China	85	44	77
Vietnam	108	41	73
Indonesia	110	52	78
India	127	30	86
Cambodia	130	16	34
Pakistan	135	54	90

Notes:

1. Defined as the percentage of population with access to adequate excreta disposal facilities, such as a connection to a sewer or septic tank system, a pour-flush latrine, a simple pit latrine or a ventilated improved pit latrine. An excreta disposal system is considered adequate if it is private or shared (but not public) and if it can effectively prevent human, animal and insect contact with excreta.

2. Defined as the percentage of population with reasonable access to any of the following types of water supply for drinking: household connections, public standpipes, boreholes, protected dug wells, protected springs and rainwater collection. Reasonable access is defined as the availability of at least 20 liters a person per day from a source within 1 kilometer of the user's dwelling.

¹ Human Development Report 2005, UNDP.

² Goal 7 - Ensure Environmental Sustainability, Target 10 - Halve, by 2015, the portion of people without sustainable access to safe drinking water and basic sanitation.

4. Urban piped water supplies are generally provided by about 300 regional water enterprises (PDAMs), while off-site sanitation services are usually provided by the regional government (RG) administration through either the city cleaning and parks agency or the public works agency.

5. The economic crisis of 1997 affected particularly the poorer segments of society and since 1998 the Government has introduced many reforms with emphasis on good governance, transparency, and accountability. However, quite clearly, the WSS sector in Indonesia is in a very weak state, a condition that existed before the economic crisis in 1997/98 and has worsened since. Partly due to the parlous financial condition of many regional water enterprises (PDAMs), but also the evolving legal framework and uncertainties in the early stages of decentralization, there has been no significant investment in the sector for at least 5 years. Inadequate service delivery in the sector in recent years continues to give significant impacts on human development outcomes, especially with regard to public health and the general urban amenity. In several locations PDAMs are reporting sharply higher water losses, indicative of rapidly deteriorating systems due to sustained lack of maintenance.

6. In general it appears that Indonesia is lagging behind many other countries in the region in the provision and management of basic services. The situation in the water supply and particularly the sanitation sector is considered to be of more serious concern than in most other sectors.

7. Regional autonomy through decentralization was accepted as an important pillar of progress in a nation with such geographical and ethnic diversity. Although initial actions by some regions may have given rise to a more cautionary approach, there is no doubt that the improvement of quality of life for the urban poor and the large majority living in rural agricultural areas needs a much greater sense of ownership and participation by the autonomous regions.

8. While laws on decentralization, enacted in 1999 and revised in 2003, enabled numerous initiatives for addressing the concerns of the sector, serious concerns about some main issues remain including: (i) the low coverage and efficiency of the water supply sector, evidenced by the high number of small water enterprises, and (ii) the acute problems of poor sanitation in urban areas caused by poor management of wastewater and severe deficiencies in solid waste management practices.

9. Under regional autonomy, RGs are responsible for ensuring that sanitation services are provided within their region, similar to water supply and other basic infrastructure. While water supply is provided by PDAMs, which are enterprises owned by the RGs, responsibility for operation and management for sanitation in most cases rests with technical units within the RG administration. Because of limited budget allocation sanitation systems are often in poor state and lack maintenance. In many cases, RGs do not fully appreciate the magnitude of the sanitation sector problems, and the types of solutions available to effectively and efficiently address the serious environmental problems caused by the millions of households discharging septic tank effluent and untreated grey water into the urban drainage systems.

B. Water Supply

10. Piped water supply is estimated to cover only about 17% of the total population, with 83% served mainly through self-provision on a household and community level or alternative small-scale water providers. In addition, many households operate with a dual supply, including both PDAM and groundwater abstraction systems, due to the lack of reliability of the PDAM service. At present, PDAMs supply water through just over 6 million connections nationwide. In order to meet the related Millennium Development Goal (MDG), the total number of connections by the year 2015 would need to increase to at least 15 million, assuming 40% self-provision.

11. Of the 300 PDAMs more than half have less than 10,000 connections. In addition, many regencies have attached to their water company small, unsustainable (so-called IKK) systems which were poorly designed. Since many of these systems are now obsolete, except some gravity supply systems, the level of service provided under previous projects funded nationally, and/or with donor funds, will have declined. Such small enterprises find it virtually impossible to reach economically viable levels of operation.

12. The imperative is therefore sustainable expansion of piped water supplies. The key problem is one of coverage, before any other. Poor coverage is due to increasing difficulty in obtaining satisfactory water sources, low labor productivity, high water losses, poor management and ineffectual governance. These have all contributed to a vicious cycle of poorer service, lower willingness to pay and consequent ever lower performance. Poor governance manifests itself in low transparency in how the water enterprise (PDAMs) resources are being used while low accountability reinforces stakeholder perceptions that providing further resources to the PDAM is not the solution. This lack of trust is especially evident in tariffs that are set with little reference to costs.

13. The urban population has increased in parallel with a period of deteriorating service provision such that, in 2005, one can assume that the average percentage of population served by public systems may be over stated.

14. Many PDAM water supply systems have suffered from lack of maintenance, and service quality has fallen due to a range of factors. In many instances, facilities constructed under donor funded projects are not operating effectively. The lack of system maintenance and institutional commitment has resulted in consistently high levels of non-revenue water (NRW). In addition, more than 60% of PDAMs have outstanding loans with the Ministry of Finance (MOF), and many of their RGs are also in arrears with loan repayments.

15. In most regions, tariff adjustments have been constrained by RGs so that planned full cost recovery is rarely achieved and often tariff income does not meet the operating costs of a 24 hour supply service. Understandably, however, RGs find it impossible to increase tariffs when standards of service are deteriorating. Many PDAMs do not allow for depreciation costs on fixed assets, and do not generate sufficient funds to finance new investments, with the consequence that system and facility expansions only occur through grant funding or when a donor funded loan facility comes on stream. Most small public utilities are unable to raise the counterpart funds or provide in-kind contributions that are required to participate in an international financial institution funded project.

16. In consequence, where PDAMs are unable to supply water, communities get their water through collective systems, or individuals organize their own facilities at the household level. In many instances, particularly in low-income areas, private water vendors obtain water from PDAMs and or self-suppliers for distributing to households and communities.

17. Management of PDAMs is also influenced by institutional constraints. Structurally, many PDAMs lack managerial autonomy from their owners, the RGs, and policy making, regulation and implementation have most often all been the responsibility of the PDAM, with a resulting negative affect on performance in terms of equitable service provision to the whole community.

18. However the water sector is viewed, the lack of investment is enormous and will have to be met mainly by financing provided through cash generated by PDAMs, RG borrowing capacity, central government, and donor agencies. In addition, some form of private sector participation (PSP) needs to be mobilized; however, this will be difficult in the current operating climate.

19. The required priority actions must urgently address poor management of existing networks, funding constraints of the sector, particularly the persistently low tariff levels, RG borrowing

capacity, and the mechanisms for donor funding to the regions in the new era of decentralization. Cost recovery tariffs in particular are essential for the sustainability of the sector, while international loan financing to the sector would serve as an important catalyst for reform.

C. Sanitation

20. The urban sanitation crisis in Indonesia is becoming more critical each year as rapid urban population growth continues and investment in the sector is far below that which is required to even keep pace with development. The sanitation crisis is taking a heavy toll on the health of urban residents, the economy in general and the environment. Many watercourses and streams associated with the larger urban areas function simply as open sewers.

21. Sanitation activities are under-financed and RGs and the public in general consider sanitation to be a relatively low priority. Approximately 75% of existing access to sanitation in urban areas is through on-site sanitation since government policy makes households responsible for the treatment and disposal of wastewater. Around 50% of wastewater from toilets is passed to septic tanks for treatment. A further 25% is dealt with direct by leaching systems. Septic tanks provide only very limited removal of pollutants – around 33% – yet surveys in the late 1990s indicated that around 50% of effluent from septic tanks was discharging direct to surface drains. A further problem is that around 80% of bathroom, kitchen and laundry wastes are passed direct to surface drains without any form of treatment. Regulations generally require that septic tanks be provided with leaching systems; however, this regulation is not enforced. Septic tank effluent, along with untreated wastewater from kitchens and bathrooms, therefore flows into drainage systems creating costly and severe environmental pollution of urban areas.

22. The sector is controlled by a number of agencies, but the proper disposal of human waste is rare, resulting in severe health and environmental consequences and economic losses. As with water, the number of people with lack of access to adequate sanitation is much higher among the poor. Sewerage serves less than 3% of the total urban population³. However, most of the systems are not operating properly with subsequent lack of cost recovery contributing to a less than optimal level of maintenance. In some cases inappropriate project design and poor construction standards have contributed to the problem. The sanitation sector lacks sustainability, operating conditions are poor, and there is no capacity to raise funds for system expansions. RGs generally have no institutional framework for sanitation, which means there is no budget for sector improvements. In addition to domestic wastewaters, many "cottage industries" producing traditional food (notably tofu), textiles and leather etc. contribute highly to the pollution loads discharged to watercourses that do not have any capacity to absorb untreated wastewater. The results in most low-lying urban districts are severe, and are a public health calamity.

23. On-site sanitation requires external support in the form of regular desludging. Guidelines recommend at least the annual desludging of septic tanks, but on average households remove sludge every 3 to 5 years depending on local conditions (e.g. high groundwater table). Desludging is not done to maintain treatment efficiency – households normally call tanker fleet operators (public or private) when there are blockages or odor problems. In many cases when tanks become full of sludge they are simply abandoned and a new one built nearby. Desludging is done by publicly or privately operated sludge tankers that abstract septage from individual and communal septic tanks and then discharge the concentrated polluting waste

³ Risyana Sukarna and Richard Pollard. 2001. "Indonesia: Overview of Sanitation and Sewerage Experience and Policy Options". Urban Development Sector, World Bank: Jakarta, Indonesia

either illegally to watercourses, or to septage treatment plants operated by local solid waste management departments. The treatment plants generally operate at a loss and without achieving prescribed effluent standards.

24. Another problem is the enforcement of standards in rapidly expanding urban developments. Without proper standards of construction, a backlog is in the process of being created as developers generally provide inadequate sanitation facilities in new housing estates. On-site systems are the common form of sanitation facility with direct discharge connections from the septic tanks to the street drainage systems. Most on-site systems are not appropriately designed or maintained. As a consequence, partially treated wastewater is simply discharged into open drains and water bodies that are already polluted from indiscriminate solid waste disposal and other liquid wastes. It is only the fact that drains must accommodate storm water flows that they are able to act as open sewers in many respects. The urban pollution problem then reaches a peak, especially at the start of each rainy season, when all this waste material is carried to natural watercourses and to the sea.

25. The institutional framework for sanitation is inadequate, and existing policies are unclear. Urgent action is needed to develop a national sanitation policy, which is supported by donor agencies. Compared with many other countries in the region, Indonesia has a low percentage of urban households with adequate sanitation. Apart from some cities with sewer systems in part of their urban area, there has been no significant investment in citywide sanitation infrastructure during the last 20 years.

26. In respect of sanitation, main responsibilities on central government level are with the Ministry of Health (MOH), Ministry of Environment (MOE), and the Ministry of Public Works (MPW). Within MPW, the Directorate General of Human Settlements (DGHS) provides essential technical support and guidance to RGs for the design and implementation of sanitation facilities, and is responsible for sanitation projects funded by the central government. Legislative functions affecting sanitation services are exercised by central government, although responsibilities are dispersed among ministries.

27. Particularly important at this stage is to ensure that (i) authority and accountabilities are clearly allocated (ii) that information about the benefits (and costs) of proper and improved sanitation are disseminated among key stakeholders and (iii) that the backlog of areas with unsuitable sanitation is not allowed to grow further.

D. Private Sector Participation

28. Despite serious efforts toward developing PSP in water supply and sanitation during the past ten years, little has been achieved. The two management contracts for Jakarta, where two private firms assumed responsibility for investment, management and operation of the water supply system for 25 years, another private operator in Batam (immediately south of Singapore) and a joint venture in Bali are the four main PSP initiatives in Indonesia.

29. A number of donor initiatives to promote PSP, for example in Pekanbaru, Tangerang, Cirebon, Purwakarta and Bali, have not achieved favorable results, due mainly to the perception of foreign investors that unacceptably high levels of risk were involved. In all cases, local consortia were also involved in the bidding processes, but these generally lacked the experience and expertise required to bring the projects to fruition. In addition local consortia generally entered the bidding with the expectation of unacceptably high levels of return on the limited amounts of equity which they were prepared to invest. The lack of an acceptable regulatory environment was also a significant disincentive to the development of PSP in water supply and sanitation.

30. PSP in water supply has focused on mobilizing the private sector to reduce the coverage backlog. Apart from the Jakarta experience, there has been little focus on introducing private management of infrastructure in urban areas. This has been mainly due to the perceived inability of current PDAM revenue streams to support such PSP and also due to the reluctance of the RGs to give up ownership and management of their PDAMs to outside operators. In Sidoarjo and Medan, international companies have implemented water treatment plants under BOT schemes for sale of treated water to the PDAM. Problems with the "take or pay" portion of the BOT in Sidoarjo were solved by conversion of this contract to a form of concessional arrangement. The failure of the Sidoarjo project in the late 1990s caused a shift away from BOT type approaches during the early 2000s.

31. In the sanitation sector, some involvement of the private sector has been effected in the development and operation of systems serving industrial estates. Considerable numbers of private operators also provide septic tank desludging services. Opportunities for PSP in sanitation appear to be limited to these areas for the foreseeable future.

32. The relatively unattractive conditions for PSP are likely to prevail for many years; subject to an improved regulatory environment. PSP in water supply would probably relate more towards (i) smaller more manageable initiatives such as providing finance for small scale system extensions, (ii) management and lease contracts, and (iii) involvement of local private sector enterprises in downstream activities such as treatment plant operation and maintenance and distribution management.

LESSONS LEARNED

A. General

1. ADB has contributed to improvement and expansion of water supply and sanitation services in many parts of Indonesia under earlier sectoral programs and more recently through UDP and later IUIDP in West Java, Central Java, Eastern Indonesia and Sumatra. All these programs have been complemented by institutional development and capacity building activities in related institutions, including local water enterprises. Some important lessons have been learned, especially in the more recent Projects.
2. In general terms the UDP and IUIDP approach may have had too short a planning horizon and too many sources of funding to be truly effective. A more effective approach would be develop sector specific plans and associated projects. The number of sectors covered by projects should be more limited. Project scope should include only inter-related sectors.
3. Cooperation between RGs for integrated management and operation of water supply may promote sector efficiencies and improved financial and technical capabilities. This cooperation may best be applied in such areas as the joint development of water resources for major metropolitan areas, leaving the various RGs to manage their own distribution networks.
4. If the UDP approach were to be further applied, the number of locations should be limited and generally within a single Province or contiguous Provinces. From a geographic viewpoint, projects with a large number of participants spread over a large geographical area are unmanageable and should not be repeated.

B. Project Preparation

5. Inadequate project preparation has been identified as a key issue preventing achievement of project objectives. Project preparation needs to be done properly with an adequate allocation of manpower and time. It must be based on real demand assessments. Proper and complete SPAR documents must be prepared and these reviewed by teams of relevant experts. These must be in both Indonesian and English and an adequate amount of time allocated to ensuring "ownership" of the SPARs is held by the particular regional government. SPAR preparation and review must be more rigorous and focused on Project objectives. Expertise in relevant disciplines should be available during the review process.
6. Sustainability of investments depends on understanding the function of and demand for sub-sector services in the eyes of regional government and the community. Too little time was spent on involving these parties in development of investments or in ensuring that technical and institutional capabilities were available to ensure use and sustainability.
7. Assessment surveys did not always adequately define project outcomes, choices available to communities, or clear information about the costs of connecting to piped systems and anticipated consumption tariffs. Poor planning and over-design has occurred in some instances, either due to poor analysis of community demand or failure to link technical design to institutional constraints.
8. The adoption of standard modules is intended to control costs and assist operation and maintenance. Whilst this is usually achieved, there were some occasions when DED engineers fail to compensate for local conditions which fall outside the norm.
9. Some project facilities were found to have never been used due to lack of technical training. Technical competence at regional government level to operate and maintain project investments should have been ascertained during SPAR preparation and specific training allowances allocated where there were deficiencies.

10. To be effective, PPMS must be an integral part of the project preparation process. Adequate provisions for monitoring and ensuring compliance with loan covenants by regional governments and PDAM should be incorporated in the project design.

C. Project Implementation

11. Implementation arrangements should be an integral part of project design and should not simply be a minor modification of those used for previous projects.

12. Small contract packages result in inefficient procurement and increased risk of misuse of funds. The arrangements usually promote the involvement of poorly qualified contractors and often results in low construction standards.

13. The quality of works achieved in many of the previous projects was sub-standard and specialist, independent quality control expertise and systems should be a feature of future projects.

14. In the more recent IUIDPs there have been many examples of procurement irregularities at the local level, mainly after decentralization. Contract administration procedures in most PIUs were inadequate. Lack of proper archiving procedures was widespread. Although design drawings were available, as-built drawings of civil works were not. Records of contract variations and measurement were unsatisfactory. The practice of appointing project heads for each component had a very negative impact on contract administration and resulted in significant loss of contract records when components have been completed.

15. A further problem with some PIUs was the limited budget and inadequate staffing capacity provided. This has resulted in lack of coordination and, in some cases, poor quality of works.

D. Management, Operation and Maintenance of Facilities

16. Provision for the proper management, operation and maintenance of facilities provided under urban development projects is vital to the sustainability of the works.

17. Small water enterprises do not have adequate technical resources to manage their own affairs or contribute strongly towards program implementation, resulting in ineffective investment outcomes. The institutional capacities of participating regional governments and their agencies to manage, operate and maintain their investments have in the past been overestimated. Regional governments lack management skills in public service deliveries. Budget decisions are made by senior staff without experience in managing a business. PDAM are managed by people without experience of a process industry.

18. Institutional capabilities of regional governments to manage their investments must be analyzed properly before implementation. Too many institutional evaluations in Project SPARs appear to have been cut and pasted from one to the next. For example, the lack of an institutional framework for the sanitation sub-sector was rarely identified.

19. Proper tariffs and service charges to cover O&M expenditures and undertake new capital investments are crucial to the operation and sustainability of project components. Most regional governments keep tariffs low for political reasons. Projects need to firmly address governance inadequacies in project locations.

EXTERNAL ASSISTANCE TO THE WATER SUPPLY AND SANITATION SECTORS IN INDONESIA

A. Asian Development Bank

1. ADB has provided assistance for improving urban and rural water supply and sanitation in Indonesia since 1972: eight water supply and sanitation loan projects for about \$317 million, and 15 TA projects for about \$5.9 million. Additional financing for water supply and sanitation improvement was provided through several urban development projects, most notably in the metropolitan areas of Bandung, Medan and also throughout West Java, Sumatra and the Eastern Islands. The Bandung Urban Development Project, approved in 1979 was the Bank's first attempt at an integrated approach. This was closely followed by Medan and the Second BUDP in 1984. The programs have introduced piped water services to many medium and small size towns, financed expansion of water networks in a number of large cities, and contributed to improved WSS in rural areas. In the ten-year period from 1991, water and sanitation investments formed part of the IUIDP approach that contributed towards greater regional government participation in the management of urban development and its infrastructure. A list of major ADB financed projects is as follows:

Loan No.	ADB Loan Project	Approved
919	Second Medan Urban Development, \$ 179 million	10 Nov 1988
983	Secondary Cities Urban Development (Sector), \$ 70 million	9 Nov 1989
1069	Second IKK Water Supply Project Sector, \$ 39 million	18 Dec 1990
1077	Botabek Urban Development, \$ 80 million	31 Jan 1991
1078	Bandar Lampung Urban Development, \$ 33 million	31 Jan 1991
1111	Bogor and Palembang Urban Development, \$ 140 million	31 Oct 1991
1158	Water Pollution Control, \$ 8.4 million	4 Feb 1992
1198	Central Java and D.I. Yogyakarta Urban Development (Sector), \$150 million	26 Nov 1992
1292	Eastern Islands Urban Development Sector, \$85 million	21 Dec 1993
1352	Rural Water Supply and Sanitation Sector, \$85 million	2 Feb 1995
1383	Sumatera Urban Development (Sector), \$130 million	26 Sep 1995
1384	West Java Urban Development (Sector), \$70 million	26 Sep 1995
1511	Metro Botabek Urban Development (Sector), \$80 million	19 Dec 1996
1527	Capacity Building of Water Supply Enterprises for Water Loss Reduction Sector, \$66 million	17 Jul 1997
1572	Capacity Building in Urban Infrastructure Management, \$42 million	4 Nov 1997
1587	Metropolitan Medan Urban Development, \$116 million	8 Dec 1997

2. Donor funded projects have been among the main sources of investment financing in the sector, but the post-crisis lending programs have effectively come to a halt. New loan projects for urban and rural WSS are various stages of preparation, including the Community Water Services and Health Project, and the Water Supply and Sanitation Project.

3. Community Water Services and Health Project (CWSHP). The project, scheduled for approval in 2005, will provide rural water supply and sanitation facilities and services to about 1,000 communities in 20 districts in the 4 provinces of West Kalimantan, Central Kalimantan, Jambi, and Bengkulu, combined with capacity building for districts and communities, and sanitation and hygiene behavioral change programs. An estimated 1.2 million people will benefit from safe drinking water and improved sanitation facilities. Subproject selection at community level will combine elements of poverty targeting with a demand-responsive approach to ensure sustainability of the facilities provided. The Directorate General of

Communicable Disease Control and Environmental Health (DG CDC&EH) of MOH is the executing agency for the Project.

4. Providing access to water and sanitation is an integral part of the Government's efforts in improving health and living conditions in Indonesia and meeting the related MDGs. The Government has therefore developed a National Policy for the Development of Community-Managed Water Supply and Environmental Health Facilities and Services, which highlights the need for a demand-responsive approach to rural water supply and sanitation. In line with the Government's policy, the proposed CWSHP addresses the four major issues, which caused unsatisfactory results of similar past projects: (i) the capacity of regional governments to plan and facilitate sustainable investments; (ii) the ownership and capacity of communities for implementing and maintaining new facilities; (iii) the appropriate financing of investments; and (iv) the need for change in associated hygienic behavior, which reinforces the health impact of investments.

5. Private Sector Participation Development Facility for Urban Infrastructure (PSPF). The project, a technical assistance loan scheduled for approval in 2005, is proposed to promote PSP in urban infrastructure development on a sustainable basis by providing regional governments with a revolving facility to engage consultants for project preparation and bidding assistance. The PSPF will provide loans to finance external consulting services to help regional governments prepare, bid, evaluate, negotiate, and award PSP urban infrastructure projects.

6. The Project will promote PS financing of eligible projects in (i) water supply, (ii) wastewater treatment and sanitation, (iii) solid waste management and disposal facilities, (iv) passenger transport terminals, (v) markets, (vi) slaughterhouses, (vii) hospitals and health facilities, (viii) regional government-owned air and seaports, and (ix) other urban facilities.

B. World Bank

7. Similar to ADB, WB has been involved in the development of the sector under a series of water supply projects but in different parts of Indonesia for example, in East Java, Sulawesi, Kalimantan, Papua, and Bali. These WSS sectoral investments were then replaced by support to a number of IUIDP follow-on programs in the same provinces, again similar to ADB's experience in the sector. The Water Supply and Sanitation for Low-income Communities Project (WSSLIC-1) was introduced in 1994 for rural areas, using community-based approaches, followed by a second project (WSSLIC-2) that commenced in 2004. World Bank is close to completing negotiations for a new lending operation, the Urban Water and Sanitation Improvement and Expansion Project (UWSIEP), which is similar to ADB's proposed WSSP in objectives and scope. The follow-up Urban Water Supply Project is under preparation¹ which also deals with areas outside existing PDAM service areas, and includes a design-build-lease (DBL) concept for developing services on "greenfield" sites.

C. Bilateral Assistance

8. United States Agency for International Development (USAID). The Local Government Water Supply Project (LGWS) showed that access to water for the poor can be increased by supporting reforms in PDAMs and RGs. The LGWS project developed procedures for PDAMs to achieve full cost recovery by applying transparent accounting systems. The project also supported the development of corporate plans that include provision of customer service representatives and customer satisfaction surveys.

¹ Two main components (i) support to PDAMs for implementation of their FRAPs or for enterprises that are already commercially viable, and (ii) RGs borrowing investment funds and private operators invited to construct and operate systems through DBL contracts.

9. Key issues in the design of the proposed Environmental Services Project (ESP) include (i) access to clean water and sanitation services (ii) improved watershed management, and (iii) increasing the productivity of water. Scheduled to start in early 2005, child survival and reduced water borne diseases are among the main program targets. Other concerns are solid and liquid industrial wastes, and continuing with the agency's support for capacity building of RGs and their PDAMs to deliver services.

10. Australian Agency for International Development (AusAID). The agency has played a key role in supporting the provision of basic water supply and sanitation in rural areas of Eastern Indonesia including Nusa Tenggara Barat and Nusa Tenggara Timur. The Australian government has supported the sector for the past 20 years providing grant support for projects that focused on community empowerment, sustainability, gender and development, and the broader environment.

11. AusAID also works with the World Bank on a comprehensive framework for rural water supply and sanitation (WSSLIC), which is followed by a second project (WSSLIC II). Through these projects the agency has supported the Sanitation by Communities (SANIMAS)² approach in both rural and urban areas. Lessons learned from these projects are addressed in ADB's Community Water Services and Health Project.

12. Department for International Development (DfID). The United Kingdom's DfID has currently no water supply or sanitation program in Indonesia, but will cofinance the forthcoming ADB project preparatory technical assistance (PPTA) for the WSSP.

13. Gesellschaft für Technische Zusammenarbeit (GTZ). The German agency is working in cooperation with the MOE on a number of sector issues, primarily (i) water quality surveillance in cooperation with MOH, (ii) catchment area (river basin) protection, (iii) establishing and supporting a water advisory service center working autonomously with PERPAMSI, and (iv) promoting community sanitation systems under SANIMAS – self-help programs for construction of wastewater collection pipelines connected to anaerobic filter reactors such as in Yogyakarta (serving about 100 families per system).

14. GTZ is also supporting the Government through the Drinking Water Quality Surveillance Project, working in cooperation with PERPAMSI to provide drinking water quality from treatment plants in 3 cities in Indonesia. In addition, the agency has assisted in the development of the "Treatment Operation and Manager Certification and Training (TOMCAT) Project – the first phase is in Yogyakarta, East Java and West Sumatra. The second phase will be in West Java, South Sulawesi and South Kalimantan.

15. Japan International Cooperation Agency (JICA). The agency is currently supporting rural water supply projects throughout Sulawesi under a three-phase program to serve rural neighborhoods in 20 Ibu Kota Kecamatan (IKK) using conventional and simple self-managed community schemes. It is about to commence a similar approach in West Nusa Tenggara (Lombok island) and East Nusa Tenggara (West Timor). Water resources studies are being conducted for the Jeneberang River Basin in South Sulawesi, and also for Bali island.

16. Japan Bank for International Cooperation (JBIC). JBIC, formerly OECF, has supported the water supply and sanitation sector through a number of initiatives including (i) Denpasar Sewerage Development Project (1994), (ii) Ujung Pandang Water Supply Project (1993), and (iii) Jakarta Water Supply Distributions Pipeline Project (1990). In addition to these projects, JBIC has been involved in co-financing the Surabaya Urban Development Project with World Bank, and also the Yogyakarta Sewerage Project.

² Support to low-income communities for improved sanitation promoting self-help sanitation initiatives in both rural and urban areas.

17. Netherlands. Netherlands is supporting an institutional development and capacity building effort in PDAMs, jointly with the World Bank Institute and Perpamsi, contributing to more efficient enterprise operation.³

³ Benchmarking, Institutional Strengthening of PERPAMSI, and Facilitation for the Corporatization of PDAMs.

SCOPE OF PROJECT WORKS

A. Water Supply

a. Kabupaten Serang

1. The Sub-Project at Serang includes a 200 l/sec WTP, a 4,000 m³ reservoir, 6.0 km of transmission pipe, rehabilitation and construction of 172 km distribution pipe and 17,800 house connections, within the Project period. Costs Including Contingencies. Investment costs are Rp 121 billion, 13% of the present WSSP water total. Unit investment costs per household are slightly below average. AIFC costs are slightly higher than average, however.

b. Kabupaten Tapanuli Tengah

2. The Sub-Project at Pandan includes a water intake, a 100 l/sec WTP, a 1,000 m³ reservoir, rehabilitation/replacement of 2 km of transmission/distribution pipe, 73 km of distribution pipe and 6,000 house connections. Costs Including Contingencies. Investment costs are Rp 44 billion, 5% of the present WSSP water total. Unit investment costs per household are about average. AIFC costs are below average, however.

c. Kabupaten Barru

3. The Sub-Project at Barru includes a 100 l/sec WTP, a 650 m³ reservoir, 1 km of transmission pipe, 87 km of distribution pipe and 7,300 house connections during the Project period. Costs Including Contingencies. Investment costs are Rp 34 billion, 4% of the present WSSP water total. Unit investment costs per household are below average. AIFC costs are above average, however.

d. Kabupaten Jeneponto

4. The Sub-Project at Jeneponto includes a 75 l/sec WTP, a 500 m³ reservoir, 10 km of transmission pipe, 105 km of distribution pipe and 8,800 house connections during the period of the Project. Costs Including Contingencies. Investment costs are Rp 42 billion, 5% of the present WSSP water total. Unit investment costs per household and AIFC costs per m³ sold are below average.

e. Kabupaten Maros

5. The Sub-Project at Maros includes a 150 l/sec WTP, a 5,000 m³ reservoir, 20 km of transmission pipe, 157 km of distribution pipe and 12,800 house connections. Costs Including Contingencies. Investment costs are Rp 68 billion, 7% of the present WSSP water total. Unit investment costs per household costs are below average. AIFC costs per m³ sold are slightly above average.

f. Kota Palopo

6. The Sub-Project at Palopo includes a 200 l/sec WTP, a 2,000 m³ reservoir, 15 km of transmission pipe, 51 km of distribution pipe and 7,000 house connections. Costs Including Contingencies. Investment costs are Rp 96 billion, 10% of the present WSSP water total. Unit investment costs per household costs are above average. AIFC costs per m³ sold are also above average.

g. Kabupaten Bandung

7. The Sub-Project includes a 600 l/sec intake and a 500 l/sec WTP. There would be a 4 km raw water and a 58 km treated water transmission pipe. The distribution pipe would be 361 km. 3,790 house meters would be replaced and 32,000 house connections constructed within the Project period. Costs Including Contingencies. Investment costs are Rp 240 billion, 26% of the present WSSP water total. Unit investment costs per household are at the average and AIFC costs slightly below average.

h. Kabupaten Bogor

8. The Bogor Timur Sub-Project involves land acquisition and 150 l/sec WTP. There would be two additional reservoirs total capacity 3,600 m³, 5 km of transmission pipe, 226 km distribution pipe and 9,900 new house connections. The Bogor Tengah Sub-Project involves rehabilitation of 73 km of transmission pipe, and replacement of 15,000 house meters and two main water meters. Expansion would require land acquisition for a 150 l/sec WTP, an additional 3,000 m³ reservoir, 10 km of transmission pipe, 187 km distribution pipe and 9,900 new house connections. The Bogor Barat Sub-Project involves 70 l/sec spring source development works, 2 break pressure tanks, power supply etc to one Kecamatan. There would be a 40 l/sec transmission pipe connecting two springs, another 2 km transmission pipe, a 710 m³ reservoir and 9,000 additional house connections. Costs Including Contingencies. Investment costs are Rp 270 billion in total, 30% of the present WSSP water total. Costs at Timur are Rp 100 billion, at Tengah Rp 138 billion and at Barat Rp 32 billion. Unit investment costs per household are above average at Timur and Tengah but below average at Barat. AIFCs per m³ reflect those differences.

B. Sanitation

9. The evaluation of requirements concerning sanitation improvements provided the following components: (i) Community Sanitation Centres (CSC) 3 no. per RG except 6 no. in RG Metropolitan; (ii) Simplified Community Sewerage Systems (SCSS) 3 no. per RG except 6 no. in RG Metropolitan; (iii) School Sanitation Centres (SSC) 20 no. per RG except 40 no. in RG Metropolitan. The cost of a CSC to serve 100 families is some Rp 300 million. An SCSS unit also serves around 100 families and is also priced at Rp 300 million. Toilet facilities in schools are estimated at base cost Rp 15 million per unit. In addition to the above an IPLT is proposed to be constructed in Kabupaten Serang.

COST ESTIMATES AND FINANCING PLAN

Table 1 Project Costs by Category (US\$ Million)

Description	Rp Billion			US\$ Million		
	Foreign	Local	Total	Foreign	Local	Total
Base Costs						
Procurement, WS	29.6	266.8	296.4	2.8	25.0	27.7
Procurement, Sanitation	0.6	5.6	6.2	0.1	0.5	0.6
Civil Works, WS	0.0	284.7	284.7	0.0	26.6	26.6
Civil Works, Sanitation	0.0	28.7	28.7	0.0	2.7	2.7
Land and Resettlement	0.0	22.1	22.1	0.0	2.1	2.1
Design	0.0	24.5	24.5	0.0	2.3	2.3
Supervision	0.0	15.7	15.7	0.0	1.5	1.5
Administration	0.0	16.4	16.4	0.0	1.5	1.5
Dev. Cons. (DBO/AMDAL)	1.0	1.5	2.5	0.1	0.1	0.2
Project Management	16.5	32.1	48.6	1.5	3.0	4.5
Health & Hygiene	0.0	8.8	8.8	0.0	0.8	0.8
RG Support (SIKD)	3.2	5.2	8.4	0.3	0.5	0.8
RG Support (LIDAP)	5.8	45.6	51.4	0.5	4.2	4.8
PDAM Support (FOPIP)	5.8	45.6	51.4	0.5	4.2	4.8
Taxes & Duties	0.0	82.72	82.7	0.0	7.7	7.7
Total Base Costs	62.5	885.9	948.4	5.8	82.9	88.7
Physical Contingency	3.1	57.2	60.3	0.3	5.3	5.6
Price Contingency	3.8	150.3	154.1	0.3	13.9	14.3
Fixed Investment Cost	69.4	1,093.4	1,162.8	6.5	102.1	108.6
ADB/Subloan IDC	126.0	90.8	216.7	11.4	8.2	19.6
ADF/Subloan IDC	3.0	2.3	5.2	0.3	0.2	0.5
Total Funding Required	198.3	1,186.5	1,384.8	18.2	110.5	128.7

a. Project cost estimates based on cost and price data as of mid 2005.

b. Inflation assumptions:

(i) Domestic, 7.1% for 2004, 5.5% thereafter, as given by ERD, ADB.

(ii) Foreign exchange inputs adjusted at International Bank of Reconstruction and Development manufacturer's unit value (March 2005) annual rates of 1.9% for 2005, 2.1% for 2006, 2.3% for 2007, 2.7% for 2008, 2.7% for 2009 and 2.4% for 2010.

c. Exchange rate adjusted for purchasing power parity in accordance with country specific inflation rates.

d. Physical contingencies included at 5% for procurement and capacity building and at 10% for civil works.

e. Interest during construction (IDC) estimated using an interest rate of 4.54% per annum, the rate applicable to the 5-year swap London inter-bank offered rate for US dollars at loan fact-finding, plus 0.6% ADB mark-up. IDC on the ADF loan, 1.0% during the construction period.

f. Commitment charges at 0.75% of the shortfalls in disbursement from the disbursement thresholds indicated in the Loan Agreement. The thresholds are 15% of the total loan amount for the first year of project implementation, and 45%, 85%, and 100% for the second, third, and fourth years, respectively.

g. It has not been assumed that the 1.0% front-end fee will be waived.

h. Local currency costs include taxes and duties at 10% on all items except land, resettlement and administration.

i. Foreign exchange is 10% of procurement and cost estimate derived rates for consultancy.

Table 2 Project Costs by Component (Nominal US\$ Million Including Taxes)

Description	Rp Billion			US\$ Million			Total %	Total % Excl IDC
	FE	Local	Total	FE	Local	Total		
Water Supply								
Serang	4.5	116.3	120.8	0.4	10.9	11.4	8.8%	10.5%
Bandung	9.4	230.9	240.3	0.9	21.6	22.5	17.5%	20.7%
Barro	1.4	32.5	33.9	0.1	3.1	3.2	2.5%	2.9%
Bogor	7.8	222.0	229.8	0.7	20.7	21.4	16.7%	19.7%
Maros	2.8	65.1	68.0	0.3	6.1	6.3	4.9%	5.8%
Jeneponto	1.7	40.3	42.0	0.2	3.8	3.9	3.1%	3.6%
Palopo	3.7	92.8	96.6	0.3	8.6	9.0	7.0%	8.3%
Tapteng	1.6	42.6	44.2	0.2	4.0	4.1	3.2%	3.8%
Subtotal - WS	32.9	842.6	875.5	3.1	78.8	81.9	63.6%	75.4%
Sanitation								
Serang IPLT	0.2	18.2	18.3	0.0	1.7	1.7	1.3%	1.6%
CSC Sanitation, Pilot	0.1	18.4	18.5	0.0	1.7	1.7	1.3%	1.6%
SSS Sanitation, Pilot	0.4	17.6	18.0	0.0	1.6	1.7	1.3%	1.5%
School Sanitation, Pilot	0.0	5.0	5.0	0.0	0.5	0.5	0.4%	0.4%
Health & Hygiene	0.0	11.7	11.7	0.0	1.1	1.1	0.9%	
Subtotal - Sanitation	0.7	70.8	71.5	0.1	6.6	6.7	5.2%	6.1%
Technical Assistance								
Dev. Cons. (DBO/AMDAL)	1.2	2.1	3.3	0.1	0.2	0.3	0.2%	0.3%
Project Management	20.2	44.4	64.6	1.9	4.1	6.0	4.7%	5.5%
RG Support (SIKD)	3.9	7.2	11.2	0.4	0.7	1.1	0.8%	1.0%
RG Support (LIDAP)	5.2	63.2	68.4	0.5	5.9	6.3	4.9%	5.8%
PDAM Support (FOPIP)	5.2	63.2	68.4	0.5	5.9	6.3	4.9%	5.8%
Subtotal - TA	35.7	180.0	215.8	3.3	16.7	20.1	15.6%	18.5%
Subtotal	69.4	1,093.4	1,162.8	6.5	102.1	108.6	84.4%	100.0%
IDC Financing Costs	35.73	180.04	215.77					
Water Supply	101.9	90.8	192.7	9.2	8.2	17.4	13.5%	
Sanitation/Health	1.3	2.3	3.6	0.1	0.2	0.3	0.3%	
Technical Assistance	25.7	0.0	25.7	2.3	0.0	2.3	1.8%	
Subtotal, IDC	128.9	93.0	222.0	11.7	8.4	20.0	15.6%	
Total	198.3	1,186.5	1,384.8	18.2	110.5	128.7	100.0%	

Table 3 Project Financing by Sector and Source (US\$ Million)

Description	Total cost	%	ADB Loan		Counterpart			Total		
			OCR Loan	ADF Loan	Central budget on Granted ADB/F Loan	GOI	RG budget	Consumers	ADB loan	GOI
Water Supply	99.3	77%	62.8	0.0	0.0	8.2	4.4	24.1	62.8	36.7
Sanitation/ Health	7.0	5%	0.0	1.2	4.7	0.2	0.6	0.2	5.9	0.9
Capacity Building	22.4	17%	0.0	0.0	21.5	0.9	0.0	0.0	21.5	0.9
Total	128.7	100%	62.8	1.2	26.2	9.2	5.0	24.2	90.2	38.4
Percent	100.0%		48.8%	0.9%	20.3%	7.2%	3.9%	18.8%	70.1%	29.9%

CONTRACT PACKAGES

1. The entire water supply works, with the exception of the Semarang Sub-Project will be constructed in integrated Design, Procure, Build and Operate (DBO) contracts. DBO implementation brings all three functions together into a single contract. The period of operation of the water treatment plant will be two years during which time the Contractor will work jointly with the PDAM to both rehabilitate the existing distribution system and develop the new distribution system working. In parallel with this work the Contractor will be required to mount a joint marketing campaign with the PDAM so that a minimum of 80% of the design assessment for new connections will be added to the system. The Contractor must bring UFW to an acceptable level and the operation of the system to a level whereby drinking water is supplied to customers on a 24 hour basis and with adequate pressure.

Table 1 Contract Packaging and Scheduling – US\$ Millions

Contract	Year of bid	Type	Rp Million	US\$ 000	ADB Portion US\$ 000
Kab. Serang WS DBO	2006	ICB	106,699	\$10,074	\$7,052
Kab. Bandung WS DBO	2006	ICB	209,887	\$19,774	\$13,842
Kab. Barru WS DBO	2006	ICB	31,838	\$3,009	\$2,106
Bogor Timur WS DBO	2006	ICB	93,021	\$8,775	\$6,143
Bogor T & B WS DBO	2006	ICB	81,569	\$7,695	\$5,387
Kab. Maros WS DBO	2006	ICB	51,030	\$4,794	\$3,356
Kab. Jeneponto WS DBO	2006	ICB	31,603	\$2,992	\$2,094
Kota Palopo WS DBO	2006	ICB	70,237	\$6,610	\$4,627
Kab. Tapteng WS DBO	2006	ICB	36,968	\$3,480	\$2,436
Total DBO			712,851	\$67,203	\$47,042

2. The sanitation works including the Community Sanitation Centres, the Simplified Community Sewerage Systems and the School Sanitation Centres will be developed using a community based approach involving the local community in the development and construction of facilities.

IMPLEMENTATION SCHEDULE

A. Water Supply

1. For development of the water supply works all Project locations have elected to frame contracts on a Design, Build and Operate or DBO basis. This will require pre-qualification of bidders followed by bidding. The current intention is to develop bid documents for these DBO Contracts in parallel with the Loan Processing. This is intended to allow the DBO Contractor to commence work immediately after the Loan becomes effective. In addition, the Bandung project will need an AMDAL for the water source development. This AMDAL should also be prepared in parallel with the Loan Processing.

Figure 1: Implementation Schedule – Water Supply

ACTIVITY	2006		2007		2008		2009		2010		2011	
	Jan	Dec	Jan	Dec	Jan	Dec	Jan	Dec	Jan	Dec	Jan	Dec
Prepare DBO documents												
WSSP loan effective												
DBO contract bidding												
AMDAL water source and transmission												
AMDAL distribution system												
DBO contractor design												
Construct new production facilities												
Rehabilitate and develop distribution system												
UFW program implemented												
Joint operation of new production facilities												
House connections added by DBO Contractor												
Handover system operation in accord PP16/2006												
House connections added by PDAM												
PDAM + Consultant update Corporate Plan												
PDAM + Consultant prepare annual work plan												

2. Further AMDALs will be required for the distribution systems, however these may be prepared during the first year of the Project since it is proposed that work on the distribution systems will not commence until the second year.

3. The first year of the Project is expected to focus on development of water sources and construction of water treatment plants. Once the treatment plant is operational it will be commissioned and run jointly by the DBO Contractor and the PDAM. This period of joint operation is proposed to proceed for two years.

B. Sanitation

4. Conversely, it is expected that no physical sanitation works will be done during the first year of the Project. For sanitation, the first year will be devoted to institutional development, capacity building and preparation of a city-wide sanitation strategy.

5. During the second and subsequent years, the community based sanitation physical components will be developed. These will be developed according to the following table.

6. One IPLT is currently included in the Project. This is located in Kabupaten Serang. The AMDAL for this facility has already been prepared and processed. The DED is also available so that the bidding and construction of the work should proceed in the first year of the Project.

Figure 2: Implementation Schedule – Sanitation

ACTIVITY	2005		2007		2008		2009		2010		2011	
	Jan	Dec	Jan	Dec	Jan	Dec	Jan	Dec	Jan	Dec	Jan	Dec
WSRP loan effective												
SANITATION:												
IDCB Consultant recruitment												
City-Wide sanitation strategies												
Community Based sanitation - 2/4 units per location												
Community based sanitation - 2/4 units per location												
Community based sanitation - 2/4 units per location												
Bidding for IPLT Serang												
Construction IPLT Serang												

7. During the second, third and fourth years of the project two community based sanitation facilities will be developed and constructed in each of small to medium sized RGs. In the larger RGs, four units will be implemented each year.

C. Institutional Development and Capacity Building

8. The Institutional development and Capacity Building work will include the FOPIP, LIDAP and public education programs in health and hygiene. Much of the activity in these portions of the Project will proceed throughout the full five year project period, as illustrated in the following table.

Figure 3: Implementation Schedule – Institutional Development and Capacity Building

[illegible]

PROJECT PERFORMANCE MONITORING SYSTEM

A. ELEMENTS OF THE SYSTEM

1. The project design and monitoring framework is based on achieving project objectives through a series of related activities (cause and effects) which lead to delivery of improved water supply and sanitation services in a sustainable way. To effectively monitor performance of the project, measurement is necessary of activities (i.e. inputs), outputs, and outcomes/impacts in a chain of cause and effect. To measure, indicators of performance are needed.

2. Implementation of the System will begin upon project launch, with assistance from the Project Management Consultants. The QA consultants will provide independent validation of the data. The water supply, sanitation and good governance elements of the System are described below.

B. WATER SUPPLY INDICATORS OF OUTPUTS

3. Indicators that the project activities are having the desired effects are shown in the "scorecard" of indicators shown below. Most current indicator values are shown, as well as targeted values by the end of the project in 2010. Values which are currently not available will be measured during the first year of the project (2006). All indicators are part of the PERPAMSI benchmarking system, which is a service available to PDAMs for assessing performance on an annual basis. The PPMS will use the benchmarking indicators, as it enables comparisons with peers and has a number of other advantages, including enabling the PPMS to become a sustainable performance improvement tool and as an aid to increasing transparency.

Table 1: Indicators of Performance of the PDAM and Project Targets

I	PERFORMANCE PERSPECTIVE	Unit
I	CUSTOMER INDICATORS	
1	Customer Satisfaction Index	-
2	Population Served in the Service Area	%
II	FINANCIAL INDICATORS	
3	Operating Cost Ratio	%
4	Debt Service Ratio	%
5	Current Ratio	%
6	Tariff Revision	%
III	OPERATIONAL INDICATORS	
7	Non Revenue Water	%
8	Water Quality Index	-
9	Continuity of Service	Hrs /day
IV	PERSONNEL INDICATORS	
10	Employee Satisfaction Index	-

Notes:

1. The indicators that are not available (na) says something in itself about the performance of the PDAM, at least about its information system and the business functions the PDAM believe are important.
2. Values for 2005 (the year before the first year of the project) and targets to the last year of the project (2010) will be determined in the first year (2006) of the project.
3. A full set of definitions of data and indicators as well as data sources are already available under the PERPAMSI Benchmarking System, which also collects data annually on, and calculates indicator results for, the MoHA and the International Benchmarking Network performance assessment systems.

C. SANITATION INDICATORS OF OUTPUTS

4. There are no widely accepted indicators of performance of the sanitation sector. Trends in the sector performance therefore cannot be detected. Without trends it is difficult to identify performance improvement actions in a logical manner. In the absence of agreed indicators, the following will be used (see Table 27). Current values and targets for 2010 will be set as part of the WSS Sector Planning in the first year of the project.

Table 2: Suggested Indicators of Performance for the Sanitation Sector

Performance Perspective	Description
I Community Perspective	
1 Incidence of Diarrhea %	Preferably measured for children less than 5 years of age, and recalled incidence in the last 2 weeks
2 Access to improved HH sanitation %	BPS considers this to be the % of total population who regularly use (i) a "Jamban keluarga (Jaga)" (sealed-flush toilet) or (ii) a "Jamban Jamak" or "Jamban Umum" (a communal or a public toilet)
3 Improved disposal of HH waste %	BPS considers this to be % of total population who regularly dispose of their waste through (i) "Cublik" (a unlined pit) or (ii) a septic tank (no distinction is made as to whether there is or not an overflow from the tank to a "resapan" (leaching drain) or open drain.
II Financial Perspective	
4 Cost recovery ratio of existing public-provided facilities %	Actual O&M funds received / needed O&M funds. Received includes from APBN/D as well as directly from "retribusi".
5 Annual Increase in Sanitation Budget %	Total budget in the year to provide services under one or more of the 8 sanitation sector activities of all agencies (central, provincial and local) within the project area, divided by last year's budget. Training costs included only for local personnel.
III Operational Indicators	
6 Disposal capacity %	Actual desludging capacity (m3 /day) / required desludging capacity.
7 Treatment Efficiency %	% of effluent tested not meeting the required discharge standard.
8 Water quality in rivers %	% of tests in the year not meeting ambient standards.
IV Personnel Indicators	
9 Training Budget %	Expenditure of local government on training staff in sanitation matters as a % of the total sanitation budgets

Notes:

1. Values for 2005 (the year before the first year of the project) and targets to the last year of the project (2010) will be determined in the first year (2006) of the project

D. GOOD GOVERNANCE INDICATORS

5. Good governance of the sector and the PDAM is important to sustainability of the physical investments. Improved governance is therefore an important output of the project. There are

two levels of governance – (i) the WSS sector as a whole and (ii) the PDAM (ie, corporate governance).

6. Objective monitoring of governance performance requires agreement on a definition of the practices that constitute governance, indicators of the practices, measurement of how well the practices are currently being implemented as well as targets for the future.

7. Good corporate governance of the PDAM is defined as: "The combination of policies, systems, structures and a strategic / operational framework which the governing body puts in place to ensure the leadership of the organization makes appropriate decisions, and takes appropriate action to deliver services in an effective and accountable manner. This includes transparent and accountable stewardship of resources which will sustain the organizations, and keep it relevant to both the community in which it operates and the clients / customers it serves."

8. No attempt will be made to measure improvements in sector governance arrangements to be made under the Local Institutional Development Action Plan (LIDAP). However, Table 28 shows the "scorecard" of broad areas of governance practices in the PDAM (the corporate governance level) that will be monitored. The FOPIP in Appendix 1 of each SPAR provides details of the components of each practice and a scoring sheet to be used. The practices will be implemented by the Badan Pengawas. Like sanitation and certain of the water supply indicators, a baseline is to be established in 2006 for the first year of the project (2006) and targets set for the last year of the project (2010).

Table 3: Good Corporate Governance Index

Good Corporate Governance Practices		Weight
1	Established Components of System of Good Corporate Governance	30
2	Appropriate Role played by the Board of Supervisors (Badan Pengawas)	10
3	Appropriate Role played by the Board of Directors (Direksi) in support of good governance initiatives	10
4	Fulfillment of Disclosure, Transparency and Compliance Obligations	10
5	Control of Risks, Corruption and Fraud	20
6	System to Protect Rights of Government Owners / Shareholders	10
7	System to Protect Rights of Stakeholders, including provision of consultation and participation mechanisms	10
GCG INDEX VALUE		

Notes:

1. "Practice Score" is based on the "Degree of Adoption / Achievement" awarded to each Practice, calculated from the sum of the score awarded to each component.
2. See Table of Attachment 5 of FOPIP for the components of each Practice and scoring
3. "Weight" is an arbitrary value determined by authorities to reflect the importance of each Practice in achieving a state of good corporate governance.
4. "Total Score" for each Practice is component score multiplied by weight.
5. "Index Value" is a single number calculated by summing the Total Score for each Corporate Governance Practice. The higher the score, the better. It can never be more than 1000 under the stipulated scoring method.

SUMMARY ENVIRONMENTAL ANALYSIS

A. Introduction

1. The proposed Water Supply and Sanitation Project (the Project) for the provinces of West Java, Banten, North Sumatra and South Sulawesi, Indonesia, has been classified as a Category "B" project in accordance with ADB's environmental assessment requirements. An initial environmental examination (IEE) was undertaken as part of the project preparatory technical assistance to ascertain the Project's impact on the environment and to identify measures to prevent or mitigate any adverse environmental impacts that could arise from its implementation. The examination uses 2005 as the base year for forecasting, with impacts predicted for 2010. This report was prepared during the feasibility studies for the preparation of Sub Project Appraisal Reports (SPAR) for the various project locations. The IEE was prepared based on site visits, meetings held with district-level agencies, reports by relevant government agencies, and is in accordance with ADB's Environment Policy (2002) and applicable environmental legislations and regulations of the Government of Indonesia. This appendix summarizes the main findings of the IEE.

B. Description of the Project

2. The objective of the Project is to improve the quality, reliability, and sustainability of water supply and sanitation services in Serang, Bandung, Tapanuli Tengah, Maros, Jeneponto, Barru and Bogor Regencies and Palopo City. This objective will be achieved through: (i) the strategic rehabilitation and optimalization of selected facilities; and (ii) the construction of new water supply and sanitation infrastructure. The Project is expected to benefit a total of about 1,250,000 people in eight sub-project locations by 2010.

3. Alternative technical options were analyzed during Project preparation, and the proposed options are least-cost in economic terms. Concerning water supply production facilities, the existing water treatment plants in Serang, Jeneponto, Palopo and Barru will be rehabilitated and new water treatment plants will be developed in all locations to service the demand for drinking water.

4. The detailed engineering design and construction of the project components will be performed using experts in all respective fields producing facilities which are properly constructed and operated in an environmentally sensitive manner.

C. Description of the Environment

5. The Project area covers portions of four provinces – Banten, North Sumatera, South Sulawesi and West Java. The population in the eight Regional Governments (RGs) ranges between 150,000 in Kota Palopo to 4,135,000 people in Kabupaten Bandung. Bandung and Bogor are classified as major or metropolitan regional governments, characterized by typical urban environmental problems in Indonesia: (i) lack of reliable water supply; (ii) lack of maintenance of the water supply and sanitation systems; (iii) lack of adequate network for collecting and disposing wastewater; and (iv) widespread water pollution due to solid waste and sewage flow into drains and water courses.

6. The Project's physical infrastructure works involve construction and rehabilitation of water supply and sanitation assets, including intake, water treatment plant, trunk mains, transmission and distribution of water supply networks, communal sanitation centres and simplified community sewerage systems. Metering of water supplies to residential

housing, will be included under the Project. Land areas for the proposed water supply facilities have been identified and resettlement is required under current proposals. The land areas have no unusual vegetation cover. Within the boundaries of the eight RGs, there are no significant ecological resources. There are no known sites of historical or cultural significance in the areas that are likely to be affected during project implementation. The economy of the eight regencies is mainly agriculture-driven with cropping of rice, cotton, coconut, fruit, as well as animal husbandry.

7. For the sanitation component there will be no delineation of and acquisition of land identification of and any resettlement impacts until at least the second year of implementation of the loan. The proposed sanitation investments have been very small and their land requirements are in some inner urban locations where it is possible that land acquisition and a small amount of resettlement would be necessary. To address this possibility, ADB policy provides for the preparation of a resettlement framework.

D. Screening of Potential Environmental Impacts and Mitigation Measures

8. The longer-term negative environmental impacts of the proposed Project are likely to be insignificant, with impacts resulting directly from preconstruction (land acquisition for production facilities, reservoir and part of transmission line, such as in Bandung) and construction activities only. Environmental impacts during construction depend on (i) contractors' work practices, especially those related to the storage of construction materials and cleanliness of the work sites; (ii) cooperation by local communities in terms of land acquisitions and settlement, labor requirement, use of land and utilities; (iii) enforcement of construction practices and standards through supervision; and (iv) implementation of mitigation measures identified in the IEE and included in bid and contract documents.

1. Environmental Impacts

9. **Improvement in Public Health Conditions.** The Project will increase the reliability of the water supply service to domestic customers, and will significantly improve the quality of water (especially physical and microbiological parameters) supplied to the customers. It will also provide improve sanitation facilities to a limited number of persons. This should lead to a reduction in illness and morbidity from water-borne diseases and a general improvement in public health. This is the most important benefit of the project.

10. **Pollution by construction run-off.** Negative impacts to groundwater and rivers are expected to be temporary and of minor significance. The duration of civil works will be controlled, and weather conditions in the project towns generally will contribute to the limitation of such effects. Additional measures and enforcement of local norms for protection of groundwater will be implemented.

11. **Inconvenience during construction and rehabilitation works.** These impacts will occur during the construction and rehabilitation works on the distribution network. The negative effects include water supply interruption, air quality degraded from construction activities, noise during trench excavation, possible effect of vibration on old buildings, restriction on access to buildings, closure of roads and section of roads causing increased traffic, and movement of construction traffic. Construction camps may have public health impacts; however for this Project these camps will be quite small. There will be a potential for diseases to be transmitted, exacerbated by inadequate health and safety practices. Each contractor will therefore be required to

recruit an environmental, health, and safety manager to address such concerns in the camps. Detailed engineering design will develop a detailed phasing-in of the new water supply and sanitation systems and decommissioning of the old water supply and sanitation facilities in the most optimal way, with minimization of water supply interruptions. Coordination procedures for cut-offs will be established; time for replacement operations minimized; and use of nighttime scheduled, if necessary. Appropriate mitigation measures and construction methods will be in place in coordination with relevant local executive authorities. The potential adverse impacts during construction will be avoided by selecting experienced and responsible contractors, and by monitoring and supervision of the works by the trained PMU/PIU staff and the relevant local authorities.

12. Noise and Vibration. Prevention of noise and vibration will be an issue during construction. Machinery operations will be restricted to between 0600 to 2100 hours. In addition, a limit of 70 dBA will be set and strictly followed near the construction site. Controlled blasting using low volume charges will reduce the potential for damage to structures, while owners of houses that will obviously be damaged will be fully compensated in accordance with compensation policy guidelines.

13. Disposal of demolition debris. Demolition debris will be generated during the replacement of distribution pipes, transmission pipes, construction of intake, reservoir and water treatment plant and rehabilitation works on water supply and sanitation facilities. These effects will be localized and temporary, and will be minimized by means of appropriate removal and disposal procedures. Appropriate waste disposal systems suitable for local conditions will be applied.

14. Damage to existing utilities. Old water networks, electricity and telephone lines may be inadvertently damaged during the rehabilitation works. Therefore, the necessary measures will be taken in the construction phase, including coordination and clearance with the appropriate government agencies and municipal enterprises.

15. Safety hazards from construction activities. No major hazards are expected during the construction of the proposed project components, as long as proper construction practices and safety procedures are applied. Major contractors are proposed to be employed using a Design Build Operate form of contract. These contractors will employ safety practices in accordance with National requirements and guidelines.

16. Damage to trees and vegetative resources. The impacts on vegetative cover will be short-term, localized, and associated with construction. They can be mitigated by adopting proper measures and contract provisions with the contractors.

17. Damage to cultural resources. No archeological or cultural resources are expected to be encountered during project implementation.

18. Compensation Plan. The Project will require land acquisition for the intakes, water treatment plants and service reservoirs. Public Consultation with affected people before the projects start has to be approved. Besides, some temporary disturbance is possible due to displacement of roadside stores, setting up of temporary construction camps, and cutting of trees. Public consultations indicate concern for policy guideline on the compensation plan to be disclosed to the local community.

19. Community Impacts. Construction camps may place stresses on nearby communities. The contractors will be required to establish a mechanism by which local people can raise complaints. The use of local labor and the provision of construction

support services will be encouraged and will help alleviate potential conflicts. Village leaders will be consulted during public consultation meetings and requested that local people be involved, where possible, in the new water supply and sanitation systems.

20. Proper Construction Practices. Contractors' conformity with contract procedures and specifications during construction will be carefully monitored. A Quality Assurance Consultant is proposed to act as a monitor on technical construction procedures and quality of work. Public consultations showed that prime contractors tended to use sub contractors without ensuring that they conform to main contract clauses. Such practices reduce the quality of construction and the benefits of the Project. Contractors will be made to follow standard construction practices, monitored and supervised by field team consultants employed under the Project.

21. Operation of Water Supply and Sanitation Facilities. Minor impacts from operation are associated with maintenance (repair and replacement) of water pipelines when there are leaks or breaks in the network. In all eight subprojects, a program will be established to detect leaks and replace any old pipelines to minimize the risk of water supply interruption. With the proper design and construction of the water treatment plant, the drinking water distribution system, leakage rates and risk of contamination during distribution will be decreased substantially, resulting in improved water quality. Likewise, the odor standards will be maintained by careful selection of the sanitation treatment processes.

2. Mitigation Measures

22. Program to Prevent Undue Disruption. There will undoubtedly be some water supply service interruption, inconvenience and also traffic disruption caused by construction vehicles and roadside excavations. To avoid undue inconvenience the construction program will include the following: (i) in the detailed engineering design and civil works contracts, specify the work implementation sequence for pipeline replacement and rehabilitation, such that local inconvenience is avoided to the maximum extent feasible; (ii) provide for an emergency water supply by PDAM tanker trucks in case of prolonged water supply disruptions to domestic consumers; (iii) in the civil works contracts, specify the coordination measures for water service interruption, such that cut-off periods are reduced to the minimum possible and customers are advised accordingly; (iv) in the civil works contracts, specify the method of construction in highly congested areas to minimize access disruption, such as trench-to-truck construction and provision of plates to provide temporary access over trenches, proper access to daily businesses will be guaranteed to the maximum extent practicable; (v) require the contractors to secure approval of construction staging and temporary usage areas for storage of pipes and excavated materials; (vi) require the constructor to use traffic routing for implementation of construction works. Safe traffic and safety signals and lighting should be in accordance with local regulations, safe detours and walkways for pedestrians will be implemented as necessary.

23. Measures to Minimize Noise and Vibration. During construction, noise can be minimized through scheduling and specific restrictions for particularly noisy activities. To the extent possible, excavation and related works close to and in residential areas should not be undertaken from sundown to sunrise. Routine control on maintenance all equipment used for construction and transportation will be required to ensure reasonable noise levels. In built up areas, excessive vibration from heavy machines during construction will be avoided to the extent possible to reduce any damages to the

surrounding areas. Manual excavation will be adopted in certain cases. Local construction standards will be followed if they specify more stringent requirements.

24. Protection of the Air Environment from the Construction Dust and Pollution.

The contractor will employ dust suppression measures during the construction process and transportation of materials, such as periodically sprinkling water in certain areas and removal of excess materials from the sites. All street surfaces, sidewalks, and construction sites will be cleaned upon completion of activities. To reduce vehicle emissions the contractor will use traffic routing. Also it will be required to provide routine control on maintenance all equipment used for construction and transportation of materials, and the equipment will be operating only when required.

25. Prevention of Accidents during Construction. The contractors shall take all necessary precautions for the types of civil works involved, especially in residential areas and those with high circulation of persons and vehicles. All construction and rehabilitation works should be carried out in accordance with equipment safety rules, and health and safety regulations. Safety measures will be adopted to protect the personnel involved in the works. Public access to construction sites will be properly restricted. Internationally accepted practices and active regulations should be assisted regarding restoration of construction health and safety.

26. Protection of Vegetative Cover. As a general principle, all vegetation destroyed will have to be replaced. Ornamental trees that need to be cut will be properly replaced.

27. Land Availability (ROW or Municipal land). The Project will install trunk mains and distribution networks, and will require land for a water treatment plants and service reservoirs. Some of the project activities will take place within the existing pipeline alignment or right-of-way and on land owned by the municipal governments. The location and design of works associated with the Project has been carefully considered to avoid land acquisition and resettlement. Based on the survey, discussion with officials and communities in the project areas as well as inventory location for water treatment plant and water distribution systems, there are currently no areas where buildings will be demolished or households resettled. The Project currently defined will require land acquisition but no resettlement. The sanitation facilities are yet to be defined and may require some land acquisition and possibly resettlement. Provision for such an event is made in the Land Acquisition and Resettlement Framework, appended to the Final Report.

28. Additional Measures. All wood used during construction will be procured from authorized sources. Solid waste (other than demolition and excavation debris) such as wood, paper, glass, plastic and trash in general, will be properly collected, separated, stored, and disposed. All construction sites will be kept clean and in good sanitary conditions.

E. Institutional Requirements and Environmental Monitoring Plan

29. An environmental management and monitoring plan were prepared to mitigate the potential environmental impacts of the Project. The agencies involved in executing and monitoring the environmental aspects of the Project include PDAM, responsible for managing the social and environmental impacts of water supply projects, and the provincial and local environmental offices, responsible for environmental monitoring under the IEE (refer to Table 2). The required frequency of environmental monitoring is attached as Table 3. The core team of consultants will be responsible for incorporating

the environmental management and monitoring plan into engineering design and for environmental monitoring during construction. The field specialists will supervise the monitoring of mitigation measures during construction. In addition, each contractor will be required to nominate an environmental, health, and safety manager responsible for meeting the contractors' environmental and health responsibilities.

30. Indonesia has an established environmental management system known as the AMDAL process and all works to be carried out would be subject to these procedures. Depending upon which institution carries out the works, either the RG or the PDAM they would be considered the proponent and would be required to comply with AMDAL procedures. As a minimum a minor assessment known as UKL / UPL would be required with the vast majority of projects. These documents also require the use of Standard Operating Procedures (SOP).

31. At the District government level, implementation of the AMDAL process for works of a minor nature has been limited. Furthermore the impact of recent regional autonomy legislation in Indonesia has meant that much of the authority for environmental management and impact analysis has been devolved to the RGs.

32. Consequently the environmental management sub component will seek to (i) improve environmental awareness and management at the PDAM level as part of a bottom up participatory process and recognize environmental agencies as legitimate stakeholders; (ii) support the new administrative arrangements for the AMDAL process, to build the capacity to understand procedures, to allow adequate time and resources to carry out impact analysis and to prepare the necessary documentation; and (iii) support efforts by the RG to review and evaluate and supervise implementation of environmental requirements.

33. The Project will be implemented by the PDAMs and the PIUs in the locations. The PMU located at the Central Government level will provide guidance on environmental issues, and will be responsible for monitoring PIU and contractor compliance with environmental requirements.

Table 2: Environmental Monitoring Plan

Item	Period and Activity	Potential Negative Impacts	Mitigation Measures	Agencies Involved	
				Management	Monitoring
I	Pre-Construction				
a	Land acquisition for transmission line, intake, WTP and reservoir	Social conflict with population in the area	Public consultation among affected community and distribution on compensation	PDAM (PIU Environmental Officer)	BAPEDALDA, RG Land Office, PMU
II	Construction				
a	Site preparations for intake, WTP and service reservoir	During the site clearing for these structures might affect morphology and vegetation	Keep disturbance to vegetation to a minimum and replace damaged areas. Where possible reinstate excavated areas after backfilling.	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, PMU
b	Mobilization of labour, equipment and materials	Mobilization for labour, equipment and material could cause damage to roads.	Maintain roads in clean condition and repair as necessary.	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, PMU
		Social conflicts may arise if the project does not give preference to local available and suitably qualified labourers as well as equipment and material suppliers	Give consideration and preference to locally available resources	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, RG Labour Office, PMU
c	Site preparations and set up of base camps	Contamination of water in streams and rivers	Provide suitable sanitation facilities in base camps and take preventative measures to ensure no excessive erosion of soils occurs by quickly reinstating disturbed areas	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, PMU

Item	Period and Activity	Potential Negative Impacts	Mitigation Measures	Agencies Involved	
				Management	Monitoring
d	Intake construction at rivers	Potential for scouring of river banks producing excessive turbidity in water	Work on intakes to commence with construction of temporary coffer dams using sand bags effectively isolating the area of works activity	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, PMU
		Potential for coffer dams to cause change in flow of rivers due to constriction in flow	Each location to be examined and if necessary construction on this portion of the work deferred to the dry season	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, PMU
e	Pipeline construction for transmission and distribution networks (including excavation, pipe laying, backfill and reinstatement)	Threats exist to public health and safety and to private property if work is not properly managed; possibility for backfill to be washed into water courses during high rainfall	Working arrangements are to be properly managed in accordance with relevant laws and regulations; advance notice of proposed works to be given to affected persons; the length of trench open along pipelines to be limited to ensure prompt reinstatement	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, RG Public Facilities Office, PMU
III	Operation				
a	WTP sludge management	The WTP operation will generate considerable amounts of sludge, which, if not properly managed will cause pollution of water courses	The water treatment plants will be provided with sludge drying beds to de-water sludge and the dried sludge cakes will be passed to landfill disposal sites	PDAM	BAPEDALDA

Table 3: Frequency of Environmental Monitoring

No.	Impact	Location	Method of Monitoring	Frequency of Monitoring
I	Pre-Construction Phase			
	Land acquisition	Intake Transmission Line WTPs Reservoirs	Field and office inspection	Before construction contracts are bid
II	Construction Phase			
	Changes to morphology and the loss of vegetation	Intake WTPs Reservoirs	Field inspection	During construction monthly and more frequently as necessary
	The damaged to roads used for the project	Roads which will be used for the project vehicles routes for mobilising workers, equipment and material.	Field Inspection	During construction monthly and more frequently as necessary
	Social conflict	Surrounding project area	Field Inspection	During construction monthly and more frequently as necessary
	Contamination in surrounding area of project facilities location due to construction preparation and construction works.	Surrounding area of project facilities	Field Inspection	During construction monthly and more frequently as necessary
	Damage to public facilities	Surrounding project area	Field Inspection	During construction monthly and more frequently as necessary
	Noise and Vibration	Surrounding the construction area	Noise and vibration measurements	During construction monthly and more frequently as necessary
III.	Operational Phase			
	Pollution of water and soil surrounding WTP's waste disposal area	WTP's waste disposal area	Water quality analyses on river water (for turbidity, DO, pH, SS, BOD, temperature)	Once every six months during operation

34. The responsibility for construction standards is with the Public Works Department. Their standards together with ADB's environmental requirements will be incorporated into the project design. There are no significant environmental management issues relating to the post construction and operation of the project. All contracts for construction works will include requirements for implementation of the specific measures as per EMP provisions and good construction practices. Control and monitoring of construction works will be part of responsibilities of the PIU. When necessary this will be done on a daily basis.

35. The Project's environmental impacts will be closely monitored. Specifically, the monitoring and evaluation (M&E) activities by the PIUs will include (i) collecting, collating, and analyzing baseline data related to the environmental conditions in the Project towns; (ii) environmental gains as a consequence of project implementation, and (iii) evaluating environmental impacts within the selected systems. For environmental monitoring, they will collect and analyze information on quality of water supplied, and minimization of construction impact within the towns. The project performance, monitoring, and evaluation will be done in accordance with ADB's guidelines on its project performance management system.

F. Public Consultation and Information Disclosure

36. The IEE process will include public participation and consultation to help PDAM achieve public acceptance of the Project. The technical assistance consultant has already involved a wide range of participants representing affected people, community leaders, non government organizations and city governments. The consultations were organized on two occasions during field trips and coordination meetings with stakeholders. The affected people and the local communities expressed support for the Project, perceiving benefits to the community and the region. The main concerns expressed related to the provision of, quality construction, proper engineering practices during construction, and transparency in construction work. Responses to these concerns are incorporated in the Project's design.

37. The IEE report documenting the mitigation measures and consultation process is available for public review. As the public consultation is an ongoing process, additional disclosure and consultation will occur during the construction and operation phases, through dissemination of a project leaflet in Indonesian. The leaflet will explain the affected peoples' entitlements and the procedures for obtaining compensation and recording complaints/grievances and setting up a formal grievance redress committee with representation from the affected people.

G. Conclusion

38. The Project will have some minor environmental impacts, some positive and some negative, including (i) changing of land morphology and the reduction of vegetation (during construction) (ii) road/paths damage (during construction) (iii) social conflict due to land acquisition, labor recruitment and using equipment and material from outside the project area (during construction) (iv) possible water body contamination during land development and the operation of base-camps and material storage (during construction) (v) river disturbance (during construction), (vi) public utility damaging (during construction) (vi) disturbance to the public utility's customers (during construction), (vii) improved accessibility to drinking water and sanitation (viii) improvements in public health.

39. Implementation of appropriate mitigation measures during pre construction, construction and operation phases will minimize the negative impacts of the Project to acceptable levels. Both the Contractor and the PIU will be required to appoint Environmental Officers. Environmental monitoring of the Project will be undertaken regularly during construction and

operation by local Environmental Impact and Management Agencies (BAPEDALDAs) to ensure that the measures are being implemented properly.

40. In conclusion, the Project will have overall beneficial impacts in increasing the population supplied with drinking water, and improving sanitation conditions through the project area, and will have insignificant negative impacts, which will be carefully monitored and adequately mitigated. For the subprojects which meet the requirements for a full environmental impact assessment (AMDAL) according to Ministry of Environmental Decree No. 17/2001, further environmental study will be done ahead of design and implementation of project works. AMDALs will be prepared for the water supply sub-projects in Kabupaten Bandung, Kabupaten Bogor and Kota Palopo.

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

A. Linkages to the Country Poverty Analysis

Is the sector identified as a national priority in country poverty analysis?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the sector identified as a national priority in country poverty partnership agreement?	<input type="checkbox"/> Yes <input type="checkbox"/> No
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1. Contribution of the sector or sub-sector to reduce poverty in Indonesia: The ADB Poverty reduction Strategy (PRS) for Asia framework, consisting of the three pillars, (i) pro-poor sustainable economic growth, (ii) social development, and (iii) governance, will continue to serve as the basis for meeting the goal of poverty reduction. Achieving inclusive growth requires enhanced DMC capacity for strategy formulation, policy reforms, and implementation, organized around NPRSs. To advance ADB's capacity development interventions, a recent review proposed that capacity development be added to the PRS's current thematic priorities (environment, gender equity, private sector development, and regional cooperation). The WSSP project has an extensive focus on capacity development with a substantial component of technical assistance provided to support capacity building and institutional reform in the water and sanitation sector.

2. The Indonesia Poverty Reduction Strategy is still in draft form and has not been officially released by the Indonesian Planning Agency -BAPPENAS. The water and sanitation sector is considered a key sector for reducing poverty in Indonesia. It is a key aspect of meeting the Millennium Development Goal (MDG) Goal No.7 - Ensuring Environmental Sustainability. Goal 7 - Ensure Environmental Sustainability, Target 10 - Halve, by 2015, the portion of people without sustainable access to safe drinking water and basic sanitation.

3. As with most Asian countries, urbanization is driving Indonesia's economic growth, but this is being constrained by the lack of infrastructure investment, including in the water and sanitation sector. In these rapidly expanding urban areas, the supply of water and provision of sanitation services is a high priority, especially the provision of access to suitable services for low-income communities. Urban piped water supplies are generally provided by about 300 regional water enterprises (PDAMs), while off-site sanitation services are usually provided by the regional government (RG) administration through either the city cleaning and parks agency or the public works agency. The economic crisis of 1997 affected particularly the poorer segments of society and since 1998 the Government has introduced many reforms with emphasis on good governance, transparency, and accountability. However, quite clearly, the WSS sector in Indonesia is in a very weak state, a condition that existed before the economic crisis in 1997/98 and has worsened since. In general it appears that Indonesia is lagging behind many other countries in the region in the provision and management of basic services. The situation in the water supply and particularly the sanitation sector is considered to be of more serious concern than in most other sectors.

B. Poverty Analysis Targeting Classification: General Intervention

4. The project is not classified as a poverty intervention loan by the ADB and consequently there is no requirement to only serve governments which have at least 20% of households classified as poor households. From the 2004 SUSENAS data, the total population of poor households in the 14 Cities / Towns and Districts is 12,687,045 of which 1,829,200 were officially classified as poor. The average percentage of poor households in the project Towns and Districts was 14.4% and the average 2004 poverty line for all locations was Rp 126,629 per capita per month per household. As may be seen in Table 1, five out of the total of 13

project Towns and Districts have more than 20% poor population and one is just under at 19.2%.

5. The project will alleviate poverty by implementing water supply and sanitation sub-projects and associated capacity building and institutional development in the 13 Towns and Districts.

6. Using Household Expenditure data collected in the WSSP socioeconomic survey and the Poverty line data from SUSENAS, the proportion of poor and vulnerable households was estimated. Vulnerable households were also estimated and defined as those living at or below the poverty line plus 25%.

7. Some of the results of the analysis are shown in Table 2. These results show the marked differences between the three target groups with 29% of the Connected PDAM customers classified as either poor or vulnerable, 51.8% of Public tap customers and 51% of non-connected customers. The average proportion of poor people that the project can potentially serve was estimated from the survey results to be 32% and the proportion of vulnerable households estimated at 12.3%.

8. These results were then applied to the estimated number of proposed household connections for water supply supplied by the project team in order to estimate project impact on poverty alleviation of the water supply component. The present number of poor households that can be potentially served by the project was estimated at 54,726 households with a population of 267,658. The current number of vulnerable households was estimated at 20,684 with a population of 102,045. The results of the poverty impact assessment are shown in Table 3. This Table shows the estimated potential number of poor and vulnerable households that will be affected by the project broken down by Sub-projects.

9. The number of households eventually to be served will depend on the ability of each of the PDAM's to attract new customers and the ability and willingness of new customers to pay for services and the initial connection fee.

10. Based on the results of the survey it is clear that historically relatively better off households have been connected to PDAM's. It will be important for project procedures and monitoring to be developed as part of the capacity building and institutional development component that this trend is not continued and that current mechanisms for increasing equitable delivery of water supply to the poorer households are radically modified.

Poverty Alleviation in the WSSP Project

The overall number of poor households was estimated at 54726 involving a population of 267,658 and the number of vulnerable households was estimated at 20864 households making up a population of 102045.

Poverty Alleviation & Affordability Mitigation Measures

11. It is already PDAM policy to apply a differential tariff for poor households. These households pay the lowest tariff. However, presently the mechanism for application approval and on-going monitoring appears to be extremely uncertain and poorly implemented as the socioeconomic survey results demonstrate. The process for selection and approval for application of differential tariffs will need intensive review and modification in order to make progress in poverty alleviation.

12. The clarification of what constitutes a poor and vulnerable household and genuinely "needy" is presently the subject of an analysis by GOI with the development of a national data base which will identify households eligible for targeted programs for health, education and

other subsidy programs such as fuel. This data base needs to be utilized as the basis for the development of the equitable tariff to be developed as part of the LIDAP process and is one component of improving "good governance" in the sector and intensive capacity building has been included in the proposed program.

13. As part of the LIDAP and FOIP process, it is proposed that the tariff would be planned to be progressively increased to the average to the level where households are paying 4% of their total monthly expenditure and then increased enough in the middle and upper income groups to cross- subsidize the poor and vulnerable households. This may need to be adjusted for Towns and Districts where the proportion of poor is higher than the average project figure to help with maximizing cost recovery.

14. The necessary changes to PDAM procedures and capacity building for its implementation to implement the differential tariff strategy is considered a priority and will be one of the urgent issues discussed in the preparation of the LIDAP.

15. For the sanitation component, there is a requirement under GOI regulation PP16/2005 (the new water and sanitation regulation) to prepare an overall community based sanitation strategy for each town in the first year of implementation of the project. This approach is to be adopted for all project towns and Districts. Obviously there is some dependency of proposed sanitation programs and planned water supply improvements. In most cases the implementation of a piped water supply increases the range of sanitation options open for specific areas.

16. The sanitation strategy will specifically target low income areas which are already supplied with piped water and are proposed for water supply improvements so that such interventions as MCK programs can be designed to maximize poverty alleviation. The number of schools that have been included for connection to water supply and improved sanitation has been estimated at 20 for each location for the overall project. The schools program and hospital and health centers will be inventoried and prioritized during the development the community based sanitation strategy.

Table 1: Comparative Population, Poverty & Monthly Household Expenditures - All Project Towns and Districts

Town City	Total Population 2004	Total Poor 2004	%Poor of Total Population 2004	Poverty Line Rp/Capita/ Month 2004	Survey Per Capita Expenditure Per Month Rp	SUSENAS Mean Per Capita Expenditure Per Month 2003 Rp
District		SUSENAS	SUSENAS			
Tapanuli Tengah	276,772	87,100	31.47	118,788	231,336	164,269
Tapanuli Utara	255,219	48,900	19.16	128,192	187,302	182,788
Kabupaten Bogor	3,797,320	453,400	11.94	130,927	609,718	237,850
Kota Pangkal Pinang	139,496	8,300	5.95	223,095	298,851	320,094
Kabupaten Bandung	4,084,459	483,600	11.84	133,578	337,637	211,012
Kota Banjar	163,601	16,900	10.33	96,653	252,267	182,260
Semarang	1,410,714	79,000	5.6	133,814	296,713	179,107
Pemalang	1,340,654	299,100	22.31	125,554	292,382	284,373
Serang	1,829,857	166,700	9.11	111,352	291,057	202,425
Kota Palopo	124,444	14,000	11.25	133,212	149,019	188,651
Maros	290,354	59,900	20.63	120,118	150,702	173,902
Barro	157,155	17,900	11.39	110,261	155,586	197,263
Jeneponto	327,041	74,500	22.78	103,839	119,246	145,448
Sidenreng	245,983	19,900	8.09	103,429	194,205	199,474
Rappang						
Totals and/or Average Value	12,687,045	1,829,200	14.42	126,629	255,811	204,923

Source: BPS SUSENAS & WSSP Socioeconomic Survey

Table 2: Proportion of Respondents Poor Or Vulnerable In Proposed Project Areas

Target Group		Below Poverty Line	Vulnerable Population	Non Poor Group	Total
Connected to PDAM	Count	158	103	627	888
	% within Target Group	17.80%	11.60%	70.60%	100.00%
Public Tap Customers	Count	33	24	53	110
	% within Target Group	30.00%	21.80%	48.20%	100.00%
Respondents Not Connected	Count	733	228	930	1891
	% within Target Group	38.80%	12.10%	49.20%	100.00%
	Count	924	355	1610	2889
	% within Target Group	32.00%	12.30%	55.70%	100.00%
	% of Total	32.00%	12.30%	55.70%	100.00%

Source: WSSP Socioeconomic Survey

Table 3: Impact of Water Supply Component on Poor & Vulnerable Population & Households

Kota / Kabupaten Sub Project	New House Connections	Potential Total Population Served	Estimate Potential Poor Population	Estimate Potential Vulnerable Population Served	Estimate Potential Poor Households	Estimate Potential Vulnerable Households Served
Serang Total	21,200	103,686	33,180	12,650	6,784	2,586
Bogor Total	18,900	92,437	29,580	11,277	6,048	2,306
Maros	13,200	64,559	20,659	7,876	4,224	1,610
Banjar Total	1,950	9,537	3,052	1,164	624	238
Jeneponto	9,700	47,441	15,181	5,788	3,104	1,183
Barro	7,200	35,214	11,269	4,296	2,304	878
Sidenreng	13,000	63,581	20,346	7,757	4,160	1,586
Rappang						
Pemalang	10,000	48,908	15,651	5,967	3,200	1,220
Palopo	11,550	56,489	18,077	6,892	3,696	1,409
Pangkal	10,000	48,908	15,651	5,967	3,200	1,220
Pinang						
Semarang	40,000	195,634	62,603	23,867	12,800	4,880
Taparuli	6,270	30,666	9,813	3,741	2,006	765
Tengah						
Total Tap	8,050	39,371	12,599	4,803	2,576	982
Utara						
Total	171,020	836,433	267,658	102,045	54,726	20,864

Source: WSSP Project Team & Socioeconomic Survey, 2005

C. C. Participation Process

Is there a stakeholder analysis?	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Is there a participation strategy?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

Community Based Planning Process

17. As well as the household socioeconomic survey, a community based project planning process was initiated in all regional government areas following the initial stakeholder analysis. The process will be continued into the implementation phase through the LIDAP and Development of a Sanitation Strategy in each Town/District.

Initial Stakeholder Analysis

Definition of Stakeholder

18. Those people or entities who may affect, be affected by or perceive themselves to be affected by a decision or activity.

19. Brainstorming and informed participant sessions were conducted which elicited a list of potential stakeholders. These were prioritized (ranked) into 3 groups for each Town or District. Representatives of the first two groups were approached to initiate a Stakeholder committee and launch a preliminary four meeting process. Table 4 includes the typical list of stakeholders who were approached for inclusion the Stakeholder committee.

Table 4: Organizations and Agencies Represented on the Stakeholder Committee

PDAM /Direksi	PKK Peran Serta Wanita
PU Kimpraswil/Kadis	Bagian Perekonomian
DPRD Ketua Komisi	BPS
Bappeda	Bapedalda
Dinas Kesehatan	Dinas Sosial
Kapala Daerah/ Bupati	Kadinda
LSM/NGO/ Wanita Miskin, Lingkungan	BKKBN
Dinas Kerbersihan	Badan Koordinasi Kesejahteraan Keluarga
Dinas Pendidikan	Media
Toko Masyarakat /Agama/ Adat	Households

Source: WSSP Project Social Development Team

Role of Stakeholder Committee

20. The role of the Stakeholder Committee (which may be in the sample SK) are as follows: (i) To receive technical advice from the PDAM, RG and the Consultant Team; (ii) To discuss, represent and input the views of the various stakeholders into the study design process in relation to both water supply and sanitation; (iii) To assist the consultant team in selection of samples to target specific groups during the conduct of socioeconomic surveys; (iv) To provide feedback and information to their constituents on the progress of the design process; (v) To make recommendations to the DPRD and the District Administrator office concerning planning and design aspects of the proposed water supply and sanitation options; (vi) To prepare minutes of each meeting to document outcomes; (vii) To evaluate their satisfaction with the design process; (viii) To represent and advocate for the project in publicizing and promoting the objectives of the project; (ix) To represent the project in the local media.

The Stakeholder Committee Development Process

21. The process involves the conduct of up to four main meetings and focus group discussions or more in-depth participant surveys as considered necessary.

Meeting 1 Introduction to the Project and Study Process

22. The purpose of meeting was to brief the Committee about the following issues: (i) The project; (ii) Specific Objectives; (iii) The Process; (iv) Schedule; (v) Opportunities for the Committee to be involved in the process; (vi) Are all the main stakeholders included?; (vii) Feedback Questions.

Meeting 2 Understanding the Community and the Environment

23. SWOT Analysis concerning the issues and problems in water supply and sanitation services: (i) What are the needs of specific interest groups; (ii) Group Discussion of Location of Low income communities in the City, (iii) Group Discussion of Key project Design Issues, (iv) Preparation of Summary Report.

Meeting 3: Proposals for Water Supply and Sanitation

24. This would cover : (i) Proposals prepared by PDAMs, Regional Governments and Communities; (ii) Explanation of the how the preliminary project has been designed; (iii) Planning for small group discussions concerning specific aspects and issues arising; (iv) Preparation of Socioeconomic and Community Impact Analysis from Committee Perspective; (v) Focused group Discussion on Specific Topics such as Gender or Indigenous People.

Meeting 4: Review and Feedback Intro to Implementation Timing

25. Review and feedback of Social Impact Analysis (SIA) with proposed Design Proposals and/or Mitigations

Focus Group Discussions on Gender Issues

26. In at least one of the towns/districts in each location following meeting 2 in the above process, each coordinator was to facilitate a focused discussion on the topic of gender issues. The results of these discussions and further discussions with ADB and Cipta Karya representatives led to the development of a Gender Action Plan for the project.

Formal Status

27. After discussion with Project Representatives and visits to Districts, it was decided that the Committee should be initiated as an informal Advisory Committee so that the process could be completed by the time of implementation of the project. The Committee is to be made formal before implementation of the project and would become the key organization to coordinate the development of a Town/ District wide sanitation strategy in the first year of the project implementation period.

D. Gender Development

Strategy to maximize impacts on women: Community Based Sanitation Interventions planned in all areas to be rehabilitated or connected to water supply. A sanitation strategy will be prepared in the first year of implementation which will include women's groups and funded proposals for action will include a mandatory provision for gender-based proposals.

Has an output been prepared?

☒ Yes

☐ No

Proposed Gender Action Plan

28. Based on the gender analysis it was found that both the water supply and sanitation components of the project will have positive impacts on family health and hygiene and consequently be time saving for women as the major care givers particularly the female headed households who have less chance of an alternative care giver. Community education and involvement is considered essential to ensure the success of each sanitation strategy to be developed for each Town or District. The target areas will be focused on areas in which water supply is improved. Technical assistance will be included in the loan which will target neighborhood level women's organization to develop the sanitation program.

29. The Gender Action concept will be implemented as part of an overall Town/District CBS Sanitation Strategy. The key organization which would coordinate the strategy would be the Sanitation Stakeholder Committee which would include representatives from Government, Elected Officials, Academics and Community members from Civil Society. The overall strategy will include objectives, criteria for selecting target locations and groups. It will also include standards for physical works based on physical criteria such as soil type, rainfall and drainage characteristics. There would an inventory of typical problems and current experience with how people live with their sanitation and how they perceive it.

30. Proposals prepared by community based and lower levels of government would be subject to review by the Technical Advisory Committee before approval by the Stakeholder Committee using agreed evaluation criteria from the Strategy and input and comments from the broader community.

31. For promoting participation by women a sub component of the strategy would agree on ratios of proposals from gender based groups to be approved in combination with or in addition to more straightforward public and community works. At this stage, the target sub - projects for gender interventions would be : (i) Training and Community preparation and organization for CBS at RW/RT level; (ii) Renovations/ Construction of kitchens and bathrooms in order to promote improved health and hygiene and efficiency in low income household and groups of households involved in food preparation and distribution; (iii) Organization and/or renovation of tertiary and secondary drainage in low income neighborhoods at RT/RW level; (iv) Planning, Organization and Strategic Location of MCK and Communal Septic tanks and other BORDA style interventions

32. The results of the socioeconomic survey in all Towns/Districts indicated a satisfactory degree of willingness for households (approximately 30% of households) to be involved in CBS training for sanitation. An allowance for funding of the gender action plan sub component will be included in the project budget. At this stage the action plan would be piloted in up to three project Towns and /or Districts. Implementation would not occur until at least year 2 of the project so that the overall sanitation strategy is in place to provide the agreed evaluation criteria and amount of funding to flow to women's participation in the project.

E. Social Safeguards and Other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	No resettlement impacts are anticipated from the water supply component. It is possible that a small amount of resettlement may be necessary for small sanitation facilities such as communal Septic Tanks or MCK's in inner urban locations. This will not be known until the sanitation strategy for each Town or Strategy has been prepared. A Resettlement Framework has been prepared for this possibility and will be included in the Project Implementation Manual (see Annex 2 Appendix D DFR)	<input type="checkbox"/> Full <input type="checkbox"/> Short <input checked="" type="checkbox"/> None
Affordability	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Mitigation Measures for Affordability and Poverty Alleviation are discussed in the section Poverty Analysis above.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	<p>A labor impact analysis was conducted for all sub project areas. The results show that in general terms, the impact on labour is minor in terms of total full time jobs lost. The only location which exceeds 35 jobs is the City of Semarang which has an unusually high dependence on buying drinking water using the SUSENAS definition</p> <p>It is considered that with this level of impact that such workers will simply move their focus of operations to neighbouring areas which continue not to be connected to the PDAM. These figures may also overstate the impact as not all households in newly serviced areas will choose to connect to the PDAM. Also, as is shown in the WSSP Survey results, connected households will not necessarily stop using water sellers but may supplement their PDAM</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

		<p>supply if there are service difficulties.</p> <p>Another mitigating factor is that in the areas to which there is new PDAM water supply there will also be sanitation projects which will produce on-going unskilled labour jobs for the construction and rehabilitation of neighbourhood and local drainage, bathroom, kitchens and septic tanks and public facilities. These employment opportunities will start after the preparation of the Town or District Sanitation Strategy and Preparation of Community based action plans and proposals at the local level.</p>	
Indigenous Peoples	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	<p>None of the population groups that make up these areas could be considered as not following a predominately mainstream market based urban economy. Based on the results of the fieldwork in each location there were no indigenous people's groups found in any of the proposed locations for the proposed project which were predominantly urban or on the urban rural fringes. Consequently no impacts on indigenous people resulting from the project are anticipated and an Indigenous Peoples Framework is not considered necessary.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Risks and/or Vulnerabilities	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None		<input type="checkbox"/> Yes <input type="checkbox"/> No

SUMMARY INSTITUTIONAL ENVIRONMENT ASSESSMENT

A. Description of the Institutional Development and Capacity Building (IDCB) Component

1. One important lesson of experience from past projects in the water supply and sanitation sector is that the physical investments are not fully effective and efficient because the institutions (the formal and informal rules) governing where and what the investments will be made, how they will be made, and how they will be operated, are not sufficiently developed to enable the necessary decisions to be made in a manner that responds to community needs and which are fair to all stakeholders. The WSSP is designed to improve the institutions so that better physical investments are made with the benefits being more widely distributed in the communities. Improvements will target reform of the structure of the sector, introduction of better governance practices and the building of capacity of organizations and individuals.

B. Current Performance, Institutional Arrangements and Problems

2. The water supply and sanitation sector in Indonesia is dominated by regional government owned enterprises, called a Perusahaan Daerah Air Minum (PDAM). There are over 300 of these enterprises serving about 400 regional governments, which means that most regional government, big or small, provide a water supply through their PDAM. Identification of problems in service delivery therefore largely depends on identifying problems surrounding and in the PDAM. Sanitation services however are provided through a plethora of regional government agencies, making problems identification much more difficult. With these constraints in mind, WSSP is designed to address specific performance problems in the participating RGs, both physical and institutional in nature.

C. An Overview of Current Performance

3. Currently the performance of the service delivery agencies leaves much to be desired on the part of sector stakeholders. The PDAMs in particular have a range of problems relating to lack of stakeholder participation, weak financial performance, poor operational practices and lack of resources, be it financial, human and information. Typical areas in which performance is weak include:

4. Customer and stakeholder satisfaction: None of the PDAMs undertake customer surveys and little is known quantitatively about stakeholder customer needs, expectations and satisfaction, moreover about determinants of it, such as community perceptions with regards to quality, quantity, continuity and price of supplied water. What appears obvious however is that coverage is far less than expected, along with tariff levels.

5. Coverage and focus on poverty alleviation: Coverage in many of the PDAMs is below the national average. Although tariffs are also low, this means that low income households are still the most likely to be excluded from a service. Low tariffs therefore may seem "pro-poor" but problems of access for the poor remain. Moreover many of the areas covered by current networks are poorly serviced – use of existing assets need to be raised to "intensify" services. No data is presently collected on who benefits from services, although national statistics indicate that 75% of PDAM customers are in the top quartile of income.

6. Cost recovery: While most PDAMs may just be covering operating costs, lack of total cost recovery means their investments are "wasting away" and funds cannot be accumulated to finance growth / expansion. And expansion is the imperative among the PDAMs, given the low coverage of the distribution network and poor access of the poor.

7. **Water Losses and Quality:** From an operational perspective, unaccounted for water (or NRW) is a major problem. The average is well recorded as above 30% but, given the lack of operating bulk meters and low number of meters replaced annually, the overall actual average is likely to be much higher. Reduction of NRW perhaps represents the main technical and organizational challenge facing the PDAMs at present. But it is not the only challenge. Water quality is another.

8. **Water Quality:** Aside from monitoring problems, the challenge is ensuring water in the distribution system is not contaminated by the ingress of pollutants. While maintaining continuity of supply is essential high NRW is indicative of poor integrity of the distribution system and so of the ability to prevent ingress of pollutants.

9. **Low efficiency of labor:** While efficiencies of below 5 employees per 1000 connections are being achieved by the privates sector, the participating PDAM most often are approaching 10. Moreover, there appears to be no attempt by the PDAMs to manage more strategically this resource. Not a single PDAM from the 14 PDAMs assessed during project preparation collected data about their employee's perceptions. Further, expenditure on training and capacity building is negligible.

D. Current Institutions and Problems

10. The manifest problems described above have many of their roots in poor institutional arrangements and low capacity of organizations and individuals in the sector. Lack of assignment of clear roles, proper granting of authority and a lenient culture with respect to accountability mean that the external environment in which the service provider operate do not provide, or provide perverse incentives to perform, while the internal environment also has weak incentives for the providers to be effective and efficient. Problems (many of them generic to state owned service providers) include (i) the providers not only operate as monopolies but as policy-makers and regulators all in one – a case of acting both as “game-keeper and poacher” (ii) the providers operate under the direct command of the RG (and especially the Head of Region) (iii) social obligations are mixed so badly with commercial objectives that it is difficult for the PDAM or sanitation agency to know what it should concentrate on doing well (iv) the managers (directors) act with little restraint other than that imposed by the Head of Region because the Board of Supervisors (BOS) is dysfunctional (v) even if the BOS was in place, they would have difficulty governing the directors because of a lack of sensible strategic and annual work plans (vi) funding arrangements are so undisciplined that there is little incentive for the operators to seek efficiency; and (vii) regulatory arrangements to impose standards and targets are non-existent or are rendered ineffective because of conflicts of interest.

11. Behind these “soft” problems lay the “harder” ones related to: (i) no planning or planning disconnected from budgeting; (ii) information systems that do not provide the appropriate information; (iii) a legal and regulatory framework which does not improve predictability and enables enforcement, and ultimately, (iv) the ever present problem of enough competent and incentivized human resources.

12. In this environment staff of the service provider agencies struggle with a raft internal financial and operational performance problems. Leadership from top management is sporadic, financial management practices at best rudimentary in many PDAM (especially those outside Java) and little external focus on serving customer and stakeholder needs. Human resource practices are largely based on patronage while management systems often do not form the backbone of the organization as they should.

13. In the long-term, the water supply and sanitation providers should operate more as “contractors” – at least as autonomous bodies working in accordance with a “licence” or

"contract" of sorts that sets out their authority and accountability, how they are paid, the consequences of failing to perform and how accountability will be enforced. Key features of this reformed structure include (i) greater separation of policy making, operations and regulation with overall responsibility for system design being returned to PEMDA (ii) funding designed to improve incentives to be efficient by being based on output or performance. (iii) increased autonomy for the PDAM and sanitation operators, but more accountability through clear roles and responsibilities for the Board of Supervisors and Directors and much greater use of performance indicators.

14. While the above problems are most apparent in the water supply sector, they are also present in the sanitation sector, but just less obvious because of the greater diversity of sanitation services and the under-developed nature of the sector. A range of agencies are responsible for sanitation services, delegation of functions is poorly delineated, services (where provided) are grossly under-funded, information is scarce and enforcement of rules so weak as to provide no discouragement to actors in the sector to improve their performance. Crucially, a regulation stipulating the roles of stakeholders and how governance of the sector should be constituted is not present. Capable human resources at sector level are not being systematically developed and the sector's development is not being underpinned by a legal framework which improves certainty. In both sectors the challenge is to ensure the reforms are successfully designed and implemented in the face of the resistance to change that can be expected from some of the beneficiaries of the existing system. The degree of change needed demands reform at the governance level of the sector.

15. Fortunately, the central government has foreseen this need and has begun to develop programs among others to (i) reform regional government owned enterprises (including PDAMs) and sector structure and (ii) introduce the principles of good corporate governance in the sector. These reforms have been lead by the recent promulgation of Government Regulation 16 / 2000 which provides the ground rules for development of the water supply and sanitation sector.

E. The Proposed Sector Reforms

16. Institutional development and capacity building activities will be implemented under two separate, but related plans, which are to be updated each year by the RG. A Local Institutional Development Action Plan (LIDAP) will focus on institutional and capacity building activities outside the PDAM and over which the PDAM has little or any control. It will include both water supply and sanitation interventions in institutional arrangements. The second plan proposed is the Financial and Operational Performance Improvement Plan (FOPIP). It will be fully under the management of the PDAM and cover actions the PDAM plan to take to improve performance internally.

Water Supply

17. Institutional development actions are proposed for the LIDAP that will move the structure of the sector towards the "ideal" (or "unpacked") sector structure foreseen by central government, and one in which roles are clearer, incentives better and enforcement of standards easier. Choice of actions is related to physical targets operationalized through annual review of results of a "performance indicator scorecard" of the PDAM. However, actions must take cognizance of the resistance which will certainly be encountered to change from various places with the current system. It is therefore important to ensure that leadership is provided. For this reason the first year's activities are designed to ensure a Stakeholder Committee is established and functioning, that PEMDA provide an inter-agency planning and coordinating team (TKPP), and the PDAM establishes an Internal Performance Improvement Team. Preparation of plans

required by PP 16 / 2005 should be done in the first year initially under the guidance of Bappeda, but with increasing participation of the Stakeholder Committee.

18. Technical assistance will be provided to PEMDAs to progress reform in eight areas (i) leadership and regulatory activity in the sector (ii) strategic planning for service delivery systems (iii) resources acquisition and allocation (mainly reform of tariff and subsidy) systems (iv) performance management of the PDAM through introduction of performance agreement and capacity building of the Board of Supervisors and of Directors (v) improved information and planning (vi) explicit efforts to increase accountability through clarification of standards etc (vii) upgrade local legal instruments to create the new structure and strengthen accountability; and (viii) training and capacity building of human resources at sector level.

19. The FOPIP within the PDAM is to address the (mainly generic) areas needed to improve performance of any organization. In this way successful practices will be easier identify and to replicate in other PDAMs. They are practices related to 10 categories : (i) the leadership / top management (ii) financial management (iii) customer or external (stakeholder) focus (iv) strategy and planning (v) work systems, processes and procedures (vi) organizational structure (vii) supplier and partner relationships (viii) data information and knowledge creation and management (ix) human resource management and development ("people"); and (x) achievement and continual improvement of organizational performance. All categories have practices which each PDAMs can improve. Experience of organizational development however suggested that all categories need to be addressed, although experience also suggests that each PDAM will have different priorities and sequencing.

20. Although the FOPIP is to be reviewed and updated each year with actions chosen by the PDAM based on data and analysis, it also contains a set of core or mandatory programs to ensure the plan begins by addressing the most critical issues. There is at least one activity from each of the categories. Mandatory activities are performance improvement activities that every PDAM participating in WSSP must undertake, and include: (i) Establishment and on-going maintenance by the Directors of the Internal Performance Improvement Team (IPIT); (ii) Establishment and on-going maintenance of a program of Good Corporate Governance by the Badan Pengawas (see description in the Supplementary Appendix); (iii) Appointment, training and on-going maintenance of financial management personnel and practices (see Attachment 4 of the SPAR for the practices to be established, if they have not already been adopted); (iv) Implementation of a rapid revenue enhancement program; (v) Implementation and analysis of an annual customer satisfaction survey before each Annual Review, as well as establishment and maintenance of a complaints receipt and processing function in the first year (all part of a customer management system); (vi) Conduct of an Annual Review of the Corporate Plan and (up-dating as necessary) including of its indicators and targets; (vii) Implementation, analysis and action on an annual employee perception survey before each Annual Review, as well as progressive establishment of an improved Human Resources Management System; (viii) Implementing a water loss reduction program; (ix) Conduct an energy audit and review generally supplier (electricity, chemicals, materials, services) relationships, including the procurement process, prices obtained and the quality control process; (x) Annual collection, checking and submission of benchmarking data to PERPAMSI, and associated use of the results to improve understanding of performance and communications with stakeholders; and (xi) Development of an Information System oriented to delivering the data needed for financial management, benchmarking performance, asset management and other performance improvement activities.

21. Specific programs based on surveys and research may also be chosen based on the results of the customer, organizational and employee perception surveys with specific content adapted to specific local circumstances. They are to come mainly from the FOPIP list of best

practices. The main criteria for selection are (i) they clearly support achievement of the project objectives as indicated on the performance scorecards; (ii) have been identified as priority by a survey or other assessment tool; and (iii) there is a clearly identified method for delivering the program. Activities that enable economies of scale will be given preference.

22. Optional programs and programs for training are expected to be delivered by (i) PERPAMSI (ii) Cipta Karya (iii) the Project or (iv) purchased by the PDAM from an accredited training provider, based on PDAM identified needs, which will be identified using the survey instrument at Appendix 1 of the FOIP, as adapted by the Project from time to time. All programs shall include an evaluation of the effectiveness of the training. Specific training needs will be agreed with consultants in the first year and then each year thereafter to ensure efficient preparation of training programs. Should a national training scheme with a requirement for contribution to a training fund be introduced, the PDAMs will join this scheme.

Sanitation Sector

23. The sanitation sector displays many of the problems of the water supply sector, so it is to be expected institutional development should be integrated with water supply in many areas. The key area is in coordination and at the sector governance level. The LIDAP proposes that, in parallel with the water supply sector, the Stakeholder Committee should oversee an annual update of the sanitation component of the LIDAP, covering eight areas (i) improving leadership and clarity in assignment of functions (ii) tariffs and subsidies (iii) performance improvement of the delivery agencies (iv) information and planning (v) regulation and accountability (vi) enforcement (vii) local legal instruments to underpin the reforms and (viii) human resources at the sector level (those among the various agencies with responsibilities for ensuring the effectiveness of the sector).

F. Special Governance Features

24. Experience indicates that sustaining such institutional and organizational reform is always difficult and especially requires support from key stakeholders. To address this risk to project sustainability, four discrete initiatives are proposed (i) creation and operationalization of a Stakeholder Committee to help improve sector governance by raising community participation levels (ii) inclusion of a program of good corporate governance for the PDAM (iii) establishment of an Internal Performance Improvement Team in each PDAM and (iv) the annual review and update of the LIDAP and FOIP.

25. Stakeholder Committee: The Institutional Environment Assessment concluded that mechanisms are weak for ensuring the needs and expectations of the whole community are included in strategic level decision-making. In other words, sector level governance is weak. Participation, consultation, accountability, transparency, and predictability are all attributes that are largely missing from the sector, thus robbing it of the consistent sound decision-making needed to sustain development. The proposed Committee, at the least, should be advisory in nature, but there is no reason why formal power-holders cannot delegate certain decisions. It is too much to expect the DPRD will be involved in depth in the sector - their "political" agenda is full, and there is a certain level of competence required of "governors" of the sector that would be left to competent and interested people. The project aims to develop ensure a group of competent, independent, interested and professional people are appointed by the government to oversee the water and sanitation services provided by government. The Committee's role will not be to usurp the role of government but to compliment it. The Committee should be supported by a "Secretariat", which would best be the formal group of officials that exists in most RGs for coordinating projects - the Tim Koordinasi Perencanaan dan Pemantauan (TKPP). Funding for the secretariat has been included in cost estimates.

One immediate task includes overseeing development of an integrated water supply and sanitation plan required by PP 16/2005 (Article 78), part of which are likely to be specific matters coming out of the city-wide sanitation strategy.

26. **Good Corporate Governance of the PDAM:** By developing and maintain a system of GCG under the leadership of a properly constituted Badan Pengawas that oversees the PDAM, external stakeholders will be given more confidence that the PDAM is working in their interests, and so are more likely to provide the resources needed to help the PDAM implement the development program. The system would encourage adoption of practices that ensure (i) owners (currently PEMDA) and stakeholders' rights in the PDAM are protected (ii) risks faced by the PDAM are managed properly, including abuse of community owned assets and corruption (iii) laws and regulations are complied with (iv) the Directors perform an appropriate role (v) the Board of Supervisors themselves perform an appropriate role; and (vi) a system of Good Corporate Governance (GCG) is established.

27. **PDAM's Internal Performance Improvement Team:** Establishing new systems in PDAM has always suffered from rotation of key persons, leaving fledgling change programs without the leadership and champion that IDCB programs need to be successful. The Project therefore will establish a team of senior PDAM personnel to oversee continual review, update and implementation of the FOPIP. The team is also important in ensuring FOPIP actions address cross-functional problems within the PDAM. The Team will not usurp the authority of the directors, but like the higher level stakeholder committee, provide a wider view of the needs of the organization.

28. **Annual review and update of the LIDAP and FOPIP:** The fourth key feature to improve sustainability of the Project relates to building capacity to capture lessons and experience and use them to improve implementation of subsequent programs. The "scorecard" of performance indicators related to water supply, sanitation and PDAM governance maintained under the Project Performance and Monitoring System will be reviewed and adjustments proposed before September 30 of each year by the directors and Board of Supervisors (water supply and PDAM governance), sanitation implementing agency (the sanitation sector performance indicators) and the Stakeholder Committee (all indicators) before the budget is fixed for the following year.

29. The review for water supply will be done by first reviewing and updating the PDAM's Corporate Plan and FOPIP. The proposed performance improvement actions determined each year in this way are then to be included in the proposed Annual Budget and Work Plan (RKAT) for the coming year, for approval by the Board of Supervisors (in the case of water supply) and Stakeholder Committee and the Project before mid-December.

PUBLIC HEALTH AND HYGIENE ASSESSMENT

A. Background

1. Water supply and sanitation (WSS) health problems are affected by three major factors: (a) infrastructure to provide clean water; (b) education and behavioral practices; (c) infrastructure to take dirty water away and ensure it does not pollute the environment. No single answer is available, since each individual location will have its own special characteristics. What is known, however, is that WSS diseases are lower in Indonesia than the SE Asia and world averages¹. This agrees with Ministry of Health (MoH) diarrhea disease data and is probably the result of: (a) almost universal boiling of water for human consumption; (b) heavy rains which wash away pollutants. WSS diseases are 30% above those in Europe, however, and so further savings are available. Baseline data shows that these could be obtained from changes in all three affecting factors.

2. Even in locations where appropriate water and sanitation options are available, it is still the factor of human behavior that poses perhaps the biggest challenge to the problems of finding effective mechanisms to interrupt or reduce disease transmission. The problem is so formidable that, in Indonesia, many programs and projects have tended to focus on technical infrastructure (clean water or improved sanitation) or medical treatment solutions (Oral Rehydration Therapy), rather than attempting to tackle the "human behavior" challenge. Yet, behavioral change is seen as the principal mechanism for achieving hygiene improvement and further reduction in disease transmission.

3. Despite the evidence pointing to the benefits of increased quantities of water on health, the relationship is not simple and most research has made significant assumptions about water use. Hygiene is not solely related to availability of water, but also to specific hygiene behaviors such as hand washing at critical times, for instance before eating and cooking and after defecation. Studies suggest that a median reduction of 35% in diarrhea disease morbidity from improved hand-washing is achievable through well-designed hygiene education programs. This indicates that household-targeted interventions deliver significant improvements in health even when environmental conditions and services are not conducive to improved health, although as with all environmental interventions the range of impacts is considerable.

4. The objectives of the health and hygiene assessment are to: (i) assess current health and hygiene practices as they relate to water supply and sanitation, (ii) record current levels of water-borne diseases; (iii) assess broad impacts of these diseases, (iv) outline current on-going awareness and education programs, and (v) define additional programs for implementation as part of WSSP.

B. Current State of Public Health in WSSP Locations

5. Concerning assessment of public health, diarrhea has been singled out for monitoring for two reasons. Firstly, in many countries, dehydration from watery diarrhea is a major cause of death during infancy and childhood and, secondly, the condition is amenable to treatment by oral rehydration therapy. This combination makes diarrhea a priority concern for health services.

6. The following Table provides numbers concerning the most recent statistics on water borne, water washed, water based and vector diseases in the proposed WSSP project area.

¹ This assessment was confirmed by the TA 4063-INO Community Water Services and Health Project which examined MoH surveys from 2000 and concluded that "diarrheal disease incidence in Indonesia is already fairly low for children under 5 on a national basis".

Table 1: Cases of Water Related Diseases in Project Area 2003 - per 1,000 persons

Location	Dengue fever	Diarrhea	Cholera	Dysentery	Typhoid	Hepatitis
Kab Serang	0.15	28.07	0.10	3.18	0.89	0.03
Kab Pematang	0.01	11.77	-	2.61	2.89	0.12
Kot Semarang	0.82	18.36	-	-	-	-
Kab Tapanuli Tengah	-	-	-	-	-	-
Kab Tapanuli Utara	-	25.03	-	-	-	-
Kab Barru	0.63	13.33	-	-	-	19.47
Kab Jeneponto	0.20	10.73	-	1.87	1.45	0.00
Kab Maros	2.46	24.03	0.01	4.11	1.07	0.19
Kot Palopo	0.19	40.53	-	-	-	0.01
Kab Sidenreng Rappang	0.79	13.62	-	-	-	0.01
Kab Bandung	0.22	32.17	-	0.19	0.29	0.00
Kot Banjar	0.20	14.33	-	-	-	-
Kab Bogor	0.11	26.48	-	-	-	-
Average for Project	0.53	21.54	0.06	2.39	1.32	2.48
Average for Indonesia		91.40				
Total excl. Semarang	0.50	21.80				

Source: WSSP analysis

7. The data indicates that level of diarrhea in the Project area is relatively lower when compared with Indonesian average.

8. It should be noted that it is generally assumed that only around 10% of diarrhea cases are reported in the community health centres since only quite severe cases will seek medical assistance. This phenomenon is dealt with in the DALY data, however, which uses WHO defined standards.

9. Concerning standards, discussions with the various Dinas Kesehatan (Regional Government Health Office) in the Project locations indicate that to date specific targets for disease, quality of raw and drinking water, types of toilets used etc have not been set and thus at the present time performance monitoring with regard to their activities is not carried out.

C. Water and Environmental Monitoring Activities

Overview

10. District health programs throughout Indonesia are based on a common pattern. Several of these programs are available for use by the Project. The activities performed by the Dinas Kesehatan include tasks aimed at prevention and control of diarrhea, sanitary inspections for houses and also commercial and public places, water quality monitoring, school health programs, community health programs and assistance in construction of private water supply and sanitation facilities.

11. Community empowerment is the key approach used by the Dinas. Development and construction of facilities is based on community demand, with as far as possible facilities being developed entirely by using community resources.

Drinking Water Quality

12. Drinking water quality monitoring is carried out based on MoH Decree 416/1990 and 907/2002. Standards monitored are specifically for drinking water. These decrees outline the responsibilities and authority of a number of agencies and also include the relationship between them. The decrees include the organizational structures to be used along with the legal basis for testing programs. Testing is done by both the PDAM and the Dinas Kesehatan.

13. Only a limited number of results could be obtained on water quality testing. No data could be obtained from Sidenreng Rappang, Tapanuli Tengah and Tapanuli Utara. The results of testing PDAM water indicate that the quality is relatively good. Shallow wells in most locations were found to have unacceptable bacteriological quality in around half the samples tested. It is surprising that bottled water or vendor supplied water is of considerably lesser quality than PDAM supply.

14. From discussions with the various Dinas Kesehatan it appears that the coordination of activities with PDAMs is less than optimal. Equipment problems and lack of funding have led the Dinas to focus on bacteriological testing which means that other potentially harmful characteristics are not being monitored.

15. In the WSSP Project areas the survey found that approximately 56% of existing access to sanitation in urban areas is through on-site sanitation since government policy makes households responsible for the treatment and disposal of wastewater. The major portion of this wastewater from toilets is passed to septic tanks for treatment. A small portion is dealt with direct by leaching systems. Septic tanks provide only very limited removal of pollutants – around 33% – yet surveys indicate that around most of the effluent from septic tanks was discharging direct to surface drains. A further problem is that around 80% of bathroom, kitchen and laundry wastes are passed direct to surface drains without any form of treatment. Regulations generally require that septic tanks be provided with leaching systems; however, this regulation is not enforced. Septic tank effluent, along with untreated wastewater from kitchens and bathrooms, therefore flows into drainage systems creating costly and severe environmental pollution of urban areas. To the present time waste water quality monitoring is not an area which is a concern to the Regional Governments. Bapedalda is the Regional Government body responsible for control of adverse environmental impacts. However, there monitoring programs are limited and operate on the basis of "self-monitoring" with regard to industry. Industries are required to treat their waste to discharge standard. They are further required to test there wastewater treatment plant effluent on a monthly basis and send the results to the RG. In practice, this results in considerable environmental pollution from industrial sources.

16. Concerning domestic waste, neither Bapedalda nor Dinas Kesehatan has a waste water quality monitoring program. Dinas Kesehatan does however, have a program for inspection and checking of sanitation facilities. This monitoring is based simply on inspection of the sanitation facilities, checking the local environment for evident damage and observing local community behaviour. Low income areas are generally targeted in these activities. Special programs are mounted in areas of disease outbreak. This qualitative approach is less than optimal but appears relatively effective, given the limits on available resources. After completion of inspections a report is provided to the owner of the water and sanitation facilities, outlining any problems and suggested remedial actions. If the owner is a PDAM customer, a copy of the report is provided to PDAM.

17. Although domestic wastewater quality is not specifically monitored it is of interest to note, that Project field investigations indicate that water quality in shallow wells is relatively badly polluted compared with that from deeper wells and other sources.

D. Public Awareness and Education Programs

18. Centrally a special unit attached to the Ministry of Health – the Center for Health Promotion – has been established with the function and responsibility of developing national guidelines on health promotion and assisting divisions within the Ministry in the development of specific programs.

19. This unit has achieved good results to date and it therefore proposed that materials prepared by this unit will form the basis of PH&H initiatives under the WSSP.

20. One of the more popular programs is the Health and Cleanliness Behaviour Program. The objective of the program is to make people aware of the causes of health problems and thus to assist in reduction of these problems. The program uses methods of advocacy, social support, social communication and community empowerment.

21. A further unit known as the Water and Sanitation Behaviour Promotion unit runs programs and activities aimed at increasing awareness with regard to healthy water and sanitation practices. This unit has been quite successful in increasing awareness concerning safe practices. Specific programs for sanitation and diarrhea reduction have focused on the urban poor. Programs have focused on achievement of improvements through behavioural change. The program takes an integrated approach by involving local government, the health care infrastructure, local leaders, teachers and primary school children, men's groups, women's groups and mothers of at-risk children.

22. Although much work has been done in the area of public awareness and education programs for public health and hygiene, there still remains areas where more could be achieved. The program contents appear to have been quite successful, however, the allocation of Regional Government budgets for these programs is constrained since RGs do not generally consider this area one of primary concern. The primary focus of programs must continue to be in the area of behaviour change. These programs are also proposed to include parental involvement.

E. Public Health and Hygiene – WSSP Initiatives

23. Sanitation and hygiene behavioural change programs will form an integral part of the WSSP. The programs are designed to extend the health improvement impact of the Project investments. The objective of the Programs is to extend the health benefits of improved water and sanitation facilities by enhancing community awareness of the linkages between improved facilities, improved sanitation and hygiene behaviour and community health.

24. To improve better health through reduction of water and sanitation related diseases the whole community needs to be involved at all stages of activities. Particular attention must be paid to gender issues, target groups and high-risk groups. The development of physical sanitation infrastructure is outlined in Appendix 5 and the proposed institutional strengthening and capacity building tasks are outlined in Appendix 12. These activities will be supported by a schools health education program and a community health education program. Also included will be a program to monitor water quality in local urban drainage systems within the Project areas.

25. The initial task will be to prepare materials, print leaflets etc. and train local persons in the delivery of programs. At this time the program for testing water quality in the micro-portions of the urban drainage systems in the Project area will be set-up.

26. The school health education program will use participatory hygiene and sanitation education to reach young children, both to influence their long-term behaviour and to use them

as change agents for their families and communities. The school based health program will consist of several activities including: (i) enhancing the current primary school curriculum on health and sanitation, (ii) supplementing the school health and sanitation curriculum with special topics on other priority basic health programs, (iii) worm infestation treatment for school children in Project locations, and (iv) water quality monitoring at Project locations.

27. The community health program will focus on improving health and sanitation behaviour by using the participatory approach to encourage change in individuals, family and community. It will also strengthen the capacity and communication skills of local health and sanitation providers, including the sanitation agency, midwife and other local health resources such as PKK. The focus on the community health program will be on activities including: (i) strengthening the local awareness on health, hygiene and sanitation through community participation, (ii) local media programs on health, hygiene and sanitation, and (iii) improvements in community health facilities.

28. The process will be firmly community based, with schools and communities in Project areas being involved in preparation of programs and eligible to submit proposals for special funding. These activities would have to be clearly defined and meet certain criteria related to improving health and sanitation, such as "Clean School Facilities Competitions".

29. The drainage water quality monitoring program would sample street and local area drainage waters on a bi-annual basis. The focus would be on the micro, or local community, rather than the macro or city drainage infrastructure. Areas which are subject of community based sanitation projects would receive priority treatment within this monitoring program. Such testing of urban community drainage waters should prove useful as further attention is given to sanitation in future project work.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. General

1. The areas of expertise of technical assistance will include: (i) DBO contract preparation, bidding and execution; (ii) AMDAL preparation and execution; (iii) Project management (PM), including contract administration, civil and mechanical engineering expertise and financial control; (iv) Institutional development and capacity building (IDCB); (v) Quality control (QC) over project execution, performing both physical works quality audits and also financial audits; (vi) DED (Semarang only) and Construction Supervision consultants within the PIU; (vii) Data Collection and Analysis System (SIKD) support to RG (not funded from WSSP loan).

Table 1: Consulting Services – Person Months

Services	International (person months)	National (person months)	Remarks
DBO contract documents	5	31	8 contract documents
AMDAL	0	36	3 locations
Project Management	54	432	
Quality Control	12	60	
IDCB	108	1,242	
Total	179	1,801	

B. Development Consulting

DBO Contract Preparation

2. The recruitment of the DBO Contract Preparation Consultant should commence during the final quarter of 2005, possibly after the Tim Penilai have completed their review of the SPARs and RG loan requests. This Consultant will be required to: (i) Prepare pre-qualification documents and guidelines on short-listing of contractors; (ii) Prepare outline designs and general arrangement drawings for proposed water supply works; (iii) Prepare schedules of quantities based on outline designs. These schedules to be arranged for use in selection of the successful contractor during the bid evaluation process, and in execution of the contract works on a schedule of rates basis; (iv) Schedules of quantities to include for Construction of the facilities; Operation and maintenance of the WTP and distribution system for a two year period concurrent with development of the distribution system; Training of PDAM staff in the operation and maintenance of the complete system; House connection public campaign; House connection installation costs for a contracted number of customers; (v) Prepare performance based specifications for the works with salient criteria to include area to be serviced and minimum number of connections to be added to the system (i.e. 80% of the WSSP design figure); drinking water quality; 24 hour service; adequate pressure and UFW reduced to target figure – 15% to 20% for new distribution area, 5% to 10% reduction on current figure (agreed during year 1) for existing distribution area; (vi) Compile bid documents to include Definition of the Contract Service Area including definition of boundary, description of sites proposed for use in the Project and details of any existing facilities; outline of the scope of works to be executed; performance criteria to be achieved; general arrangement drawings; schedules of quantities and rates; and technical standards to be observed in the construction of the works.

AMDAL Preparation

3. AMDAL Consultants will be procured using GOI standard Terms of Reference for these Consulting services.

C. Project Management and Quality Control Consulting

Project Management

4. The recruitment of the Project Management Consultant should commence immediately the Loan has been signed. This consultant would be based in Jakarta working alongside the PMU. It is also proposed that the Consultant have branch offices in Makassar and Bandung. Additionally the Consultant would have one staff resident in each of the Project locations working alongside the PIU staff. This Consultant will be required to (i) Maintain a master schedule of all Project activities and monitor performance against progress, identifying problem areas and working with the PMU and PIU to solve these problems; (ii) Monitor financial performance of the Project and report to PMU as necessary; (iii) Coordinate the activities of the Stakeholder Committees, particularly with regard to the community based sanitation elements of the Project; (iv) Ensure compliance with quality and best practices of consultancy services and physical works carried out by contractors. This work would include design review and checking responsibilities; (v) Advise on procurement related matters; (vi) Coordinate activities of all Consultants working on the Project to ensure optimal and effective utilization of resources; (vii) Coordinate activities with the Quality Control Consultants to ensure best practices in construction activities, consulting services and project financial management; (viii) Review specific reports, with special regard to environmental and social development activities, and forward a copy to the ADB; (ix) Ensure that all relevant ADB policies and guidelines are complied with particularly procurement, financial management and safeguards against corruptive practices and negative social and environmental impacts; (x) Carry out necessary surveys and gather data as is necessary and required as part of the PPMS; (xi) Monitor and report to PMU on compliance with Loan Covenants on a bi-annual basis; (xii) Prepare periodic reports, such as progress and audited financial reports, to the ADB as required.

Quality Control

5. The Quality Control Consultant would be a separate and independent Consultant who is recruited through a higher level office in the DPU. The Consultant would ensure quality control of works in two areas: (i) Construction of physical works including random checks of works to ensure that specified technical standards are being observed in Construction; and (ii) Contractual and financial audits to ensure that corrupt practices are not being employed in the execution of the Project works.

D. Institutional Development and Capacity Building Consulting

6. Although designated as a separate Consultant it is expected that the Project Management and the Institutional Development and Capacity Building Consultants will be employed under a single major contract. The Consultant Team Leader would be expected to be a Project Management specialist and be responsible for direction and management of the Consulting Team as a whole. The IDCB Consultant would be responsible generally for the implementation of the FOPIP and LIDAP along with the development and implementation of the Public Health and Hygiene activities.
7. This Consultants tasks for the Local Institutional Development Action Plan for water supply will include: (i) Mobilize Leadership and Communicate Action Plan; (ii) Clarify the Overall System for Sustainable Service Delivery; (iii) Improve Resource Acquisition and Allocation; (iv) Increase and Improve Means of Service Delivery; (v) Information Management and Planning;

(vi) Increase Accountability; (vii) Improve Legal Certainty and Enforcement; (viii) Upgrade Set of Local Legal Instruments; (ix) Improve Human Resources Development at Sector level. His tasks for the Sanitation sector would include: (i) Clarify the Overall System for Sustainable Service Delivery; (ii) Improve Resource Acquisition and Allocation; (iii) Expand and Improve the Means of Service Delivery; (iv) Information Management and Planning; (v) Increase Accountability; (vi) Improve Legal Certainty and Enforcement; (vii) Upgrade the Set of Local Legal Instruments / Framework; (viii) Improve Human Resources Capacity at Sector level

8. This Consultants tasks for the Financial and Operational Performance Improvement Plans for PDAMs includes those factors which are under their control and others which are not. This plan concerns those factors under the control of the directors and personnel. The Plan is based mainly on the project objectives and activities, the results of an organizational audit conducted by survey among PDAM personnel, and the opinions of senior PDAM managers and the consultants. The work includes: (i) Training programs; (ii) Establishment of an internal Performance Improvement Team (PIT); (iii) Annual review and update of the Corporate Plan including its indicators and targets; (iv) Annual benchmarking and associated information system improvements; (v) Implementing annual customer satisfaction surveys; (vi) Establishment of a complaints receipt and processing function; (vii) Implementing routine employee perception surveys; (viii) Implementing a revenue enhancement program; (ix) Implementing a water loss reduction program.

9. In addition it is proposed that each of the participating PDAMs seek short-term improvements in their financial performance through the introduction of basic business procedures by means of an immediate action plan as outlined in the SPAR documents.

FINANCIAL ANALYSIS

A. INTRODUCTION

1. Project financial analysis included the following: (a) evaluation of RG creditworthiness; (b) evaluation of water company past financial performance; (c) evaluation of and forecasts for PDAM tariffs; (d) assessment of EA and IA financial management capacity; (e) water supply sub-project financial analysis, including demand assessment; (f) sanitation sub-project financial analysis; (g) affordability analysis; (h) sensitivity analysis.

2. Financial analysis has been conducted in accordance with the Framework for the Economic and Financial Appraisal of Urban Development Sector Projects of the ADB and the Guidelines for the Financial Governance and Management of Investment Projects Financed by the Asian Development Bank, January 2002. It is believed that the latter guidelines are being updated and further assistance was obtained from a June 2004 Methodology Note and from the finance department directly. Tariffs were evaluated in line with ERD Technical Notes 9, Setting User Charges for Public Services, Policies and Practice at the Asian Development Bank, December 2003, and 10, Beyond Cost Recovery, Setting User Charges for Financial, Economic and Social Goals, January 2004.

B. REGIONAL GOVERNMENT CAPACITY

3. Evaluation of the borrowing capacity of regional governments is necessary since the Ministry of Finance now refuse to lend directly to RG water companies (PDAMs). There are understandable historic reasons for this position but it is not necessarily the most efficient.

4. All project RGs have sufficient borrowing capacity to cover the proposed water and sanitation projects. This need not be necessary, however, since both sectors could be self-financing.

5. None of the regional governments have outstanding debt large enough to require rescheduling. Only one, Kota Semarang, had debt at end 2003 which approached half of their borrowing capacity. The highest of the remainder was 4%.

C. PDAM FINANCIAL PERFORMANCE

6. PDAM tariffs are only marginally above operating costs. PDAMs have continued to receive central government grant funded investments but data maintained remains insufficient. Seven of thirteen PDAMs have not had their accounts audited since 2002.

7. Seven PDAMs still have outstanding arrears owed to MOF. Agreement to reschedule these is in process. The effects of rescheduling and other payments on existing loans have been included in the financial forecasts.

8. Two PDAMs have a 2004 debt to debt plus equity ratio greater than 70%. A different two PDAMs have an existing DSCR lower than one.

D. DEMAND AND FINANCIAL FORECASTING METHODOLOGY

9. Demand was forecast as a combination of demand for connections and demand for water from those connections, both of which were calibrated against willingness to pay. Connections assumed were always below the numbers wanting a connection but were frequently above those who expressed willingness to pay for the connection. Survey data of this nature cannot be 100% reliable but did indicate two important factors. First is the element of risk in the forecasts. Second is the potential importance of allowing credit on connection fees. PDAMs do not like credit but one option might be to impose a covenant that the connection program be

monitored against plan and that, if it falls below a certain percentage, a credit scheme must be introduced.

10. The consumption effects of past (a) tariff increases; and (b) capacity increases were analyzed. This showed that increased tariffs led to a fairly consistent decline in consumption and consumption per person was forecast using the derived price elasticities. The analysis showed no correlation between increases in capacity and increases in sales, which implies that in many places it is not capacity which is constraining sales.

E. TARIFFS

11. National water tariff guidelines include at least implicit consideration of each of the goals outlined in ERD Technical Note 10, ie good governance, financial sustainability, distributive justice, economic efficiency and fair pricing and do not disagree with any of them. Different PDAMs apply the national tariff guidelines differently, however.

12. In particular, there are large differences in the ratio between the tariffs applied to different groups. Eight of the thirteen PDAMs have a low tariff for poor households, which on average are 65% of the normal household rate. In some cases, however, the average rate to the poor is increased by the operation of a minimum 10 m³/month policy. The tariffs to the poor are above short run variable costs and so supplying the poor does not cause the PDAM a loss.

13. Existing tariff guidelines ask for average tariffs equal to partial full costs (PFC), which include debt interest but not a return on all assets. A new presidential decree asks for a reasonable profit. These requirements can be reconciled by the assumption that historic assets were provided by central government grants and the government does not wish that a "profit" be made on those investments. Neither consider the need to replace assets at current prices, however.

14. In 2004, actual average tariffs in evaluated PDAMs covered cash flow costs. ERD TN 10 asks for financial sustainability into the future but does not specify how year by year tariff levels should be set. Therefore, cash flow cost recovery can be seen as being in compliance with the letter if not the spirit of TN 10. Average PDAM tariffs were 30% below PFC at historic prices, 60% below PFC at replacement prices and 100% below full costs. By 2011, however, when cash flow tariffs must cover debt repayments, there is little difference between cash flow and full cost tariffs.

15. PDAM tariffs after 2010 have been estimated on an average annual basis as the maximum of partial full costs and cash flow requirements. Overall, this implies that real tariffs must increase by a factor of 250%. In five PDAMs average tariffs in 2011 would be above Rp 4,000 per m³ in 2005 prices. Rp 4,000 is US\$ 0.4 at market exchange rates but US\$1.20 at purchasing power parity. Tariff increases would lead to consumption decreases which would take some time to be offset by income growth.

F. AFFORDABILITY

16. Affordability is an important concept but one which is difficult to define and even more difficult to put into practice. Firstly, it relates to a social consensus that all citizens should be able to consume some minimum basket of consumption goods. Given the cost of those items, the required minimum can be used to define a minimum income, which in turn can be provided in some way through a welfare state system. Indonesia has started the move towards such a system and is allocating to specific poor households savings from decreases in the fuel subsidy. This will certainly assist but it is some way from providing a minimum income.

17. Without such a general safety net, international analysis has considered what share of a person's income "should" be spent on particular items. In the case of water, a figure of 4% has gained significance. 5% is used similarly for water and waste water disposal, even though the costs of the two, if provided hygienically, are actually similar. The 4% number suffers from several other limitations. First is the question of whether it should be for all consumption or for some socially set minimum base requirement. Second is the very wide range in actual practice, which implies that consideration should be given to affordability for more than one social group; eg: (a) existing customers; (b) new customers, who will have lower incomes on average; (c) people on the regional government poverty line.

18. Third is the fact that much of the costs of water supply, particularly but not only for the poor, can be the time spent obtaining the water. Time is not included in standard percentage of income affordability calculations. Including it would certainly show that public tap customers, and the non-connected poor, can pay significantly above 4% of real incomes for their water.

19. The affordability results indicate potential affordability problems with average consumption on certain regencies, particularly at Barru, Maros and Palopo. The lower incomes of to be connected customers could also cause affordability problems at Banjar, Bandung, Semarang, Taput and Tapteng. On average, however, and with average household consumption: (a) existing customers could afford the increased tariffs (3.9% of income); (b) new customers could afford existing tariffs (2.6%) but would have difficulties paying at the levels required for future cost recovery (6.5%); (c) poverty line families could afford existing tariffs (3.8%) but could have real difficulties with cost recovery tariffs (9.8%).

20. Affordability problems can be dealt with in several ways. First the household can decrease consumption of relatively expensive piped water. Average consumption, on which the affordability shown is based, is some 100 lpcd or some 15 m³/connection/month. Families in need will be able to decrease consumption below that level, either absolutely or by continuing to use traditional sources for certain needs.

21. People on the poverty line will have the same option. Where traditional water sources are limited, additional assistance can be provided by the PDAM or RG, by carefully placed public taps. The poor then have more opportunities to spend time collecting water instead of paying for it at house connection prices. A "poor" household tariff, as operated by most project PDAMs, can also significantly reduce costs to the poor. Such savings will not be fully realized, however, if there is a minimum consumption level which limits customer self-regulation.

G. CASH AND EQUITY INJECTIONS

22. The cash required 2006 to 2008 to provide counterpart funds would on some occasions require impractical tariff increases. Discussions with the PDAM and RG have led to a combination of RG cash or equity injections and tariff growth to the 2011 level. Where feasible, the injections have been assumed to be repaid from connection fees since there is no reason for the general tax payer to fund PDAM customers overall. On average, the advances would need some 1.4% of RG revenues and the equity 0.6%. Kota Banjar would have the highest shares, 3.7% each.

H. PDAM FINANCIAL FORECASTS

23. With the tariff increases and cash/equity injections assumed, the PDAMs would be in reasonable financial condition. Financial indicators are summarized in Table 1 below. The year 2010 is used for the main indicators since it is the year before debt payments start. 2011 is used for the DSCR since it is the year they do start. Two DSCRs are shown: the ADB version, based on net revenues; and cash balance based version. The latter is useful as an indicator of

the ability to fund on-going and replacement investment. The ADB defined debt service coverage ratio would be acceptable for all PDAMs in all years.

Table 1 PDAM Financial Indicators - Average

	2005	2010	2015
Operating Ratio	115%	89%	72%
Cash to Minimum Cash	4.4	17.0	2.6
Contribution to Investment	-576%	107%	98%
Average Asset Rate Base (Rp B)	35.3	127.9	129.4
Assets/Water Sales	4.49	4.80	2.61
Debt/(Debt + Equity)	31%	72%	54%
End Year Debt (Rp B)	24.5	122.5	83.9
Interest Accrued (Rp B)		9.0	
Debt Payments (Rp M)	3.7	4.8	14.7
		2011	2016
Debt Service Coverage Ratio			
ADB, Net Revenues		1.54	2.35
Cash Less Minimum Cash		1.98	1.64

I. FINANCIAL MANAGEMENT ASSESSMENT

24. Effective financial management is a critical success factor for project sustainability. Irrespective of how well a particular project or program is designed and implemented, if the executing or implementing agency does not have the capacity to effectively manage its financial resources, the benefits of the project are unlikely to be sustainable. Following standard ADB procedures, a financial management assessment (FMA) of the executing agency, DGHSS/PU, is unnecessary since they have passed similar assessments in the past. Implementation procedures have changed as a result of decentralization, however, and local governments and their agencies will now be implementing agencies. FMAs were conducted using the standard ADB FMAQ. An evaluation of accounting records of each agency was also performed. While there was of course significant variation, the general conclusion was that significant support will be required during project implementation. This has been included in the Consulting Services shown in Appendix E.

J. FINANCIAL APPRAISAL – WATER SUPPLY

25. Water supply sub-projects have in several cases been cut down in size as a result of the consultants assessments of demand and practical implementability. Even so, however, coverage assumed, although less than people would want, is more than they are willing to pay for. Similarly, although ability to pay is higher than recorded willingness to pay, neither indicator implies that the sales at the high tariffs required can be simply assumed.

26. The WACC has been calculated separately for each PDAM since sources of funds differ. An example is given in Table 2. On average the WACC is 1.2%. All sub-project FIRR are above their WACC, even after the inclusion of capacity building costs. The weighted average FIRR is 5.8% (sub-project results are shown in Table 2 below). The similar AIFC before capacity building is 2005Rp 2,750 per m³. This can be compared to the average tariff of Rp 4040 required in 2011 to start loan repayment.

Table 2: WACC Calculation for Kabupaten Bogor

	ADB Loan	Gov't Funds	Consumers	Total
Funding Weight	70.0%	2.6%	27.4%	100%
Nominal Cost	9.55%	12.5%	6.0%	
Tax Rate	30%	0%	0.0%	
Tax-Adjusted Nominal Cost	6.69%	12.5%	6.0%	
Inflation Rate	5.5%	5.5%	5.5%	
Real Cost	1.12%	6.64%	0.47%	
Weighted Component of WACC	0.79%	0.17%	0.13%	1.09%

K. FINANCIAL APPRAISAL – SANITATION

27. The community sanitation centers (CSC) and simplified community sewerage systems (SCSS) sanitation sub-projects are assumed to be funded by on-granting of the ADF loan. The CSC financial analysis shows that the present charge per visit would give an FIRR of 2.7%. If the projects were funded by a sub-loan, the required charge per visit would depend on the GOI mark-up to the ADB loan, varying from Rp 332 with zero mark-up to Rp 413 with the mark-up of 5.02% assumed for water supply. For SCS, a charge of Rp 290 per person per day would give an FIRR equal to the 1.2% WACC. Cost recovery charges would vary from Rp 180 with zero mark-up to Rp 261 with a mark-up of 5.02%.

28. The new sludge treatment plant at Serang is assumed to be funded by on-lending the ADF loan. A charge per m³ of Rp 19,700 would provide an FIRR equal to the WACC. Cost recovery charges would vary from Rp 14 with zero mark-up to Rp 19,400 with a mark-up of 5.2%.

L. SENSITIVITY ANALYSIS

29. Sensitivity analysis has been conducted for the parameter or parameters which are considered to be most uncertain. Costs are important, of course, and the analysis shows the results of a 20% under-estimation. This is less important, however, than the benefit estimates which are sensitive to three important and inherently uncertain indicators: (a) willingness to pay to connect and/or to lower connection fees to affordable levels; (b) the political-will required to raise tariffs by the amount necessary for cost recovery, often a factor of two or three; and (c) willingness to pay those high tariffs. Therefore, the table below shows the results of a 20% increase in project costs but a 40% decrease in project benefits. It also shows the effects of a one year's delay in construction. If the possible 40% revenue reduction was lowered to 20%, only Bogor Tengah would still have a negative FIRR (-0.2).

Table 2 Financial Base FIRR and Sensitivity Analysis – Water Supply

Project Location	Base	+ 20% Costs		- 40% Benefits		1 Year Delay	
	FIRR	FIRR	SV	FIRR	SV	FIRR	SV
Serang	4.8%	2.2%	14.3%	0.4%	8.3%	3.7%	32.1%
Bandung	5.8%	2.9%	16.6%	0.9%	9.7%	4.5%	35.9%
Barru	9.6%	6.4%	25.9%	4.0%	15.0%	7.7%	42.9%
Bogor Timur	4.5%	1.9%	13.0%	0.1%	7.7%	3.4%	31.1%
Bogor Tengah	1.6%	-0.2%	2.8%	-1.4%	1.6%	1.0%	7.9%
Bogor Barat	13.8%	8.4%	23.5%	4.3%	14.2%	10.2%	35.0%
Maros	12.5%	8.3%	27.2%	5.4%	16.0%	9.7%	41.0%
Jeneponto	11.8%	8.2%	30.3%	5.7%	17.5%	9.4%	45.6%
Palopo	3.5%	1.6%	12.8%	0.1%	7.4%	2.7%	30.1%
Tapanuli Tengah	8.0%	5.8%	27.9%	4.2%	16.1%	6.8%	50.8%
Simple Average	7.6%	4.6%	19.4%	2.4%	11.4%	5.9%	35.2%

Sensitivity can also be shown by the sensitivity indicator (SI), which is the mathematical inverse of the switching value (SV) shown in the table and so can be easily calculated.

30. Due to inherent uncertainties in the value of sanitation benefits, and the way in which those benefits have been estimated, calculation of sensitivity indicators for sanitation is not considered reasonable.

ECONOMIC ANALYSIS

A. INTRODUCTION

1. Economic analysis was conducted in accordance with ADB's Guidelines for the Economic Analysis of Projects, Guidelines for Economic Analysis of Water Supply Projects, Economic Analysis in 2002; a Retrospective and Economic Analysis Retrospective 2003 Update. The economic analysis covers both the Project as a whole, and the individual subprojects. For the Project as a whole, the analysis covers the rationale for public intervention, the goals of the investment plan, and the general design of the plan. The economic analysis then evaluates the individual subprojects.

B. RATIONALE FOR PUBLIC INTERVENTION

2. There are two major motivations for the investment plan. The first results from increasing concern over the effects of economic growth on environmental quality. Economic growth and continuing urbanization has resulted in increasing water shortages and pollution. In addition, the effects of the monetary crisis in the late nineties have continued and have left water supply agencies in particular in very poor financial condition. They have invested little if anything in the last five years and private funding sources for their expansion have been all but impossible to find.

3. The situation for sanitation is different. As a result of universal water boiling and regular and heavy rainfall which washes effluent away into existing open drains, WSS disease costs in Indonesia are significantly below the regional and world average. Studies and surveys reflect this and show that both regional governments and the population lack demand and willingness to pay for sanitation projects. For this reason, the project concentrates on pilot demonstration projects, designed specifically to deal with the poor.

C. GOALS OF THE INVESTMENT PLAN

4. The goal of the water supply investment plan is to increase piped water coverage in order to decrease the proportion of the population with unsafe water by half, in line with the corresponding Millennium Development Goal. Piped water may be the preferred but it is not the only way to obtain safe water and an equally important and off-setting goal has been to ensure that piped water customers as a whole do not receive subsidies from other tax payers.

5. Similar goals for sanitation are to increase awareness of the potential benefits of sanitation and to address immediate problems in urban slums.

D. DESIGN OF THE PLAN

6. The water supply projects have been designed at least economic cost, and will replace polluted sources of raw water. Sanitation projects have been designed to least costs but their location and number will be selected during implementation to ensure maximum community involvement and willingness to pay.

E. SUB-PROJECT APPRAISAL – WATER SUPPLY

7. Economic benefits include financial cash flows at economic costs, avoided costs, incremental water and health benefits. Avoided costs have been estimated from survey data. They show that the cost of water from traditional sources in most areas is significantly below the AIEC in all but one sub-project area. The low cost of traditional water is the result of low vendor water use, high electric well use and reasonably shallow wells. Health benefits have been estimated from national DALY data which give results consistent with those used by other

development agencies. As a result, base EIRRs average 9.2% (sub-project results are given in Table 1 below). Adding capacity building costs lowers that to 7.9%. Only three of the eight PDAMs have EIRRs above the ADBs 12% cut-off.

8. Piped water does have a convenience benefit which people are willing to pay for but this is not included in standard ADB water supply economics, possibly because it is difficult to estimate. In line with ERD Technical Note No 1¹, the situation was reversed and the additional benefit required to give the required 12% was estimated. It could be argued that anything below 100% is acceptable, which would pass all but three sub-projects.

F. ECONOMIC APPRAISAL – SANITATION

9. The economic analysis of sanitation projects was estimated similarly, as the percentage of the share of health costs which would have to be reduced to give a 12% EIRR. This was 23% for CSCs, 46% for SCSSs and 2.2% for sludge treatment. These health benefits are additional to the assumed financial benefits.

G. SENSITIVITY ANALYSIS

10. Economic sensitivity analysis has been conducted for the same parameters as those discussed for the financial analysis.

Table 1 Economic Base EIRR and Sensitivity Analysis – Water Supply

Project Location	Base	+ 20% Costs		- 40% Benefits		1 Year Delay	
	EIRR	EIRR	SV	EIRR	SV	EIRR	SV
Serang	6.6%	3.3%	-16.3%	1.0%	-9.6%	5.1%	-33.8%
Banjar	9.8%	7.2%	-8.9%	5.4%	-5.1%	8.2%	-14.2%
Bandung	17.5%	12.6%	11.3%	9.2%	6.6%	13.6%	14.1%
Barro	8.0%	4.4%	-10.9%	1.9%	-6.4%	6.1%	-20.8%
Bogor Timur	5.4%	2.2%	-20.6%	0.0%	-12.3%	4.0%	-47.3%
Bogor Tengah	1.3%	-0.6%	-54.6%	-2.0%	-32.0%	0.7%	-162.0%
Bogor Barat	15.9%	8.8%	5.5%	4.5%	3.4%	10.9%	7.9%
Maros	16.5%	10.8%	7.8%	7.0%	4.7%	12.2%	10.5%
Jeneponto	10.1%	6.6%	-5.5%	4.1%	-3.2%	7.9%	-8.6%
Palopo	0.6%	-1.1%	-67.8%	-2.3%	-39.6%	0.0%	-199.6%
Tapanuli Tengah	21.7%	17.9%	25.8%	15.1%	14.8%	17.9%	25.8%
Simple Average	10.4%	6.5%	-12.5%	3.9%	-7.4%	7.8%	-41.4%

11. Due to inherent uncertainties in the value of sanitation benefits, and the way in which those benefits have been estimated, calculation of sensitivity indicators for sanitation is not considered reasonable.

¹ Contingency Calculations for Environmental Impacts with Unknown Monetary Value, February 2002.

INSTITUTIONAL DEVELOPMENT AND CAPACITY BUILDING PROJECT DESIGN

A. INSTITUTIONAL ARRANGEMENTS GENERAL

1. PHYSICAL INVESTMENTS ARE NOT FULLY EFFECTIVE WITHOUT APPROPRIATE INSTITUTIONS

1. The proposed project relies both on physical investment as well as institutional development and capacity building to achieve its objectives. The two sets of project activities should complement one another. The effectiveness and efficiency of the physical investment in water supply and sanitation will be enhanced if the formal and informal rules (the "institutions") are in place to ensure that these facilities are designed, built, operated, maintained and in due course expanded in accordance with community needs and expectations. On the other hand, ensuring the institutions are able to play their role requires not only their development and capacity building of key organizations and individuals, but also physical investment in pipes, pumps and the like. In short, sustained improvement in water supply and sanitation services needs both technical solutions as well as change in the institutional arrangements as well as improvements in the capacity of key actors. One challenge however in this situation is that physical works are easier to understand and to measure, so there is a tendency to under provide institutional and capacity building activities.

2. OBJECTIVES OF THE INSTITUTIONAL DEVELOPMENT AND CAPACITY BUILDING (IDCB)

2. The third objective of the consulting services for project preparation was to "prepare institutional development and capacity-building programs addressing sector reform and governance" (paragraph 1 of the Terms of Reference – underlining added).

3. The overall objectives of the institutional development (ID) activities are further emphasized in paragraph 3, where it says: "Criteria for selecting PDAMs and RGs will be based on (i) their fiscal capacity and commitment to reform" and "(ii) governance criteria". One of the main objectives of the sector reform is highlighted in the third criteria, which is "(iii) focus on serving low income communities".

4. The TOR specifies four activities for ID:

- Discussions with RGs and PDAMs to identify key issues, capacity building needs and develop concepts for the design of the capacity building components
- Outline a system of accreditation for personnel and organizations involved in the sub-sector;
- Prepare action plans for each PDAM and RG within the framework of on-going deregulation (including designing an open competency – based organization and staffing system); and
- Developing with the team a Financial and Organizational Performance Improvement Plan (FOPIP) for participating PDAMs

5. The TOR requires two other activities which are not listed under ID but have a close connection and therefore were handled as part of institutional development – these are preparing an effective Project Performance Monitoring System (PPMS) and recommendations on private sector participation (PSP).

3. CONCEPTS FOR IDCB

6. The basic approach to the institutional development work was outlined in the Inception report and was as per the TOR – to consult with RG and PDAMs, identify needs and develop a program to service those needs, using standards and common designs as much as possible to do it

efficiently. But before doing so, some common understanding is needed. The following concepts have been laid down to help improve later implementation of the IDCB component.

SOME KEY PRINCIPLES FOR THE IDCB PROGRAM

7. Some key principles are noted below - along with implications for the project.

- Although institutional development and capacity-building activities under a project should support the achievement of the project objectives, they often not implemented in a synchronized manner – for this project they be tied to physical work and help reform of service delivery to focus more on low-income communities by being part of the Annual Review;
- The field of Institutional Development, like Organizational Development (OD), is far from being a "hard science" and so has a developing vocabulary and methods – the project should agree on a few well recognized models (ISO 9000; Quality Management Systems, for example) and try and maintain over the life of the project the conceptual frameworks they provide; the IDCB has used just one model for the Institutional level work for all participating RGs, and another for all PDAMs under the Financial and Operational Performance Improvement Plan (FOPIP)
- Although ID / OD might be considered "unscientific" at present, programs should be based on factual analysis as much as possible – institutional-development and capacity-building programs was therefore based on surveys of key informants using "standard" questionnaires, which can be used in later years to assess progress against "baselines";
- Capacity-building is a slow process - this project should be aiming to put in place the fundamentals more than targeting ad-hoc interventions; the programs developed therefore are based on a long-term vision of how the water and sanitation sector should be structured and with an implementation approach which requires an Annual Review of the last year's results and the implications for the next year's physical and IDCB program of activities;
- Further, because participation that ensures "ownership" is vital for effective ID, (perhaps much more so than ensuring effective physical investment) the preparation schedule did not allow sufficient time for this process so a more participative approach needs to be built into the 5-year program that the project will design – again emphasizing the need for the Annual Review;
- RGs and PDAMs are much more likely to learn from their peers than central government or consultants – a "benchmarking approach" therefore has been built into the IDCB approach – and especially the FOPIP - to encourage participants to "network" and compare their performance with one-another throughout the project's life; and
- Performance improvement should be a systematic activity – the goal should be to institute within the participating organizations a "plan-do-check-act" cycle of continuous improvement which, in the end is the best way to keep capacity building sustainable.

IDCB IN THE PROJECT DESIGN

8. Experience also shows that, while many projects recognize the importance of institutional development and capacity building, not enough attention has been given to these aspects in the past. This weakness stems from, among various reasons (i) the difficulty in deciding objectives and measuring the outcome of institutional development and capacity building activities (ii) difficulties in identifying appropriate changes (or "interventions") (iii) resistance to change of the current systems for delivery of services and of individual behavior and (iv) a lack of understanding of how best to undertake change management.

9. As noted, project preparation objectives therefore included the objective "to prepare institutional-development and capacity-building programs addressing sector reform and governance" (paragraph 1 of the PPTA Terms of Reference). The GoI and the ADB have therefore agreed that commitment to reform and better governance of the water supply and sanitation sector are therefore fundamental to solving problems in the sector.

10. The problems are not exactly the same in each participating RG, but the general direction is similar. It is contended that many of the problems can be traced back to:

- inappropriate or no arrangements for involving all the key stakeholders – the so called "voice" (or "governance") problem;
- monopolistic service providers – or lack of competition in the sector – the so-called "choice" problem; and
- poor "structural" or "coordination" arrangements – for example locating activities in the wrong agency with respect to incentives (a classic one may be to expect a PDAM struggling to remain financially viable by selling water to finance from its own revenues the "public works" of sanitation).

11. Institutional development and capacity building activities are designed to begin removing the obstacles that these problems pose to the local governments so they can provide services which respond to the needs and expectations of all important stakeholders, are effective and efficient and are provided in a fair manner for all sections of the community.

THE MEANING OF IDCB, REFORM AND GOVERNANCE

12. As noted in Section 1, institutional development and capacity building programs are to help reform and improve governance. Experience shows it is important to have agreement on what these terms mean from the outset. Some definitions, common terms and abbreviations are given.

INSTITUTIONAL DEVELOPMENT

13. Definitions of institution and institutional development:

Institution: A system of rules and structures evolved to serve a purpose in society (UNDP – CAPBILD). "Institution" is an amorphous term because it has no limitation on scope. A drinking water supply system can be said to be an institution made up of many interrelated organizations such as the PDAM, Pemda, NGOs, community etc. Government itself is an institution comprised of political, legislative and executive parts.

Institutional development: The process of providing an institution (group of organizations or an organization) with the capabilities and the resources necessary for each to satisfactorily serve its purpose within the institution.

14. From this definition it should be obvious that just the PDAM or agency responsible for sanitation services alone does not comprise the "institution" of water supply and sanitation in local governments. The rules imposed by and behavior of local government executives and the DPRD obviously affect the ability of the PDAM or sanitation agency to perform. Institutional development therefore should include development (or reform) of all the components of the sector that affect performance.

CAPACITY BUILDING

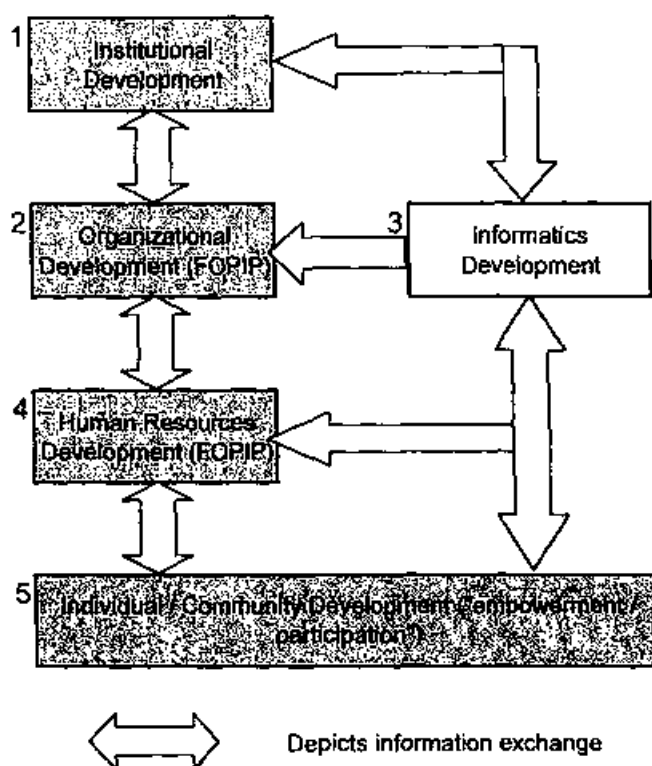
15. Definitions of capacity and capacity building:

Capacity: The ability to realize stated objectives. It is both a process and an outcome. Capacity is always associated with "performance". Capacity is required at the system, organization, sector personnel and individual / community levels. Capacity is multi-dimensional, ever changing and difficult to measure. The understanding of capacity is limited because (i) link to performance not well understood (ii) what constitutes performance is in the eye of the beholder and (iii) the external environment strongly influences capacity.

Capacity building: a process that improves the ability of a system, organization, person or community to achieve stated objectives or to perform better.

16. An important distinction is between institutional development and capacity building. The capacity to deliver water supply and sanitation services depends not only on the PDAM or sanitation agency, but also on the institutional environment in which it operates, the capacity of its human resources and the capacity of the individuals as well as the community to articulate their needs and expectations. Information systems link these four components. Figure 1 shows these five components. The institutional level consists of a collection of organizations.

Figure 1: Five Components of Capacity Building



17. Capacity-building therefore includes activities in all five components, and not just training of sector personnel, as is often assumed. Capacity building is often seen to subsume institutional development, which focus on activities rearranging the rules between the organizations (ie, at the institutional level and the boxes other than "Organizational Development" and "Human Resources Development").

18. Development of one component is unlikely to having any significant effect on efficiency and effectiveness of water or sanitation service delivery without some improvement in all the other components.

REFORM

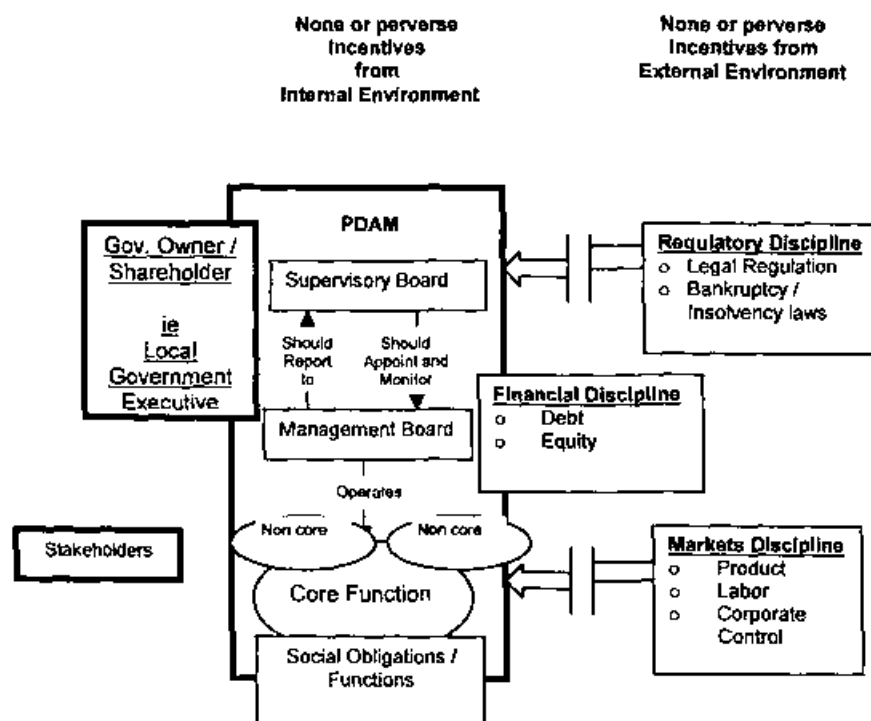
19. The WSSP targets local governments that are "committed to reform". What does "reform" mean in this context? Is it just "change" or "improvement", for example? In the context of the WSSP it is taken to mean "sector reform", which connotes changing the system of rules and structures, that is, the institution, which is obviously a major (and possibly not fully considered) commitment being made by the local governments.

20. Definition of "reform" in the context of the WSSP:

Reform: Institutional development to improve the rules by changing the relationships between the various organizations within the water supply and sanitation sector. Implies changes through restructuring the relationships between organizations and their component units, more than change of individual behavior, through training for example.

21. The sector reform activities for the project aim to change the structure and clarify the rules and of the sector, and thus improve the incentives for better performance of the PDAM and other organizations. The current "structure" and consequent lack of clarity and incentives is depicted in Figure 2 for the case of a typical PDAM.

Figure 2: Current Confused Arrangements for Service Provision



22. The above Figure shows stylistically the current situation with respect to service providers. The generic problems include:

- The providers not only operate as monopolies but as policy-makers and regulators all in one – a case of acting both as “game-keeper and poacher”;
- The providers operate under the direct command of the RG (and especially the Head of Region);
- Social obligations are mixed so badly with commercial objectives that it is difficult for the PDAM to know what it should concentrate on doing well;
- The managers (directors) act with little restraint other than that imposed by the Head of Region because the Board of Supervisors (BOS) is dysfunctional;
- Even if the BOS was in place, they would have difficulty governing the directors because of a lack of sensible strategic and annual work plans;
- Funding arrangements are so undisciplined that there is little incentive for the operators to seek efficiency; and
- Regulatory arrangements to impose standards and targets are non-existent.

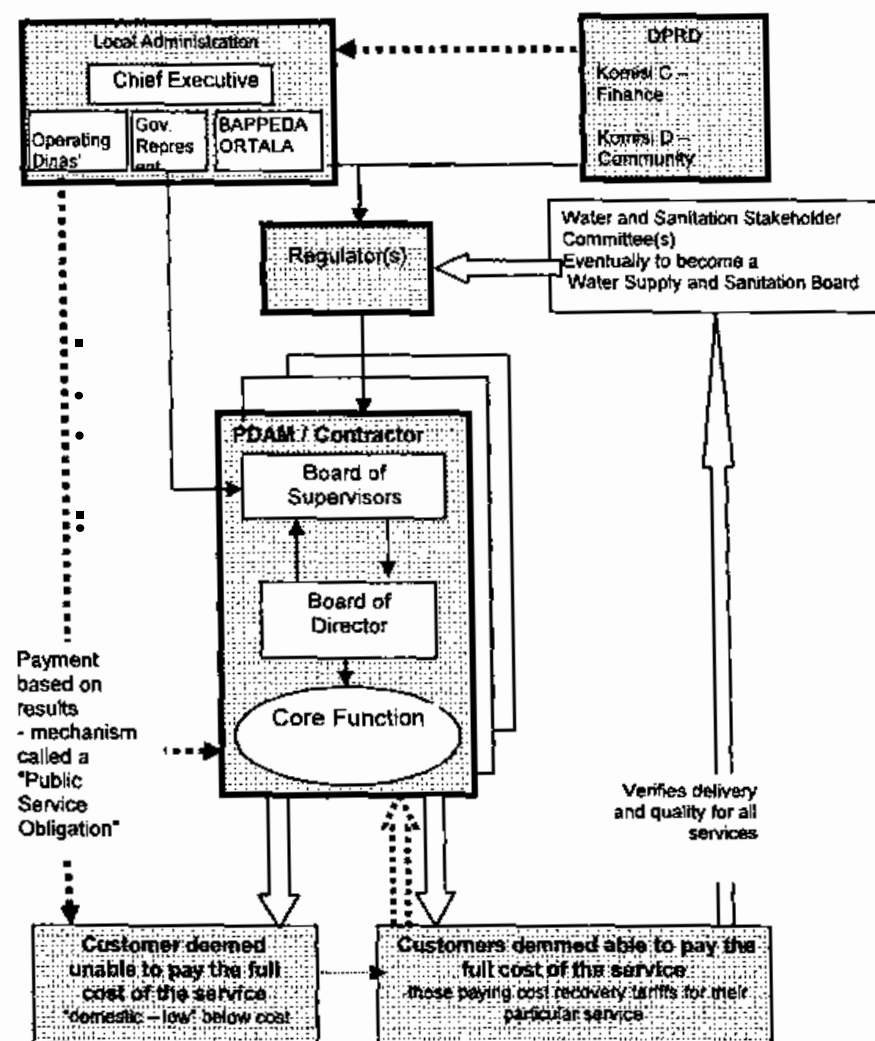
23. In the long-term, the water supply and sanitation providers should operate more as “contractors” – at least as autonomous bodies working in accordance with a “licence” or “contract” of sorts that sets out their authority and accountability, how they are paid, the consequences of failing to perform and how accountability will be enforced.

24. Behind these “hard” problems lay the “softer” ones related to:

- no planning or planning disconnected from budgeting
- information systems that do not provide the appropriate information;
- a legal and regulatory framework which does not improve predictability and enables enforcement, and ultimately,
- the ever present problem of enough competent and incentivized human resources.

25. Reform efforts should be designed to sort out the muddled relationships. The most important work in the long-term is for the water supply and sanitation providers to operate more as "contractors" – at least as autonomous bodies working in accordance with a "licence" or "contract" that sets out their authority and accountability, how they are paid, the consequences of failing to perform and how accountability will be enforced. Figure 3 shows the institutional set-up which is suggested should be the long-term aim of institutional development in the water supply and sanitation sector.

Figure 3 Sector Structure in the Future (Typical)



Note:

1. Broken lines represent financial considerations
2. The Water and Sanitation Stakeholder Committee are initially advisory but in time should acquire more authority

26. Key features of this reformed structure include:

- Separation of policy making, operations and regulation with overall responsibility for system design being returned to PEMDA;
- Funding designed to improve incentives to be efficient;
- Increased autonomy for the PDAM, but more accountability through clear roles and responsibilities for the Board of Supervisors and Directors

27. The challenge is to ensure the reforms are successfully designed and implemented in the face of the resistance to change that can be expected of any reform. The "soft" factors need attention.

GOVERNANCE

28. Governance can refer in a wide sense to the system in place at the overall sector level for making important decisions that impact on all stakeholders, or it can be more narrowly focused on the governance of the service provider (say the PDAM for water supply) – in which case reform is to achieve “good corporate governance”. On what “governance” is the WSSP focused, what is “good governance” and how is it measured? It is especially important to attempt to measure it because, if it cannot be measured, it will be difficult to know whether the project is improving it.

29. Definition of governance:

Governance: The structures, processes and systems for decision-making, control, behavior and accountability at the top of a government, a sector, an organization or a corporation. The pillars of good governance are accountability, transparency, predictability and participation.

OBJECTIVES OF REFORM AND GOOD GOVERNANCE

30. The institutional development and capacity building component is designed to deliver the reform and better governance arrangements in the participating PDAMs and RGs. The specific dimensions of the desired “reform” and “governance” were not set out explicitly in the TOR for the project. In line with the spirit of the recently promulgated Government Regulation (PP) 16 of 2005 on drinking water supply systems and sanitation, the project is designed to make the PDAMs and RGs more:

- Responsive to stakeholder and customer needs;
- Effective (doing the right things);
- Efficient (doing things right); and
- Fair (equitable) in the provision of services at appropriate levels to the whole community.

31. The problem with these objectives however is they are abstract – they are strategic but they are “fuzzy”, and so open to different interpretations. For example, the PDAM may believe they are already responding to stakeholder needs, whereas un-served households probably believe the PDAM is not responsive to their needs, moreover the RG is not fair in borrowing money “in the people’s name” to fund PDAM expansion. The above “REEF” objectives are high level “outcomes” indicators in need explanation by agreement on more specific objectives.

32. These abstract objectives have been “operationalized” to be useful in guiding most participants in the design, implementation and evaluation of the institutional development and capacity building activities. They need to be turned into a set of measurements of the degree to which specific objectives have been attained – that is, of performance. Performance indicators will be used, against which baseline conditions and targets can be agreed. All project activities throughout the life of the project then should be justified in terms of how the activity helps the PDAM and RG achieve the targets.

SPECIFIC OBJECTIVES – IMPROVED EFFECTIVENESS AND EFFICIENCY

33. Performance with respect to effectiveness will be assessed as the difference between a target and actual achievement. Performance with respect to efficiency will be assessed as the cost of a certain function (operating the water supply system for example). But “performance” also means different things to different stakeholders. For example, those concerned with financial viability will focus on cost recovery and the like, customers and the community will be interested in service levels, technical oversight agencies will judge performance based on performance of functional tasks while personnel of the PDAM as well as third parties will judge performance based on their relationship with the PDAM. It is therefore important to have a balanced set of indicators, to serve the needs of a wide range of stakeholders.

34. Water supply: The Project Design and Monitoring Framework (PDMF) specifies that PDAM performance under the Project will be measured by the PERPAMSI set of 10 “primary” indicators. The baseline (current) values and the annual targets are different for each PDAM. These indicators form part of the performance benchmarking system operated by PERPAMSI. A description of the Benchmarking System is included in the SPARs.

35. Sanitation: There is presently little or no agreement among key stakeholders of a set of performance indicators for the sanitation sector. The PDMF suggests a set of indicators based on the currently state of sanitation activities in most local governments. Definitions and baselines will be established in the first year of the Project for each participating RG as part of the "Project Design and Monitoring Framework" (PDMF/PPMS).

SPECIFIC OBJECTIVES – IMPROVED GOVERNANCE

36. Operational indicators for the two strategic objectives - of (i) responsiveness and (ii) fairness - are more difficult to define than for effectiveness and efficiency. In fact, operational definitions requires an assessment of the degree to which the PDAM and agencies responsible for sanitation are responding to community needs and are doing so fairly. Further, improved responsiveness and fairness are very closely related to the quality of governance, so that the project objective of improving governance in fact is an intermediate step to improved responsiveness and fairness.

37. Output indicators are difficult to determine for these objectives, and even more for governance. Measurement of inputs or process will be used instead, as "proxies". Also, because sanitation services are still so underdeveloped, no attempt will be made under the project to measure the degree to which responsiveness and fairness goals have been improved for sanitation. The challenge then is to measure the quality of "governance".

38. But governance of what – the sector as a whole or just the service delivery agency – the PDAM in the case of water supply?

B. IDCB APPROACH AND METHOD

39. The work performed in preparing the IDCB program was based on:

- Conduct of a survey of key local figures concerning their perceptions of institutional arrangements, current and into the future;
- A survey of up to 20 middle and upper level staff of the PDAM concerning the degree to which a series of best practices have been adopted by the PDAM, and the perceived importance of the practices for improving performance;
- Discussion with key personnel in local government; and
- Review of data and information collected.

40. The proposed works under the project were then reviewed with respect to the implications of institutional development and capacity building and programs of activities outlined for the first year.

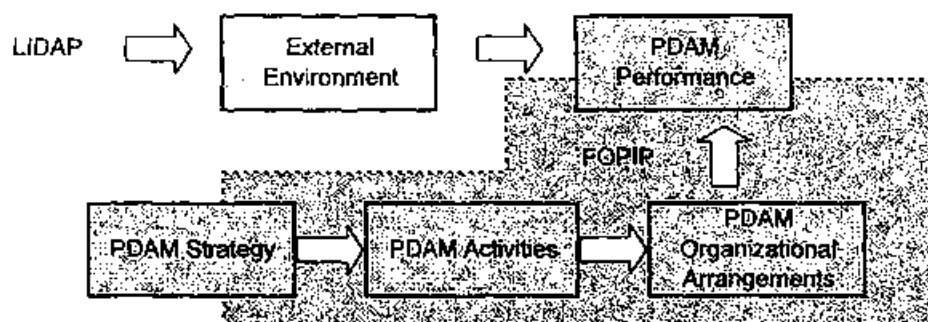
41. Annual review and use of the PDMF is expected to keep the program relevant as the project unfolds.

42. The IDCB component has been split into two parts, the "Local Institutional Development Action Plan" (LIDAP) and the "Financial and Operational Performance Improvement Plan" (FOPIP). This split has been made based on the past experience with such programs under IUIDP, where activities outside the PDAM were often overlooked because the PDAM were expected to manage a program which is beyond their capacity to control. In other words those managing the institutional development activities could not do their job properly because they had no control over the institutional environment.

43. Figure 4 outlines the scope of the two parts, the LIDAP and the FOPIP.

44. Splitting the actions to improve performance into these two parts (internal and external) should ensure that clear responsibility for implementation can be assigned to both. Additional coordination is likely to be needed, but the split will ensure those with the power to change the institutional environment in which the PDAM operates are committed to reform. It is also clear that implementation of the Project should not be the sole responsibility of the PDAM.

Figure 4: Scope of IDCB – LIDAP and FOPIP



45. The approach to IDCB also includes making more use of performance measurement than most IDCB components of the past projects. This is based on the experience that capacity building / performance improvement activities need to have clear objectives if they are to be implemented efficiently and effectively. Performance indicators for the water supply and sanitation components have been established under the PDMF. IDCB should always help in the achievement of the targets to be set against these indicators.

C. IDCB WORK IN THE WATER SUPPLY SECTOR

46. The institutional development survey was distributed to each of the participating RGs on April 5 at the Inception Workshop. Then each of the 14 sub-project locations (except Maros) were visited by at least one IDCB expert for 4 to 5 days of research in the period mid April through mid June. During this visit discussion were held on water supply and sanitation matters, data collected and the FOPIP survey conducted among PDAM personnel. The following outlines the findings, conclusions and suggested IDCB program at the institutional (LIDAP) and PDAM levels (the FOPIP).

1. THE INSTITUTIONAL ENVIRONMENT ASSESSMENT

47. The review analyzed many of the aspects of Figure 1 and considered the LIDAP survey results: The institutional work (reported in an Institutional Environment Assessment – IEA – in Appendix A, Part 1, Section 3 of each SPAR) for each location, covers:

- Institutional aspects, taken as being:
 - the various organizations comprising the main actors in the sector
 - how the sector operates overall as an “accountable” or “sustainable” system
 - the structural features outlined in Figure 3
 - the management and flow of information; and
 - the high level human resources needed in the sector.
- Legal Aspects
 - covering gaps and inconsistencies in the local and national legal framework; and
- An outline of LIDAP activities with respect to water supply, consisting of
 - long and short lists of performance improvement actions
 - the most likely “entry points” into institutional reform / change that the survey revealed (see Attachments 1 and 2 of each SPAR for the questionnaire and the analysis)
 - approximate costs; and
 - approximate sequencing of activities.

48. Each section of the Institutional Environment Assessment noted above ends with a long-list of improvement actions indicated by the assessment.

2. WATER SUPPLY - FINDINGS WITH RESPECT TO INSTITUTIONAL ASPECTS

49. In all locations it was found that the PDAM was acting effectively as policy-maker, regulator, provider and many other roles, such as custodian of public assets. There are obvious conflicts of interest. Little influence is exerted by the three agencies which could be expected to act as a check on PDAM activities - Sekda, Bappeda and BAWASDA. The Supervisory Board (Badan Pengawas) in most places is also ineffective, and regulatory activity by the Health Service over poor water quality is not present.

50. In fact, the problems signaled by Figure 2 were all present. These included:

- Conflict between commercial and social objectives: Social obligations / objectives forced on the PDAM of providing a low cost water supply (and even a source of employment) are so mixed with commercial objectives of supporting government income generation that it is difficult for the PDAM to know what it should concentrate on doing well; in this situation it is difficult for the PDAM to prioritize use of resources, internal cross-subsidies destroy incentives to be efficient and accountability of managers is reduced;
- Funding arrangements are undisciplined so that there is little incentive for the PDAM operators to seek efficiency. Water services are not valued properly, they have not yet been "commercialized". Further, the "equity" providers (all levels of government) are not consistent in requiring efficient operation; debt financing is often provided by central government to un-creditworthy PDAMs and "equity does not guard debt". Funding of PDAMs needs to discipline PDAMs to be more efficient by paying for results / outputs, not inputs;
- The PDAMs do not have enough autonomy from the local government executive (which is the owner / sole shareholder). Owners and managers are not separated enough. Without sufficient autonomy over management of finances and human resources, the PDAMs do not have the incentives or flexibility to respond to community demands. The relationship between the PDAM and owner needs to be put "at arms-length", especially by appointment of suitable representative of the owner;
- On the other hand, the PDAMs not only operate as a monopoly provider but also as a policy-maker and regulator all in one – a case of acting both as "game-keeper and poacher". The owner (the community) represented by the local government often does not have enough information because of "asymmetries of information" in this situation. The system of service delivery generally is incomplete in this situation because decisions are often made not so much as in the public interest but more in the interests of the PDAM. The sector structure is not good;
- Stakeholder influence / discipline is insufficient (many say entirely absent) because the chain of accountability through the Wali / Bupati / or DPRD is too long; there are no mechanisms for participation of the community (including un-served households and particular groups such as women) in decisions about service by the PDAM;
- The managers (that is, Directors) act with little restraint other than that imposed by the Head of Region because most Board of Supervisors (BOS) are dysfunctional. The BOS has no direct authority over the Directors;
- Even if the BOS was in place and empowered, they would have difficulty governing the Board of Directors because of asymmetries of information and lack of a sensible strategic and annual work plans. The basic instrument for ensuring accountability, the Corporate or Strategic Plan, does not have enough, if any, specific, measurable, accessible, relevant and timely performance indicators to be of use;
- The Directors (the Management board) should concentrate on improving the performance of the PDAM but often lack the correct competencies, and in spend too much time on matters which are not core functions of the PDAM;
- Regulatory arrangements to impose performance standards and targets are non-existent. There is no penalty for providing insufficient or poor quality water, or an interrupted

supply. There are no penalties or significant consequences to low efficiency, or even bankruptcy or trading while insolvent;

- Market forces which discipline the private sector to be efficient are absent. Discipline to be efficient is lowered because few others can produce piped water (because of the monopoly). Competition is low. The PDAM does not have to compete for labor because unemployment in the community is high. Low efficiency of the PDAM does not result in control passing to a more efficient organization, as the mechanism of corporate control allows in the private sector. Why be disciplined and efficient if you have a monopoly and there are no consequences of inefficient operation?

51. Management of information and planning practices were also found to be poor. Little relevant information is disseminated to stakeholders, and the use of performance indicators to transmit succinctly information is rare. The sector planning processes are weak, with a rudimentary or non-existent planning – budgeting cycle that pays little heed to assessing and incorporating stakeholder needs and expectations. Most of the PDAM have a strategic plan (called a Corporate Plan), but it is not relevant to the local environment, contains not meaningful performance measures and is not used at all to guide the activities of the PDAM. Meaningful Development Master Plans are also universally absent. The coordination and accountability that plans and planning should bring is largely absent.

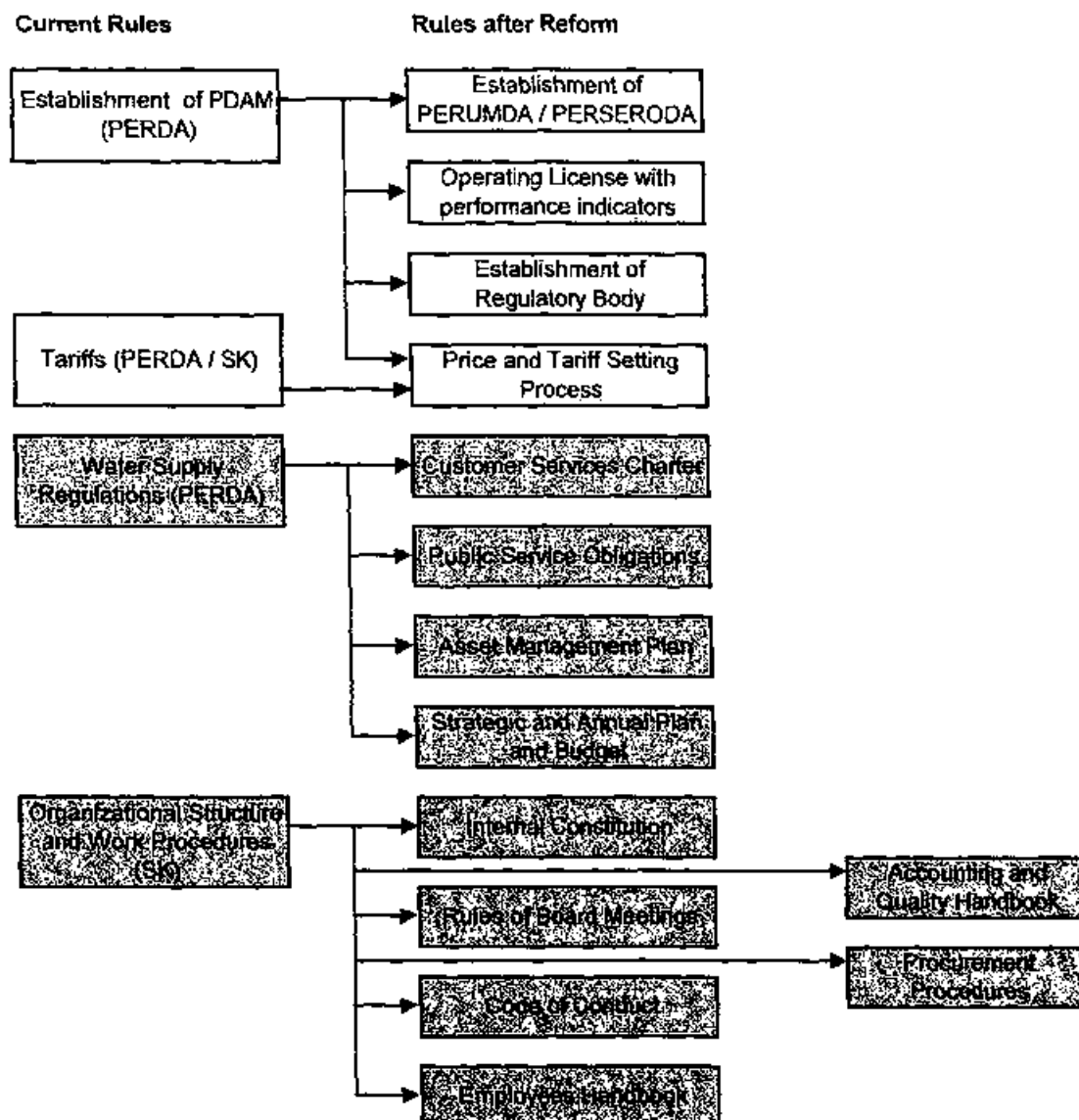
52. The number of capable persons to effectively manage a structured sector is perhaps not more than 30 people. However, at present there is no agency responsible for either effectiveness of the sector (as opposed to effectiveness of the PDAM), and no agency taking responsibility for developing the key human resources. It is a classic problem of where to place the "machinery of government" review function. It appears that Bappeda should be empowered to oversee sector structure, while the Regional Civil Service Board (Badan Kepegawaian Daerah) or the ORTALA bureau within SEKDA given the responsibility of developing sector human resources.

3. WATER SUPPLY - FINDINGS WITH RESPECT TO LEGAL FRAMEWORK

53. The assessment of the national and local legal framework was necessarily brief. From the PDAMs records it is clear that many are not aware of or do not try to comply with the provisions of the multitude of rules issued by central government. Compliance with regulations relating to tariff structure, composition of Board of Supervisors, reporting of performance and maintenance of water quality standards are examples of regulations which are ignored. The sheer number of rules, the gaps and the overlaps all contribute to an environment in which there appear to be a surplus of formal rules but in fact rules (formal or informal) which are complied with are few.

54. Figure 5 was used to assess the value of local law and regulations. The Figure shows the local laws and regulations expected once the sector is "unpacked" as in the ideal future structure. Local rules and regulations in most locations are not complete.

Figure 5: Reform of Local Laws and Regulations



55. The main problem is that rules are not performance oriented, are not accepted as binding and are not enforced. They do not describe the level of service the PDAM must provide nor the consequences if this prescribed level, or standards, are not achieved. They do not provide a basis on which the PDAM can be held accountable, without which the sustainability of the service will always be questionable.

D. IDCB WORK IN THE SANITATION SECTOR

1. THE INSTITUTIONAL ENVIRONMENT ASSESSMENT

BACKGROUND

56. Work for the Institutional Environment Assessment in the sanitation sector was similar to that done for water supply and is reported in (see Part 1, Section 4. of Appendix A of each SPAR). The Sanitation Assessment is structured similarly, consisting of (after an opening explanation of the range of sanitation activities, the differences with water supply and the current state of sanitation):

- Institutional Aspects
 - identification of the key agencies

- an assessment of the overall system for (sustainable) sanitation provision, including
 - the policy making institutions
 - how resources are allocated
 - modes of services
 - regulatory activities with respect to inputs, performance and accountability;
 - sector structure (to what degree it fits with an ideal structure)
 - information management and planning; and
 - human resources
- Legal aspects
 - covering gaps and inconsistencies in the local and national legal framework; and
- An outline of LIDAP activities with respect to sanitation, consisting of
 - long and short lists of performance improvement actions
 - the most likely "entry points" into institutional reform / change that the survey revealed (see Attachments 1 and 2 of each SPAR for the questionnaire and the analysis)
 - approximate costs (combined with water supply); and
 - approximate sequencing of activities (combined with water supply).

57. The data on which the assessment is based, however, are much less because not one of the RGs has a firmly established agency whose main duties and functions are to provide a complete range of sanitation solutions to the community. Each section of the Institutional Environment Assessment noted above ends with a long-list of improvement actions indicated by the assessment.

CURRENT SITUATION

58. Sanitation under the project is defined as human waste and wastewater disposal. Drainage and solid wastes are included in the Indonesian Government's definition of the "environmental sanitation service sector", but not in WSSP.

59. Sanitation services are perceived differently compared with other services, especially water supply. Sanitation services have been neglected in the participating RGs, perhaps because of its characteristics, which include:

- The scope of "sanitation" is often difficult to define and measure: "good sanitation" involves both human behavior to ensure waste is not ingested before collection, as well as a range of infrastructure to safely collect and treat waste.
- The subject is often taboo, "something women are concerned with, but not the real decisions makers of the community"
- People do not recognize they, as well as everyone else, contribute to the problem (and so see the problems associated with poor sanitation as someone else's fault and therefore a problem to be solved at someone else's cost)
- Disposal services consist of "collection" rather than "production", so people do not associate a "value" with the service;
- The infrastructure is often below ground and "invisible", leading to the syndrome of "out of sight, out of mind";
- Improved sanitation causes people to discount (forget) the poor conditions before their service was improved; and

- Applying sanctions is difficult for non-payment for use of public space (the "environment") to dispose of one's waste, or for non-compliance with rules on disposal.

60. Sanitation services are perceived as "public goods" – people have a low willingness to pay for them because the cost of inaction is often carried by someone else and, having paid to dispose of the waste, the person cannot stop others enjoying the benefits. It is a service with high "external costs", and so something public funds should be used to pay for in the absence of, or until development of a willingness of private parties to pay.

61. Physical range of components of sanitation services looked for during the field work included:

- Individual and shared toilet facilities for existing and developing private dwellings, with on-site disposal
- Community ablution facilities for existing and developing individual dwellings, with on site disposal;
- Public ablution facilities for public places (schools, markets etc) with on-site disposal;
- Septage (human waste) collection and disposal and / or control of private services providers
- Operation of septage disposal facilities
- Piped sewerage systems and off-site sewage treatment facilities to all the above;
- Capture, storage and dissemination of data, information and knowledge on sanitation services and facilities; and
- Enforcing regulations or providing incentives to effect better sanitation practices.

62. Sustained delivery of the above services depends upon a "sustainable service delivery system" being established. The elements of that system are founded on "institutions" – a set of formal and informal rules of behavior binding the stakeholders. Wide agreement on roles is important in this regard.

63. In order to create and sustain an ever-improving system for sanitation; the Government needs to assign roles, authority and accountability to various agencies and groups to establish these institutions. The following main roles or "functions" should be handled in some way:

- Policy maker
- Standard setter
- Funder / resource provider
- Human resource developer
- Facilitator of public participation
- Employer
- Provider of facilities and infrastructure
- Owner of facilities and infrastructure
- Provider of information
- Monitor of the system performance
- Regulator
- Enforcer

64. This list is probably not definitive. For this assessment, it is shortened to a commonly accepted breakdown of (i) policy-maker (ii) funder (iii) implementer and (iv) regulator, in line with the "ideal sector structure" for water supply. As noted, clarity in allocation of authority and accountability among local government agencies with respect to performing these functions or roles is a starting point for improved performance of sanitation services. With this objective in mind, the ability to complete the following matrix should be an important objective of institutional development activities under the WSSP.

Figure 6: Assignment of Sanitation Sector Activities

Sanitation Sector Activities	Organization to which has been assigned the role / function of:			
	Policy-maker	Funder	Implementer	Regulator
Private individual plots and shared on-site disposal				
Community managed "on-site" disposal				
Public managed facilities to public places				
Desludging of septicage from all on-site facilities				
Treatment of septicage off-site				
Sewerage Systems (off-site treatment)				
Data, information and knowledge management				
Enforcement of regulations / standards				

65. The project preparation study was unable to identify any significant activity of government in any of the eight activities, be it in one or more of the four roles, other than some involvement in desludging – and in the case of Serang, preparations for constructing a sludge treatment plant (an IPLT). Perhaps the best that can be said is that the policy is "Not to have a sanitation policy"

66. There are no schemes (financial or technically oriented) available to help households build satisfactory disposal facilities. The condition of ablution facilities in schools is said by some government officers to be unsatisfactory. There are no sewerage systems. Disposal of domestic waste to the environment is not controlled in any meaningful way. The building permit system should regulate the quality of on-site disposal facilities, but weak standard setting and enforcement negates the effectiveness of this activity.

67. None of the governments operate any central treatment facilities. Most locations have no sludge treatment plant (IPLT), with private-operated sludge vacuum trucks said to be disposing of waste directly to various water courses in the area.

PERFORMANCE AND TRENDS IN THE SECTOR

68. There are no widely accepted indicators of performance of the sanitation sector. Not one of the RGs could offer a quantitative assessment of community access to improved sanitation facilities, how much public money was being spent on sanitation, technical indicators of treatment, nor spending to improve human resources in the sector. A baseline or trends in sector performance therefore cannot be detected. Without these measures it is difficult to identify performance improvement actions in a logical manner. In the absence of agreed indicators, the following table provides suggestions.

Table 1: Suggested Indicators of Performance of the Sanitation Sector

I	Performance Perspective	2003	2004	2005	Target 2011
	Community Perspective				
1	Incidence of Diarrhea	%			
2	Access to improved HH sanitation	%			
3	Improved disposal of HH waste	%			
	II Financial Perspective				
4	Cost recovery ratio of existing public-provided facilities	%			
5	Annual Increase in Sanitation Budget	%			
	III Operational Indicators				
6	Disposal capacity	%			
7	Treatment Efficiency	%			
8	Water quality in rivers	%			
	IV Personnel Indicators				
9	Training Budget	%			

Notes on Indicators:

1. Preferably measured for children less than 5 years of age, and recalled incidence in the last 2 weeks
2. BPS considers this to be the % of total population who regularly use (i) a "Jamban keluarga (Jaga)" (sealed-flush toilet) or (ii) a "Jamban Jamak" or "Jamban Umm" (a communal or a public toilet)

3. BPS considers this to be % of total population who regularly dispose of their waste through (i) "Cublik" (a unlined pit) or (ii) a septic tank (no distinction is made as to whether there is or not an overflow from the tank to a "resapan" (leaching drain) or open drain.
4. Actual O&M funds received / needed O&M funds. Received includes from APBN/D as well as directly from "retribusi".
5. Total budget in the year to provide services under one or more of the 8 sanitation sector activities of all agencies (central, provincial and local) within the project area, divided by last year's budget. Training costs included only for local personnel.
6. Actual desludging capacity (m3 /day) / required desludging capacity.
7. % of effluent tested not meeting the required discharge standard.
8. % of tests in the year not meeting ambient standards.
9. Expenditure of local government on training staff in sanitation matters as a % of the total sanitation budgets.

2. SANITATION – FINDINGS WITH RESPECT TO THE INSTITUTIONAL ASPECTS

RESPONSIBLE AGENCIES

69. Since decentralization, each local administration has been free to structure their service delivery agencies in the manner they see best suited to local conditions. If sanitation is not perceived as important, there is unlikely to be a dedicated agency. Therefore, in each location, sanitation responsibilities are found spread across a range of agencies – typically those dealing with public works, building development and control, settlements and even solid waste management services. Importantly, not one is dedicated to providing human waste management services but, rather, have had the task "tacked" onto a primary service. This is hardly a formulae for success, given the agencies are generally struggling even to fulfill their primary function. There clearly is a need to appoint a "lead sanitation agency", then to fund it sufficiently to, in the first instance, develop some rudimentary policies and programs in the sector, perhaps starting with a clearer assignment of duties between agencies.

A SUSTAINABLE (I.E. ACCOUNTABLE) SYSTEM FOR SERVICE DELIVERY?

70. Part of the problem on demand is clearly lack of a mechanism for the whole community to express its opinion on needs. Stakeholder committees, let alone water and sanitation boards or their equivalent are not present. In some RGs, such as Bogor, an NGO with an interest in the subject was identified, but without the means of pressuring the administration to alter its policy on sanitation. Encouragement of much greater community participation is indicated.

71. From the perspective of resources being made available, cost recovery appears to not being attempted at all, and public funds being allocated are very small, or mostly nothing. With such a low level of resourcing, it is difficult to expect existing agencies to "perform", especially when their mandates are so unclear. Those agencies actually providing a service typically operate one or just a few vacuum trucks. Agencies responsible for regulating or monitoring polluting activities are mostly not interested in domestic waste, and minimum service standards "suggested" by the Ministry of Public Works in 2001 are practically unknown in local government. Action is indicated in the setting of service standards among the agencies and to their enforcement.

72. Enforcement of rules pertaining to pollution control, and especially waste emanating from domestic settlements, is lax. Building regulations, which should be the first point at which household disposal is regulated, are largely not enforced. "Greenfield" settlement sites are thus building up a huge backlog of sanitation problems to burden the government in the future. Of particular note is the role of the "Environmental Office" (KLH) in many locations. Many have a conflict of interest in that they are involved in licensing various disposal operations, which must lessen their incentive to act as independent "enforcers" of pollution laws.

73. The structure of the sector is thus even more problematic than water supply. So, while the same principles apply as with the water supply sector, the separation of policymaking, regulatory and implementing roles is even less clear, with a consequent lessening of accountability by any one agency. Without this accountability it will be difficult to provide in a sustainable manner the range of sanitation services needed.

INFORMATION AND PLANNING

74. The lack of performance oriented information is striking, but perhaps symptomatic of the under-developed nature of the sector. Without information in the community about sanitary conditions and their impact, it is not surprising that demand for sanitation services appears suppressed. Development of the indicator system previously suggested would begin to obviate this problem.

75. Some of the RGs have had Master Plans prepared for them over the years, but not one RG has a plan which is operational. The newly released PP 16 / 2005 required that integrated water supply and sanitation strategic plans be developed, to ensure that the large investments required are effective and efficient. Action by Bappeda to lead development of a "city-wide strategic sanitation development plan" is indicated.

SECTOR LEVEL HUMAN RESOURCES

76. The water supply and sanitation sectors probably belong together, although roles may be taken by different players. For example, the PDAM may deliver water supply services, while another operator provides waste treatment services, all under the same "regulator" and policy makers. At this level however, many will be involved in both water supply and sanitation matters. Action to provide and train a cadre of competent senior persons capable of managing the sector is indicated. This includes members of the Stakeholder Committee.

3. SANITATION – FINDINGS WITH RESPECT TO LEGAL FRAMEWORK

77. Uncertainty is the order of the day in water supply, and so, even worse in matters of human waste disposal. There are many central laws and regulations "on the books", but there appear to be so many gaps and overlaps that they are effectively ignored. PP 16/2005 does not handle sanitation in detail. There appears to be a gap in the pollution regulation with respect to human waste. Consolidation of a range of regulations into a dedicated sanitation law or PP is indicated, along with preparation of model PERDA(s) which could be adopted by the local administrations.

78. There is very little in the way of local legal infrastructure for sanitation, although in theory, it should be similar to water supply, in terms of assigning functions unambiguously, describing community rights to service, being performance oriented and providing for meaningful enforcement. Unlike the central framework which has a confusing array of laws and regulations, the local framework at present is threadbare because enough rules specific to local needs have not been agreed. Crucially, a regulation stipulating the roles of stakeholders and how the sanitation sector should be constituted and governed is not present. To talk of "good governance" is difficult in these circumstances. The rules in four fundamental areas for reform are needed:

- stakeholders need a way to participate in decision making
- sanitation services should be paid for – even if low income households are subsidized
- a "lead agency" agreed that is trusted by the stakeholders; and
- geographical scope for sanitation services is established to improve planning and accountability.

79. No local rules exist with respect to the involvement of the private sector. Reform can also begin of rules with respect to specific administrative matters required to govern the autonomous implementing agencies as they evolve.

80. The imposition of sanctions for failing to meet standards has never happened. While there is no threat of sanctions, the incentives to improve performance are weak. Reasons include (i) the standards have not been agreed (ii) but there is wide agreement that the resources allocated are just not enough to enable the responsible agency to do enough to ensure environmental standards are met (iii) performance information has not been widely disseminated, if it is at all available, and (iv) the sanitation agencies are both implementer and regulator.

E. SECTOR REFORM ACTIONS

81. Based on the Institutional Environment Assessment for both water supply and for sanitation, detailed lists of indicated actions have been prepared (see Appendix B of the SPARs). These lists are largely in the order that the IEA discuss the issue, although some adjustments in headings have been made to provide a similar structure for both water supply and sanitation.

1. WATER SUPPLY LIST

82. Institutional development actions are suggested which will move the structure of the sector towards the "ideal" (or "unpacked") sector structure described earlier. However, actions must take cognizance of the resistance which will certainly be encountered to change from various places within the current system (this is discussed with respect to the LIDAP Survey results). It is therefore important to ensure that leadership is provided. For this reason the first year's activities are designed to ensure the Stakeholder Committee is established and functioning, that PEMDA provide the inter-agency planning and coordinating team (TKPP), and the PDAM establishes an Internal Performance Improvement Team. Table 2 summarizes the long list for water supply.

83. Preparation of plans required by PP 16/ 2005 should be done in the first year initially under the guidance of Bappeda, but with increasing participation of the Stakeholder Committee.

2. THE SURVEY RESULT AND SEQUENCING

84. An Institutional Environmental Assessment deals, even under the best of circumstances, with both written and unwritten rules, behaviors, and perceptions, all of which are quite abstract concepts, although that does not lessen the impact on sector performance of such matters. The LIDAP survey was therefore conducted among the top level local government management in most of the RGs, keeping with the need to base IDCB work as much as possible on fact. The survey also served to open a dialogue with key decision-makers in the RG, and to introduce to them concepts of reform, good governance and the likely conditions under which the WSSP loan would be extended to them.

85. The LIDAP questionnaire is shown at Attachment C of Part I in Appendix A of each SPAR. The questionnaire probed under seven headings local perceptions with respect to the likely critical success factors for reforming the water and sanitation sector, both in terms of sector structure (again, the move to the "ideal structure") as well as implementation issues.

Table 2: List of Actions for Institutional Development in Water Supply and Priorities

1	Mobilize Leadership and Communicate Action Plan
(i)	Establish a water supply and sanitation stakeholder advisory committee.
(ii)	Establish the TKKP for overseeing the WSSP, including its non-physical components
(iii)	Establish the Performance Improvement Team in the PDAM.
(iv)	Disseminate information on the WSSP objectives widely within local government.
2	Clarify the Overall System for Sustainable Service Delivery
2.1	Clarify Who Determines Policy or Intent of the Local Government
2.2	Improve the Sector Planning Process
2.3	Improve the Sector Structure
2.4	Improve Relationship with Local Government
(v)	Bupati to appoint a representative with decision making power to perform government administration matters associated with (profitable) ownership of the PDAM
(vi)	concentrate this activity on ownership functions – corporate planning, asset management, profitability planning, performance of Boards etc
(vii)	ensure the representative is not formally responsible for sector policy making
(viii)	ensure the representative is not responsible for pricing water and licensing the PDAM activities and
(ix)	is not in a position to agree or provide "soft" government funds – ie, is not the Sekda or Bappeda head so as to avoid a conflict of interest between his main role of achieving efficiency by imposing hard budget constraints on the PDAM.
3	Improve Resource Acquisition and Allocation
3.1	Makes better rules for tariff setting
(i)	Agree in a PERDA a process for tariff increases, automatically adjusted for inflation
(ii)	agree basic service levels that will be re-negotiated with PDAM every 5 years in an approved Corporate / Strategic Plan
(iii)	agree in a PERDA the rules for equity injections and dividend payments and
(iv)	establish formal coordination mechanisms between agencies based on the Strategic / Corporate Plan.
3.2	Increase Commercialization
(i)	in the establishment PERDA for the PDAM, specify cost recovery & efficiency in the sector as objectives
(ii)	in the "Tariff PERDA", specify the tariff adjustment process and the criteria for structuring and the level of tariff
(iii)	allow automatic adjustment every 6 months to 1 year, with re-basing overseen by the Regulator every 5 years
(iv)	formalize the PSO subsidy payment mechanism.
4	Increase and Improve Means of Service Delivery
4.1	Focus on Results
4.2	Introduce Performance Management of the PDAM
(i)	Develop a performance contract between the PDAM and PEMDA, or a "license" or "permit to operate" system
(ii)	assign responsibility to administer the contract / license / permit to a small independent agency
(iii)	improve the corporate plan, especially indicators and targets
(iv)	join the PERPAMS benchmarking system or similar so as to provide independent information on levels of performance of peers
(v)	establish a rewards and punishment scheme
(vi)	train personnel of the independent administrator / regulator.
4.3	Increase Autonomy of PDAM / Operator
4.4	Improve Performance of the Board of Supervisors
4.5	Improve Performance of Board of Directors
5	Information Management and Planning
5.1	Information Generation and Management
5.2	Improve Planning Process, Content and Quality
6	Increase Accountability
6.1	External Regulation of Input and Performance Standards
6.2	Improve Compliance with Local Legal Instruments
6.3	Improve Legal Certainty and Enforcement
6.4	Improve Implementation of Water Quality Standards
6.5	Increased Certainty of Access
6.6	Overcome gaps and other problems with national level legal instruments
6.6	Overcome gaps and other problems with local level legal instruments
7	Upgrade Set of Local Legal Instruments
8	Improve Human Resources Development at Sector level
8.1	HRD plan based on Sector Development Plan
<p>Notes 1. Indicative actions under each group are listed in Attachment 2, Part 1 of SPAR. 2. First activities suggested by the LIDAP survey are shown in bold – specific actions for which are enumerated with roman numerals.</p>	

86. The seven headings were:

- 1 Proposed project(s) and their overall benefits
- 2 Current Institutional set-up
- 3 Perception of PDAM services
- 4 Perception of sanction services
- 5 Proposed activities under WSSP
 - 5.1 Water supply
 - 5.2 Sanitation
 - 5.3 Institutional development / good governance
 - 5.4 PemDa financial capacity /credit enhancement
- 6 Project Implementation
 - 6.1 Establishment
 - 6.2 Planning and design
 - 6.3 Implementation- Financial management
 - 6.4 Implementation - Physical
 - 6.5 Monitoring and performance management
- 7 Suggestions on how to make the Project a success

87. Most of the questions used a perception scale of 1 to 6; the higher the scale was marked, the more the local perception agreed with the consultant's assessment of local conditions or the factors likely to make the project a success. The lower the marking, the more likely it is that local perceptions differ from the consultants, and thus represent areas of action or reform in which resistance is expected. The results for one RG (with some re-grouping of the answers to produce 10 areas / categories), which is typical for the others, is shown in Table 3. The top three area where perceptions differed most strongly concern:

1. The impact of building PemDa financial capacity
2. The current performance of the PDAM; and
3. The impact of institutional reform

88. The main observations concerning these top three ranking categories are:

- It is widely agreed that PEMDA finances (Category 6) would be a difficult area for the project to improve, and so probably not an area the project should attempt to intervene in.
- PDAM performance (Category 2) is an area that perceptions varied. The resistance rating in this category is not of concern, other than to highlight the diversity of perceptions on performance and the need to measure performance (say using the PERPAMSI Benchmarking System). The framing of questions in this category probably influenced the result.
- The institutional development / good governance aspects (Category 5) scored as the third most likely category where differing perceptions are likely. This is noteworthy in connection with Project design.

Table 3: Entry Points based on Expected Resistance to Change

Institutional audit category		Scores			
		Perfm	Impt	Gap	Resistance
1	Overall benefits of WSSP	3.94	4.57	0.63	10
2	Current PDAM performance	2.88	5.38	2.51	2
3	Current sanitation performance	3.80	5.40	1.60	6
4	WSSP physical activities	3.80	5.83	2.23	4
5	WSSP institutional activities	3.67	5.93	2.26	3
6	PemDa financial management	3.48	6.00	2.53	1
7	Project preparation - governance	4.21	6.00	1.79	5
8	Managing finances	4.40	6.00	1.60	7
9	Physical implementation	4.50	6.00	1.50	8
10	Performance monitoring	4.73	6.00	1.28	9

Note

1. Based on analysis of 5 of 5 questionnaires
2. Perfm = current degree to practice has been adopted, according to respondent's perceptions
3. Impt = degree of importance placed on the practice by the consultant
4. Gap = difference between degree of adoption and importance

5. Resistance = Expected degree of resistance to change in the category identified based on gap (1 = highest priority)

6. Resistance "1" is the category of practice that presently has the greatest need for action to establishment

89. The varying perceptions on the usefulness of institutional development / good governance interventions highlight, among other matters, the need for central government to disseminate its intentions on improving sector governance, starting with explanations of the practices and behaviors that comprise good governance in the sector. The support for establishment of the Project Performance Monitoring System (PPMS) probed in the questions in Category 10, was acknowledged by respondents as important, particularly by those outside the PDAM. In general, it is accepted this system needs funding and assistance provided to RGs. The proposal to institute an annual cycle of "plan do, check, act" based on the targets to be set in the strategic / corporate plan appears well supported.

90. Various other institutional arrangements and practices that were expected to be perceived as important for improved performance of the sector were ranked lowly by the respondents. Table 4 shows on the right a selection of 13 practices which the consultants believe should be adopted or problems overcome, and (in the last column), the ranking according to the respondents. Of the practices or problems, only benchmarking of performance was acknowledged as being important to success of the project. Information dissemination activities in the first year need to change perceptions

Table 4: Perceived Need for Change of Key Practices / Problems

Practice	Category	Priority for action, all categories		Rank
		nr	Practice	
15	2. Current PDAM performance	15	Water losses are too high	46
19	2. Current PDAM performance	19	Better performance be benchmarked	9
27	4. WSSP physical activities	27	At least 50% of those will be LIHs	99
33	4. WSSP physical activities	33	Investment (physical and non) will improve PDAM performance	86
34	4. WSSP physical activities	34	Sensible if up to 25% investment in non-physical	22
44	5. WSSP institutional activities	44	Name 5 actions to improve governance of PDAM	53
60	5. WSSP institutional activities	60	PDAM has a corporate plan with indicators	127
63	5. WSSP institutional activities	63	PDAM concerned about efficiency, and should recover all costs	105
67	5. WSSP institutional activities	67	Directors recruited from anywhere based on performance	53
68	5. WSSP institutional activities	68	Promotions are subject to certificates of accreditation	36
72	5. WSSP institutional activities	72	Annual performance of PDAM is publicly reported	108
127	10. Performance monitoring	127	Supervisors will use baseline targets	86
134	10. Performance monitoring	134	Stake. Committee has active monitoring role	53

91. Table 5 summarizes the results of the institutional reform category (5) of the survey. The summary suggests the entry points within this category as being:

- increased resources through higher tariffs and commercialization in general of water supply
- introduction of performance management tools for and in the PDAM; and
- improvement in the relationship between PDAM with government.

Table 5: Suggested "Entry Points" for Institutional Development – Water Supply

No.	Institutional practice category	Mean score		Gap	Rank of entry point
		Agree	Ideal		
1	Overall sector structure	3.89	5.86	1.97	4
2	Degree of commercialization	4.60	6.00	1.40	1
3	Degree of autonomy / corporatization	3.49	6.00	2.51	5
4	Objectivity of government representatives	3.40	6.00	2.60	7
5	Independence and capacity of oversight board	2.91	6.00	3.09	9
6	Capacity of directors / managers	4.25	6.00	1.75	3
7	Performance management	4.53	6.00	1.47	2
8	Introduction of private sector skills	3.00	6.00	3.00	8
9	Miscellaneous	3.07	5.67	2.60	6

Notes:

1. See preceding table for practices within each category.
2. Suggested entry point is category with smallest gap.
3. Gap is difference between mean score and ideal score.
4. It is assumed that the entry point for institutional development is best where there is most agreement or least resistance.

92. The results of the survey are predictable in many aspects. Persons associated with the PDAM tend to agree that more autonomy is needed to improve performance, but that accountability is not an issue. Those outside the PDAM see the need to raise accountability as a prerequisite to more autonomy.

93. The specific practices that comprise these three priority categories, plus the others in the category, are shown on Table 6.

3. SANITATION ACTION LIST

94. Each section in the IEA for sanitation ended with a list of indicative actions. These have been consolidated at Attachment 2 (part 2) in Appendix A of each SPAR and summarized under eight sets of activities in Table 7. The first set contains the leadership aspects similar to the water supply list and ensures the Local Institutional Development Action Plan (LIDAP) has a proper means of implementation.

95. There are numerous actions indicated under each set of activities (see Attachment 2.2). Are all sets of activities needed, which ones are priority and in what sequence should they be implemented?

96. Logic suggests the institutional development activities most influential in delivering the project objectives should be addressed first. Experience suggests that all the 8 sets (see Attachment 2.2) will be needed in time to significantly improve performance of the water supply and sanitation sector. How much is done under the project depends on political desirability, feasibility, and resourcing, among other factors.

97. Unlike for water supply, the Institutional Development Survey did not probe in detail acceptable sanitation arrangements, so all that can be said at present is that institutional development activities should address holistically the main points under each group by the end of the Project.

98. Two points from the survey are:

- The respondents generally agreed with the consultants that sanitation sector performance as not good (see Questions 21 to 25); and
- The survey highlighted some negative perceptions concerning the Stakeholder Committee. While there was moderate agreement that the Committee would be useful (Question 93), there was much less agreement that the Committee should play an on-going monitoring role (Question 134). This response perhaps is not unexpected, considering the mainly bureaucratic background of the respondents.

99. As pointed out in the water supply assessment, institutional development requires changes to the existing organizations in the local government, to systems and the "rules" – the way things are done – both formally and informally. It probably will be resisted by sections of the government for

this reason. It may therefore be best to start (to "enter") where there is wide agreement on the need to change. Again, the Institutional Development Survey conducted among important decision-makers in each participating local government could have provided some guidance on sequencing of sanitation interventions, but not enough questions on sanitation were asked to provide guidance. The specific priorities are to be determined in the first year of the project, when detailed planning is to be done.

Table 6: Long List of Institutional Development Actions for Sanitation

1	Improve leadership - Clarify the Overall System for Sustainable Service Delivery
1.1	Clarify Who Determines Policy or Intent of the Local Government
1.2	Improve the Sector Planning Process
1.3	Improve the Sector Structure
3.1	Establish and Empower a Stakeholder Committee
1.4	Improve Agency relationship with Local Government
2	Improve Tariffs / Resource Acquisition and Budget Allocation
2.1	Make better rules for setting of service charges
2.2	Increase Commercialization
3	Expand and Improve the Means of Service Delivery
3.2	Focus on Results
3.3	Introduce Performance Management of the Sanitation Agency
3.4	Increase Autonomy of Operating Agency (ies)
3.5	Improve Performance of Sanitation Agency managers
4	Information Management and Planning
4.1	Information Generation and Management
4.2	Improve Planning Process, Content and Quality
5	Increase Accountability
5.1	External Regulation of Input and Performance Standards
5.2	Improve Compliance with Local Legal Instruments
6	Improve Legal Certainty and Enforcement
6.1	Improve Implementation of Discharge Standards
6.2	Increased Certainty of Access to Services
6.3	Overcome gaps and other problems with national level legal instruments
6.4	Overcome gaps and other problems with local level legal instruments
7	Upgrade the Set of Local Legal Instruments / Framework
8	Improve Human Resources Capacity at Sector level
8.1	HRD plan based on Sector Development Plan
<i>See Part 1, Attachment 2.2 of SPAR Appendix A for detailed activities</i>	

Table 7: Local Perceptions of Institutional Practices

ID.	P. no.	Practice	Total resp.	Mean score		Gap	Priority
				Agree	Ideal		
		Overall sector structure					
5.01	44	Name 5 actions to improve governance of PDAM	5	2.80	5.00	2.20	21
5.02	45	PDAM's monopoly improves service	5	3.60	6.00	2.40	17
5.03	46	Better if BAPPEDA or a Regulator sets WSS policy, not PDAM	5	4.40	6.00	1.60	27
5.04	47	Regulation like Jakarta Water Supply Regulator, will be successful	5	3.20	6.00	2.80	11
5.32	75	Private investors in PDAM are welcome	5	5.20	6.00	0.80	36
5.33	76	Private investors are welcome to build new systems	5	4.40	6.00	1.60	27

ID	P. no.	Practice	Total	Mean score	Gap	Priority
5.35	78	PDAM should have responsibility for sanitation	5	3.60	6.00	2.40 17
5.05	48	Tariff level must cover costs	5	3.40	6.00	2.60 14
5.06	49	Tariff process more important than level set	5	4.20	6.00	1.80 24
5.21	64	PDAM paid a subsidy for providing social services	5	4.60	6.00	1.40 30
5.22	65	PENMA ready to pay a subsidy	5	5.80	6.00	0.20 40
5.20	63	PDAM concerned about efficiency, and should recover all costs	5	5.00	6.00	1.00 34
5.07	50	A more autonomous PDAM will be better	5	2.20	6.00	3.80 5
5.09	51	More accountability can be introduced to match more autonomy	5	2.20	6.00	3.80 5
5.31	74	Accountability and autonomy will improve as a PT	5	2.40	6.00	3.60 7
5.30	73	PDAM ready as PT by 2008	5	2.00	6.00	4.00 4
5.17	60	PDAM has a corporate plan with indicators	5	5.80	6.00	0.20 40
5.16	59	An ASEM receives reports and appoints BP	5	5.60	6.00	0.40 39
5.18	61	PDAM Annual Budget is realistic and published	5	4.20	6.00	1.80 24
5.14	57	Region head appoints an appropriate PENMA representative	5	3.40	6.00	2.60 14
5.10	63	BP has authority representing PENMA	5	1.20	6.00	4.80 2
5.11	54	BP members are trained in their duties	5	4.60	6.00	1.40 30
5.12	55	BP takes strategic decisions that Directors follow	5	1.60	6.00	4.40 17
5.13	56	The Chairman has same authority as President Director	5	0.80	6.00	5.20 1
5.15	58	Chairman of BP has responsibilities as operator as director	5	2.40	6.00	3.60 7
5.23	66	The BP chooses directors	5	3.60	6.00	2.40 17
5.24	67	Directi dan staff PDAM dipilih berdasarkan kemampuan kinerjanya	5	3.80	6.00	2.20 21
5.25	68	Promotions are subject to certificates of accreditation	5	3.40	6.00	2.60 14
5.26	69	All contractors have certified competency in WS	5	5.20	6.00	0.80 36
5.27	70	Director's contracts extended if good performance	5	4.60	6.00	1.40 30
5.28	71	Internal auditor's role is important	5	4.60	6.00	1.40 30
5.29	72	Annual performance of PDAM is publicly reported	5	5.20	6.00	0.80 36
5.19	67	A performance contract needed between PDAM and PENMA	5	3.80	6.00	2.20 21
5.34	77	Private contractors are limited to manage existing systems	5	6.00	6.00	0.00 10
5.36	79	Name's non-physical activities by PDAM to improve performance	5	4.00	6.00	2.00 34
5.37	80	PENMA needs to make decisions to improve PDAM performance	5	3.20	6.00	2.80 11
5.38	81	Name's non-physical actions by PENMA to improve sanitation	5	2.20	6.00	3.80 11
5.39	82	Province has a role as investor?	5	4.40	6.00	1.60 27
5.40	83	Province has a role as manager of WSSP	5	2.80	6.00	3.20 9
5.41	84	Province has a coordinating role?	5	1.80	6.00	4.20 3
Mean			3.67	5.93	2.26	

4. APPROXIMATE COST OF LIDAP

Table 8 shows the estimated cost over 5 years allocated for undertaking the water supply and sanitation components of the LIDAP. The two sectors have been combined because at the LIDAP level institutional development efforts should be integrated as much as possible. The cost

of providing a "standard package" has been estimated and then an allocation as a percentage of this made to each RG, based on an estimate of the total available funds for IDCB activities. The percentage of the standard package is shown in the costing of the FOPIP.

Table 8: Estimated Cost of a Typical LIDAP for Water Supply and Sanitation Sector

No	DESCRIPTION	Unit	Total	2006	2007	2008	2009	2010
	Approximate Citizens	Nr.		220,000	220,000	230,000	240,000	250,000
	Approximate PDAM Connections	Nr.		23,000	25,358	26,625	27,957	29,354
	Approximate Total Persons Served	Nr.		156,000	162,240	168,730	175,479	182,498
	Approximate Total Revenue of PDAM	Rp M	57,298	8,777	10,257	11,416	12,706	14,142
A	SOURCE OF FUNDS							
1	Levy on PDAM Revenues	Rp M	381	0	81	90	100	111
	Total fees as % of PDAM revenue (approx.)	%		0%	1%	1%	1%	1%
2	Other Levies on Third Parties in Sector	Rp M	93	3	10	18	26	35
3	Grants from Province / Central Government	Rp M	3,905	923	847	794	685	656
	Total Revenue	Rp M	4,048	923	878	828	722	698
B	USE OF FUNDS							
B.1	Operational Expenditure							
0.1	Wages/Salaries	Rp M	674	98	108	143	155	170
0.2	Office Running Costs	Rp M	146	26	27	29	31	33
0.3	Reporting Costs	Rp M	35	7	7	7	7	7
	Minimum Cost of LIDAP Secretariat	Rp M	855	131	142	179	193	209
1	Leadership/ Governance Group and Communications	Rp M	123	21	23	24	26	28
		Rp/ Citizen	528	97	103	106	109	113
	Normal Cost of LIDAP Unit and Project Governance	Rp M	977	152	165	203	219	238
		Rp/ Citizen	4,190	693	750	882	914	950
B.2	Capital Expenditure							
2	Re-design Overall Service Delivery System in Sector	Rp M	218	218	0	0	0	0
3	Improve Tariff Setting and Resource Allocations Process	Rp M	169	99	69	0	0	0
4.1	Increase PDAM / Operator Autonomy / Corporatize	Rp M	505	0	0	172	167	167
4.2	Performance Agreements & Regulator	Rp M	225	113	71	41	0	0
5	Improved Information Management and Planning	Rp M	518	120	150	83	83	83
6	Improve Governance / Accountability via Badan Pengawas	Rp M	616	135	180	181	182	137
7	Upgrade Local Legal Instruments	Rp M	233	0	158	75	0	0
8	Improve Sector Level Human Resources	Rp M	383	85	85	71	71	71
9	Strategic Management in Sector	Rp M	0	0	0	0	0	0
10	Miscellaneous On-the-Job Assistance	Rp M	0	0	0	0	0	0
	Total Investment (2 to 10)	Rp M	3,066	769	713	623	503	458
	TOTAL EXPENDITURE	Rp M	4,043	922	878	828	722	698

Note: Above 37.5% of a standard package.

Table 9: Summary of Costs of a Typical LIDAP

Costs Breakdown	UNIT	TOTAL	2006	2007	2008	2009	2010
Total Foreign Manmonths	mm	6.6	2.4	1.1	1.1	0.9	0.9
Total Local Manmonths	mm	40.1	6.0	18.9	9.2	4.1	1.9
Total Manmonths	mm	46.7	8.4	20.1	10.3	5.1	2.8

Total Costs Foreign Consultants	Rp M	1,444	536	248	248	206	206
Total Costs Local Consultants	Rp M	678	114	310	150	75	30
Total Consultant (Remuneration) Costs	Rp M	2,123	651	557	398	281	236
Total Training Costs	Rp M	408	88	89	77	77	77
Total Purchases equipment and software	Rp M	379	9	122	83	83	83
Other (travel, accomm, campaigns, fees, etc)	Rp M	156	21	55	67	62	62
Total LIDAP Capital Expenditure	Rp M	3,066	769	713	623	503	458
Consultants as % LIDAP Expenditure	%		85%	78%	64%	56%	52%
LIDU and Leadership Group Opex	Rp M	977	152	165	203	219	238
Total LIDAP Expenditure	Rp M	4,043	922	878	826	722	696

Note: Foreign mm and associated costs will not be included in "Wilayah Contracts", but consolidated into contract(s) at a higher level.

5. APPROXIMATE TIMING FOR LIDAP ACTIVITIES

101. The approximate sequencing and duration of the activities for the LIDAP in a typical RG is shown in the following Figure.

Figure 7: Indicated Schedule for a Typical LIDAP in the Water and Sanitation Sector

ACTIVITY	2005		2006		2007		2008		2009		2010	
	Dec	Jan	Dec	Jan	Dec	Jan	Dec	Jan	Dec	Jan	Dec	Jan
LID unit secretariat / operational expenditure												
Wages / salaries												
Office running costs												
Reporting costs												
LIDAP												
Leadership/governance group communications												
Re-design overall service delivery in sector												
Improve tariff setting and resource allocation process												
Increase PDAM/operator autonomy/corporatize												
Performance agreements and regulator												
Improved information management and planning												
Improved governance accountability Badan Pengawas												
Upgrade local legal instruments												
Improve sector level human resources												
Strategic management in sector												
Miscellaneous on-the-job assistance												

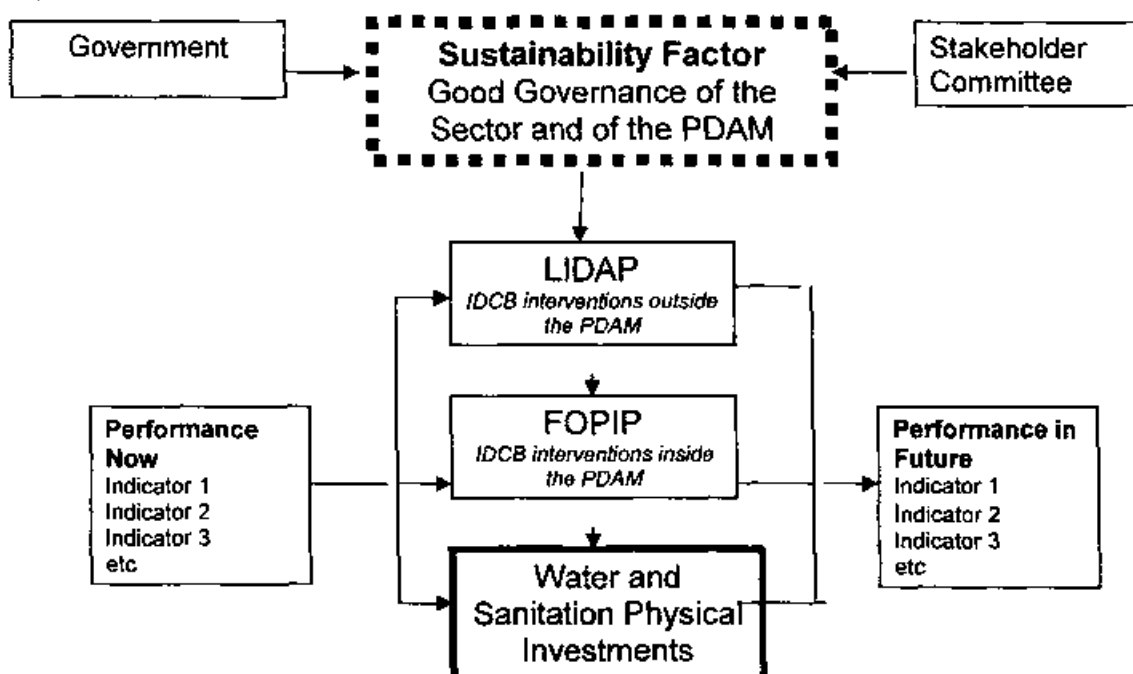
F. GOOD GOVERNANCE

1. SECTOR AND CORPORATE GOVERNANCE SUSTAIN THE INVESTMENT

102. The immediate objectives of the IDCB activities are promote reform and good governance in the sector. Good governance practices are critical to improving sustainability of the project investments, as they ensure that key actors in the sector are involved in decision making, and that external forces are brought to bear on the service providers, thus helping to keep them sensitive to community needs.

103. The good governance objective is to ensure a system is established to interpret local needs, review project objectives and progress in achieving them, and directing changes needed to keep the project's objectives aligned with local needs, all in the most efficient manner possible. Good governance is the critical factor in improving project sustainability. In summary, Figure 6 outlines the relationship to another of the various project components.

Figure 8: Good Governance in the Project Design



104. Governance also has two levels – the sector level, or governance in the wide sense – and governance of the service providers, or “good corporate governance” in the case of PDAMs. The “unpacking” of the sector and associated initiatives, such as creation and operationalizing the Stakeholder Committee, according to the “ideal structure” will improve sector governance.

105. The project will not attempt to measure the quality of governance at the sector level, although Table 7 provides a proxy for the perceived quality of governance at this level. Instead, the degree to which good governance is being practiced at the PDAM will be monitored, as improving governance of local government owned enterprises, including PDAMs, is part of GOI policy at present. It forms the basis for the Ministry of Home Affairs draft law on reform of local government owned enterprises (BUMN), which has been approved by the President for entry into the Government’s legislative program in 2005 or 2006.

2. SECTOR GOVERNANCE AND THE STAKEHOLDER COMMITTEE

106. Participation (and consultation) is one of the pillars of good governance (the others being accountability, transparency, and predictability), and yet, the IEA found in all RGs very weak mechanisms for ensuring the consumers, community and other other stakeholder “voice” (or rights) were incorporated into decision making in the sector. Further, the LIDAP survey on perceptions among bureaucracy with regard to participation produced evidence that the concept will take time to become common practice. Many of the respondents saw little use for the Stakeholder Committee, throwing up the usual objections, such as (i) the only people interested in participating in such a Committee were malcontents (ii) who would pay (iii) how to reconcile the apparent conflict between the duty elected and administrative official have to make decisions about the sector and such an “ad-hoc” committee (iv) how would Committee members be held accountable (v) does the law allow such participation and (v) what would happen after project completion?

107. These objections are not considered to be insurmountable. It is obvious that the Committee, at the least should be advisory in nature, but there is no reason why formal power-holders cannot delegate certain decisions. In fact it would also appear advantageous to busy senior administrators to involve as many people as possible to avoid poor decision-making. Wide participation of stakeholders would be beneficial for both the water supply and sanitation sectors. It is too much to expect the DPRD will be involved in depth in the sector 0- their “political” agenda is full, and there is a certain level of competence required of governors of the sector that would be left to competent and interested people. This is the history of many more formal “Water and

Sanitation Boards" around the world – a group of competent, independent, interested and professional people appointed by the government to oversee the water and sanitation services provided by government.

108. The specific role of the Stakeholder Committee with respect to authority and accountability is a matter for each RG to determine (and will probably change over time), but immediate roles include:

- Receive technical advice for the service provider (PDAM and sanitation agencies)
- Discuss, represent and defend stakeholder interests and provide advice to the technical agencies concerning acceptable standards of service and designs;
- Help the consultants and technical agencies conduct surveys and gather community data;
- Feedback to their constituencies proposed designs and progress of the Project
- Compile and provide to the administration and the DPRD thoughtful recommendations concerning the water supply and sanitation designs and project implementation related to the project, as well as other matters, including projects, associated with the sectors;
- Conduct their own meetings in an orderly manner, including taking minutes and following democratic procedures;
- Evaluating stakeholder satisfaction with the project;
- Representing and performing advocacy roles with respect to promotion of the Project; and
- Representing the Project in the local media and community.

109. Constitution of the Committee should cover key stakeholders: various interest groups, examples being:

- Women and disadvantaged groups
- The poor
- Civil society
- Government agencies
- Political interest groups
- Academics
- Householders, served
- The un-served;
- Industry and trade associations
- Prominent community members; and
- Religious leaders.

110. It would be best for the Committee to grow "organically" from an existing organization, but time may preclude this method of establishment. The inaugural members probably have to be carefully selected, using an open selection process as much as possible. In time the selection process may become more formal. The selection process should aim to provide members with the appropriate competencies for the Committee, which include: the ability to work in a team, a sense of fairness, an interest in and time available to serve the community, sufficient knowledge of the importance of due process, strategic thinking skills, and the ability to act as an advocate for the achievement of the Project's objectives.

111. The Committee should be supported by a "Secretariat", which would best be the formal group of officials that exists in most RGs for coordinating projects – the Tim Koordinasi Perencanaan dan Pemantauan (TKPP). Funding for the secretariat has been included in cost estimates.

112. The method of working of the Committee is expected to be through sub-committees or work groups. One would handle strategy development and planning issues for instance, another liaison with the community and the media, and a third would handle technical matters. Immediate task include overseeing development of an integrated water supply and sanitation plan required by PP 16/2005 (Article 78), part of which are likely to be specific matters coming out of the city-wide sanitation strategy. They would also approve (or recommend for approval) actions proposed by agencies and communities, based on compliance with criteria established at the strategic level, while remembering their main task is to provide a governance overview of the sector, not management action.

3. CORPORATE GOVERNANCE OF THE PDAM

113. The IEA also revealed that the Board of Supervisors of the PDAM have very limited effectiveness, due to lack of proper constitution, poor election processes of members, asymmetries of information with respect to the Directors, and low capacity. And yet it is vital that more broad-based decisions are made with respect to the distribution of the costs and benefits of water supply investment, and to provide oversight of the PDAM Directors. Like the Stakeholder Committee at sector level, a deliberate action to establish proper governance of the PDAM is indicated – a system of good corporate governance is needed. The system would encourage adoption of practices that ensure:

- Owners (currently PEMDA) and stakeholders' rights in the PDAM are protected;
- Risks faced by the PDAM are managed properly, including abuse of community owned assets and corruption,
- Laws and regulations are complied with
- The Directors perform an appropriate role
- The Board of Supervisors also perform an appropriate role; and
- A system of Good Corporate Governance (GCG) is established.

114. The concept of governance unfortunately is poorly understood in many quarters, so the specific practices which constitute good corporate governance need to be moved from the abstract to the concrete. To do this, each SPAR includes a checklist and scoring system breaking down the above practices (Appendix A, Attachment 4 of Part 2) into sub-headings and specific practices. In this way a "GCG Index" is proposed. Table 9 shows the seven main components proposed. Sub-components and then specific practices are included in the referred Attachment.

115. The practices have been mainly based on the requirements of the draft law concerning reform of local government owned enterprises (BUMD). However, some additional practices concerning production an maintenance of an Anti-Corruption Action Plan, and transparency in procurement have been added to met the immediate needs of the Project. Possible loan "conditionalities" are therefore incorporated into the local context, rather than being seen as external impositions.

Table 10: The Good Corporate Governance Index for PDAMs

	Good Corporate Governance Practices	Practice Score	Weight	Total Score
1	Established Components of System of Good Corporate Governance		30	
2	Appropriate Role played by the Board of Supervisors (Badan Pengawas)		10	
3	Appropriate Role played by the Board of Directors (Direksi) in support of good governance initiatives		10	
4	Fulfillment of Disclosure, Transparency and Compliance Obligations		10	
5	Control of Risks, Corruption and Fraud		20	
6	System to Protect Rights of Government Owners / Shareholders		10	
7	System to Protect Rights of Stakeholders, including provision of consultation and participation mechanisms		10	
INDEX VALUE				

Notes:

1. "Practice Score" is based on the "Degree of Adoption / Achievement" awarded to each Practice, calculated from the sum of the score awarded to each component.
2. See Table 2 for the components of each Practice and scoring
3. "Weight" is an arbitrary value determined by authorities to reflect the importance of each Practice in achieving a state of good corporate governance.
4. "Total Score" for each Practice is component score multiplied by weight.
5. "Index Value" is a single number calculated by summing the Total Score for each Corporate Governance Practice. The higher the score, the better. It can never be more than 1000 under the stipulated scoring method.

116. Use of the index raises the question of who will score it, and how. It should be used by the Stakeholder Committee as a general guide for assessing the status of their own governance improvement efforts, and specifically by the Board of Supervisors to guide development of their System of GCG. It has value both as a self assessment tool, and as a tool to be used by an external quality auditor. The value of the index will be calculated in the first year of the Project following an assessment by the IDCB and QA consultant.

G. FINANCIAL AND OPERATIONAL PERFORMANCE IMPROVEMENT PLANS (FOPIP)

1. BACKGROUND AND OBJECTIVES

117. Experience, discussions and observation indicate performance of the PDAM depends upon some factors which are outside of their control, and others which are mostly, if not entirely, under their control. IDCB work for the FOPIP concerned those factors under the control of the PDAM directors and personnel. The plans are shown in Part 2, Attachment A of each SPAR.

118. The Plans are based mainly on the project objectives and activities, the results of an organizational audit conducted by survey among PDAM personnel, and the opinions of senior PDAM managers and the consultants and the physical investments proposed. The objectives in preparing the Plans were to record the methods, reasoning and first conclusions (probably good enough for agreeing first year's activities). Keeping the critical need in IDCB to have full ownership, the Project design requires each participating local government to, among other matters:

- prepare a water supply and sanitation sector strategy by September of the first year of the project; and
- prepare or update the PDAM Corporate plan by September of the first year of the Project

119. These strategic plans are required by Indonesia regulations and will therefore update and refine this FOPIP. The Project also requires an annual update of the plans to ensure that a cycle of continuous improvement is instigated.

2. APPROACH AND METHOD

120. The approach to assessment and preparation of the plan is based on fact as much as possible, given the limited project preparation period (a four day visit to various agencies of the local government, including the PDAM, by an institutional specialist). Data was collected using three methods:

- Conduct of a survey of organizational competencies or needs among important personnel of the PDAM (the "FOPIP" survey)
- Completion of a questionnaire by the President Director of the PDAM; and
- Discussions with the Directors and key personnel.

121. The impact of the proposed projects (new production facilities, new customers etc are also considered. As noted previously the Plan focuses on internal matters over which the Director(s) have authority and can be held accountable for.

122. One problem with capacity building / performance improvement efforts of the past has been their lack of use of an analytical framework, or a postulated set of cause and effects. The experiences of one project are difficult to transfer to other areas under these circumstances. But the broad categories / components or competencies of any organization which contribute to superior organizational performance are reasonably well recognized among experts in the field of organizational development. They are practices related to:

1. The leadership / top management
2. Financial management
3. Customer or external (stakeholder) focus
4. Strategy and planning
5. Work systems, processes and procedures
6. Organizational structure
7. Supplier and partner relationships
8. Data information and knowledge creation and management
9. Human resource management and development ("people"); and
10. Achievement and continual improvement of organizational performance

123. The assessment of the PDAMs, be it through the FOPIP survey of personnel or discussion of organizational arrangements, was done within this framework. Proposed actions for improvement are also presented within this framework. Which categories are related to other categories, or cause other categories to support improved performance? As has been used in the PERPAMSI Benchmarking System, it is postulated that these categories are related in a hierarchical way, as shown on Figure 9.

Figure 9: Analytical Framework for PDAM Performance Improvement

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124. Figure 9 postulates that:

- i. good human resources, information and supplier / third party relationships enables
- ii. development of better organizational structure, work systems, processes and procedures as well as strategy identification and planning, which
- iii. delivers better water services, which in turn
- iv. causes improvement in the financial affairs of the PDAM – with the improvement in financial affairs then creating financial resources which can be used to further improve performance.

125. This framework to improve understanding of performance and the underlying competencies is in fact used by PERPAMSI to guide measurement activity for their PDAM Benchmarking System.

126. The 150 and more practices which constitute the 10 categories are shown in Appendix A of the SPARs, (Attachment 1 to Part 2). Many of the practices are generic – that is, any organization deploying the practice will perform better. They are the foundation of such generic

management systems as ISO 9000:2000 (SNI 19.9000:2001) concerning standards for a quality management system.

3. ASSESSMENT OF PDAM ORGANIZATIONAL PRACTICES

RESULTS OF THE FOPIP SURVEY

127. The organizational survey / audit was conducted by surveying the perceptions of between 10 and 20 senior personnel of each PDAM (see Appendix Attachment 1 for the instrument). The dimensions or category of the organization audited included:

1. Leadership
2. Financial management
3. Customer Focus
4. Strategy and planning
5. Human Resources
6. Organizational Structure
7. Procedures, Processes and Product
8. Contractors and suppliers
9. Data, Information and Knowledge
10. Performance

128. Results of the bivariate analysis are shown in Appendix A of the SPARs, Part 2, Attachment 2. The audit seeks to identify improvement actions by (1) analyzing the gap between degree of establishment and degree of importance of organization categories and (2) through a series of open questions asking sector managers and staff to identify felt training needs. The method acknowledges that the persons inside the PDAM doing their job are most likely in the best position to know what performance improvement actions are most needed. Its weakness is that those doing the job may not know enough of the "big picture" to properly assess needs.

129. Priority should be given to categories of practices and also individual practices perceived by the personnel as being most important to improve performance, and which are not being well performed at present.

130. Table 2 shows the priority of categories established by the survey. The full results of the survey are reported in Attachment 2. It includes specific practices in each of the three categories which particularly worry the PDAM personnel. PDAM Directors should not these concerns and act to improve the practices identified as needing improvement.

131. These categories were also applied because they represent organizational competencies, which if mastered, should enable the PDAM to respond to the challenges it faces. Building the PDAM around these practices will create an open, competency-based organization in which the staff become increasingly interchangeable among the PDAMs. The agenda of an open recruiting system will be addressed in this way.

Table 11: Priority Categories for Action, according to PDAM Personnel

Organizational Audit Category	Scores			
	Perfm	Imp	Gap	Priority
1. Leadership	3.67	4.12	0.44	8
2. Finances	3.80	4.33	0.52	7
3. Customer focus	3.72	4.49	0.77	2
4. Strategy and planning	3.62	4.49	0.87	1
5. Human resources	3.37	4.04	0.67	4
6. Organizational structure	4.06	4.38	0.33	10
7. Procedures, process, product	3.22	3.76	0.53	6
8. Contractors, suppliers & partners	3.47	4.18	0.71	3
9. Data, information & knowledge	3.82	4.47	0.65	5
10. Performance	3.80	4.19	0.40	9

Note

1. Based on analysis of 11 of 11 questionnaires
2. Perfm = average score for adoption

3. Impt = importance to performance

4. Gap = difference between Perfm and Impt

5. Action Priority is the practice that presently has the greatest need for action to establish within the organization; 1 indicates first priority

132. Each survey revealed a different set of priorities according to respondents. For the example shown, overall, the PDAM personnel surveyed perceive that the highest priority category for action is to improve the strategy and planning aspects of the PDAM. This may reflect lack of a sensible Corporate Strategy and annual planning for normal functions, such as marketing and customer relations, procurement processes and other routine functions.

133. The second ranked category in the case is "customer focus". This often mean the personnel know that they should be more concerned with providing a good service but feel there are gaps between what is said and what is done in the PDAM". It often indicates lack of performance information in the community and so, probably low accountability.

134. The third ranked category in the example is "relationships with contractors, suppliers and third parties" and possibly indicates concern of procurement practices.

135. Depending on the category indicated as priority, the indicated performance improvement actions differ between PDAMs. Each FOPIP contains a selection of indicative actions chosen from Attachment 3 to the FOPIP, that is, Appendix A, Part 2 of each SPAR. The intention is to establish a framework which enables PDAM directors establish an on-going "self-assessment checklist" of better practices.

136. Like the LIDAP survey, analysis of individual practices also highlights some of the challenges to be faced in managing change and reform under the Project. Table 11 from a typical RG summarizes the survey results from three perspectives:

- First priority practices in each category
- Top ten priority practices gathered from all categories; and
- Key practices that the WSSP should be targeting.

137. Practices shown on the lower part of Table 12 need special attention because they are important to achieving project objectives but are not perceived to be important by the PDAM personnel. In this example, only the need to regularly adjust tariff, have a workable strategic plan and enough information to calculate water losses are perceived as needing attention (i.e. are ranked highly). And yet these and the rest of the practices in the right of the table are targeted in performance improvement activities classed as "mandatory activities" under WSSP.

Table 12: Top Priority Practices within Categories

1. First Priority Practice in Each Category

Organizational Audit Category	Priority action	Gap
nr	Practice	
1. Leadership	6 Leaders explain duties for each section	1.18
2. Finances	11 Tariff automatically adjusted for inflation	1.18
3. Customer focus	11 Community outreach deployed	1.64
4. Strategy and planning	2 Strategic Plan forms basis for all activity	1.36
5. Human resources	19 Bonuses are based on objective criteria	1.40
6. Organizational structure	12 Structure facilitates communication to bosses	0.64
7. Procedures, process, product	5 Drinking water not clean water distributed	1.30
8. Contractors, suppliers & partners	6 Routine market testing for prices	1.09
9. Data, information & knowledge	9 Enough info to calculate water losses	1.33
10. Performance	4 Reasons for changes in performance are analyzed, and actioned	0.64

2. Top Ten Priority Practices - All Categories

Priority	Organizational Audit Category	Priority for action, all categories	Gap
nr		Practice	
1	3. Customer focus	11 Community outreach deployed	1.64
2	5. Human resources	19 Bonuses are based on objective criteria	1.40
3	4. Strategy and planning	2 Strategic Plan forms basis for all activity	1.36
4	9. Data, information & knowledge	9 Enough info to calculate water losses	1.33
5	7. Procedures, process, product	5 Assets are managed by plan	1.30
6	2. Finances	11 Tariff automatically adjusted for inflation	1.18
7	5. Human resources	9 All sections have professionals	1.18
8	1. Leadership	6 Leaders explain duties for each section	1.18
9	9. Data, information & knowledge	10 Frequent cadastres	1.18
10	4. Strategy and planning	9 Overall planning is good	1.10

3. Need for Change of Key Practices to be Targeted by WSSP

Practice	Organizational Audit Category	Priority for action, all categories	Rank
nr		Practice	
1.09	1. Leadership	6 Leaders emphasize customer service	143
2.11	2. Finances	11 Tariff automatically adjusted for inflation	6
2.15	2. Finances	15 On-going attention to billing efficiency	142
3.03	3. Customer focus	3 Customers surveys are used	20
3.04	3. Customer focus	4 Customers complaints are processed	112
4.02	4. Strategy and planning	2 Strategic Plan forms basis for all activity	3
5.14	5. Human resources	14 Employee perception surveys are routine	27
5.25	5. Human resources	25 All directors nationally accredited	61
6.06	6. Organizational structure	6 Developing more autonomy	92
7.07	7. Procedures, process, product	7 Have a water quality testing program	92
7.19	7. Procedures, process, product	19 There is a technical program for UFW	149
9.05	9. Data, information & knowledge	5 Data provides results for performance indicators	20
9.09	9. Data, information & knowledge	9 Enough info to calculate water losses	4
10.02	10. Performance	2 Performance indicators are published for stakeholders	99

Note: Based on an analysis of 11 of 11 questionnaires.

RESULTS OF DISCUSSIONS AND OBSERVATIONS

138. The Assessment in each SPAR includes an analysis of the PDAM under the ten "organizational excellence" categories. Most assessment noted the lack of proper governance arrangements, weak financial management, minimal practices with respect to customer service, useless corporate plans, human resources practices driven by patronage, bloated organizational structures in need to re-structuring; no recording of processes and procedures, antiquated or non-transparent procurement practices, rudimentary information systems and no use of performance measurement to identify systematically problems or to provide incentives to staff.

139. The assessment in each category sets-out either specific problems identified, or the problems typically observed in many PDAMs. Each assessment ends with a list of indicative actions for consideration of the Directors and the PDAM's Internal Performance Improvement

Team to be established under the Project. Table xx provides a summary of the findings. It was noted that PDAMs on Java have appear much better (for example most have rudimentary job descriptions, but "quality is more the problems than quantity".

Table 13: Summary of Evaluation and Possible Management and Operational Improvements

No	Category / Group	Assessment	Suggested Steps for Improving Performance
I	Leadership / Local Government	<ol style="list-style-type: none"> 1. Pemda policy treats PDAM as a social service, making it difficult for the PDAM to become profitable. 2. Simultaneously Pemda treats the PDAM as a source of local revenues (PAD) 3. The Pemda still place civil servants as Directors of the PDAM 4. Pemda have not yet empowered the employees of the PDAM to act as entrepreneurs. 	<ol style="list-style-type: none"> 1. Change the thinking of PEMDA to that of the PDAM being a profit seeking organization, and not a just a social service. 2. PDAM may only contribute to PAD if the profit is above a certain level. 3. Pemda must seek Directors based on their entrepreneurial expertise. 4. Pemda should facilitate development of PDAM personnel with an entrepreneurial orientation.
II	Financial Management	<ol style="list-style-type: none"> 1. Small PDAMs of Type A & B not yet able to compile financial reports in accordance with the Guidelines, and some have not been audited by BPKP for some years. 2. There is a shortage of accounting staff in the PDAMs able to prepare financial reports. 3. Computerization of accounting procedures and reporting is only partially available. 	<ol style="list-style-type: none"> 1. Authorize the PDAMs to be audited by a public accountant and improve the financial administration. 2. All PDAMs need to program into their HR plan the provision of degree holders in accounting and finance as well as diploma holders in the same disciplines. 3. Develop and provide training in the use of the accounting manual in the context of the project finances. 4. Provide computers and accessories including accounting software.
III	Customer service / relationship with stakeholders	<ol style="list-style-type: none"> 1. Most PDAMs do not have a 24 hour emergency response / repair service. 2. Many PDAMs do not have a meter workshop, and other repair workshops. 3. Most PDAMs do not provide a continuous supply (24 hour supply) but rather work on a "block" system. 4. Some PDAMs do not have a marketing unit, most Units are ineffective anyway. 	<ol style="list-style-type: none"> 1. PDAM should be obliged to provide a 2-hour emergency response. 2. PDAM should be obliged to have a meter repair workshop and other repair workshops. 3. After WSSP, a 24 hour continuous supply should become the norm. 4. As a result of WSSP, the marketing Unit should be made effective.
IV	Strategy and Planning	<ol style="list-style-type: none"> 1. Corporate Plans of the PDAMs have a poor structure and content with so much variety they are difficult to improve wholesale. 2. The weak financial situation of the PEMDA and PDAM most often not accounted for in the strategy and planning. 3. Some PDAM are beginning to evaluate their strategy and plans. 	<ol style="list-style-type: none"> 1. Strategies and plans should reflect the actual conditions prevailing, including the capacity of the PDAM to implement. 2. More alternative sources of funding needed including from higher levels of government, and the private sector. 3. Training in preparation and use of a Corporate Plan is needed.

No	Category / Group	Assessment	Suggested Steps for Improving Performance
V	Human Resources	<ol style="list-style-type: none"> 1. Personnel are accepted without testing and there are many who have been placed there by local (nepotistic) government officials. 2. The salaries of PDAM staff is not at all standardized with some being paid below the minimum regional wage (UMR). 	<ol style="list-style-type: none"> 1. Upon joining WSSP, the personnel of the PDAM must become more productive, with steps such as: Alternative A: Reselection after laying-off and provision of separation packages for those not reselected Alternatif B: Program the provision of technical and accounting training soon, working with training institutions or under a WSSP component. 2. Local government officials and members of the DPRD must be helped to understand that the PDAM is most efficient when it is left to seek a profit from its activities. 3. Pemda and PDAM officials should seek training programs outside Pemda. 4. The salary system should be made more performance oriented after the re-selection.
VI	Organizational Structure	<ol style="list-style-type: none"> 1. Small PDAMs of Type A and B in general are not structured efficiently in accordance with SK MenNeg Otda no.8 tahun 2000. 2. Sub units in the structure are not oriented to servicing customers. 3. Degree of decentralization not sufficient, too hierarchical. 4. Line functions are not performing enough "staff" functions (such as HR, planning, procurement and information management). 	<ol style="list-style-type: none"> 1. Restructure those PDAMs that are clearly not following Keputusan Menteri Negara Otda. 2. Disseminate models for more decentralized structures for PDAMs. 3. Provide training to structural personnel of the PDAM concerning the links between structure and management needs. 4. Disseminate re-structuring proposals to Pemda before proceeding.
VII	Work processes, systems, procedures and product	<ol style="list-style-type: none"> 1. Most PDAMs are not making proper use of technical manuals and other guidelines, such as for accounting and administration to systematically improve the way things are done. 2. Job descriptions based on preferred procedures and performance indicators are not available for most personnel. 3. Work programs for sub-units have not been prepared for many units, meaning that any high level objectives are not being translated into everyday activities. 	<ol style="list-style-type: none"> 1. Specific guidelines on accounting, administration, finances, procurement and technical aspects need preparing and disseminating. 2. The mentioned Guidelines should be produced separately and in simple forms for use as Handbooks by the staff. 3. Every structural official should prepare a duty statement and discuss it with colleagues and others. 4. A work program should be prepared and discussed by all structural officials in the PDAM.
VIII	Contractors and Suppliers	<ol style="list-style-type: none"> 1. Small PDAMs of Type A and B in general should do repairs and maintenance as well as small capital work, by themselves. 2. Large contractors are generally not available readily in smaller Kabupaten / kota. 	<ol style="list-style-type: none"> 1. Larger contractors need to collaborate with local contractors as sub-contractors. 2. More collaboration with neighbors. 3. More use of managing contractors/operators.
IX	Data, information and knowledge	<ol style="list-style-type: none"> 1. Technical data such as on the pipe network and on customers is far from complete. 2. More information and publication made available to PDAMs. 3. Knowledge of staff in small PDAMs about their operations and efficiency is particularly limited. 	<ol style="list-style-type: none"> 1. More technical staff need recruiting and more careful management of those staff (quarterly reporting etc). 2. Work more closely with the media and official sources. 4. Encourage staff to follow higher education courses, including rewarding them for doing so.

No	Category / Group	Assessment	Suggested Steps for Improving Performance
X	Organisational Performance	<ol style="list-style-type: none"> 1. Larger PDAMs of Type C, D and E in general are preparing some reports including assessment of performance. 2. None are disseminating properly. 	<ol style="list-style-type: none"> 1. Smaller PDAMs need training to measure and then prepare reports on performance. 2. Assessment of performance to concentrate on customer and financial perspectives. 3. Train all to use more effectively performance information.

140. The third part of the assessment considered the future facilities proposed and the impact on personnel and training. Table 14 consolidates the assessment.

Table 14: Consolidated Recruitment and Training Needs (Indicative)

Description	2005	2006	2007	2008	2009	2010
Production Capacity	6,535	7,685	9,325	9,325	9,325	9,325
Incremental Production	36	1,150	1,640	0	0	0
Connections	344,820	376,283	451,459	531,090	578,888	609,633
Incremental Connections	2,683	31,463	75,176	79,631	47,798	30,745
Personnel/1000 Connections	124	116	106	102	100	99
Personnel	2,449	2,640	3,155	3,702	4,024	4,228
Incremental personnel	63	191	514	547	322	205
Cumulative new personnel	63	254	769	1316	1638	1842
Number for Training						
-Percent 'Refresher' Trained		50%	25%	25%	25%	25%
Refresher		1,225	660	789	925	1,006
-Induction		191	514	547	322	205
Total Persons for Training		1,416	1,174	1,336	1,247	1,211

141. This assessment is based on a conservative estimate of the productivity improvements to be achieved as indicated by the personnel to connection ratios. Estimates for training costs have been included in the FOIP cost estimate. The HR systems to be improved under the "Human Resources" category should include a sub-system to ensure the new recruits are the best available, having been recruited using transparent and professional practices in the open market. The assessment does not include those (significant percentage) of personnel who may be retired or retrenched because they are not suited to their job. Most PDAMs need to increase the number of qualified people in the technical and financial management / accounting disciplines.

142. The assessment ends by noting that specific circumstances and the dynamic nature of change management demand an annual update of the assessment, and that the performance improvement programs developed as a result of the Annual Review should include recent experience and local dynamics.

PROPOSED ACTIVITIES FOR FIRST YEAR

PRINCIPLES FOR DEVELOPING THE PLAN

143. There are an almost endless number of performance improvement actions which could be chosen. From the foregoing assessment, the following principles have therefore been developed to help choose performance improvement actions:

- It is essential for leaders and top managers to be seen to be and are fully supportive of performance improvement plans and actions;
- A systematic approach to management and its improvement is better than ad-hoc / unsystematic approaches;
- A clear vision and mission consistently enunciated by leaders and top management gives direction to employees; strategic objectives should reflect these statements and all activities designed to support achievement of the objectives
- Performance improvement plans should be prepared and agreed as much as possible with personnel because involvement improves ownership (ie, informed choice is vital);

- Understanding customer needs and expectation should drive PDAM direction, strategy and action;
- To consistently improve the outcome, improve the inputs, the processes and the systems, remembering that any change to systems requires a broad understanding of the PDAM;
- Personnel capacity is fundamental to achievement of the outcomes the PDAM desire;
- Performance improvement activities should be part of a continual improvement cycle, not just "one-off" activities; and
- Data, information and fact should be used to design improvement programs.

144. With these principles in mind, the following first set programs are suggested. To accommodate the need for local choice but also for the capturing of economies of scale and application of limited IDCB expertise, the FOPIP activities have been classed into 3 group (1) core or mandatory programs (2) programs proposed by the PDAM based on survey and other factual information and (3) optional programs which need to be justified against the above criteria.

CORE OR MANDATORY PROGRAMS

145. There is at least one activity from each of the categories. Mandatory activities are performance improvement activities the PDAM participating in WSSP must undertake, and include:

- i. Establishment and on-going maintenance by the Directors of the Internal Performance Improvement Team (IPIT);
- ii. Establishment and on-going maintenance of a program of Good Corporate Governance by the Badan Pengawas (see Attachment 3);
- iii. Appointment, training and on-going maintenance of financial management personnel and practices (see Attachment 4 for the practices to be established, if they have not already been adopted);
- iv. Implementation of a rapid revenue enhancement program;
- v. Implementation and analysis of an annual customer satisfaction survey before each Annual Review, as well as establishment and maintenance of a complaints receipt and processing function in the first year (all part of a customer management system)
- vi. Conduct of an Annual Review of the Corporate Plan and (up-dating as necessary) including of its indicators and targets;
- vii. Implementation, analysis and action on an annual employee perception survey before each Annual Review, as well as progressive establishment of an improved Human Resources Management System.
- viii. Implementing a water loss reduction program;
- ix. Conduct an energy audit and review generally supplier (electricity, chemicals, materials, services) relationships, including the procurement process, prices obtained and the quality control process;
- x. Annual collection, checking and submission of benchmarking data to PERPAMSI, and associated use of the results to improve understanding of performance and communications with stakeholders; and
- xi. Development of an Information System oriented to delivering the data needed for financial management, benchmarking performance, asset management and other performance improvement activities.

146. Table 14 shows the first set of recommended actions. A brief explanation follows for each of the mandatory programs / activities, which, taken as a whole, should establish the conditions under which more specific financial and operation performance improvement plans can emerge in later years:

Table 15: Action Plan / FOIP for the PDAM

Strategic Objective: Sustainable improvement in coverage and cost recovery.					
	Category and Program / Action	How Performed?	Responsible Party	Begin - Finish	Indicator of Success
1	Leadership / Governance				
	Good Governance Program Internal Performance Team	Thru Badan Pengawas (BP) 6 senior personnel, with S/K	BP Director	2006 /10	GCG Index
2	Financial Management				
	Project & Operations Accounts Rapid Revenue Improvement	Appointments and training Plan and actions	PIU Head Finance Director	2006/07-2006/10	Audit Reports Scorecard
3	Customer Focus				
	Customer Surveys & Mgt.	Customer Management System	Customer Relations Div	2006/10	Indicator on Scorecard
4	Strategy and Planning				
	Annual Corporate Plan Review	Based on survey results and formal review with stakeholder consultation	Directors	September every year	Revised targets available
5	Human Resources Management & Development				
	Employee Surveys & Management	Staff Management System	Director Umum Head of HR	2006/10	Indicator on Scorecard
6	Organizational Structure				
	(in water loss reduction)				
7	Systems, Processes, Procedures and Product				
	Water Loss Reduction Program	Organization, measurement, information, incentives	Tech. Director Finance Director	2006/10	Indicator on scorecard
8	Contractors, Suppliers, Third parties				
	Energy and procurement audit	Begin with audit of energy. Then chemical and pipe material procurement process	Internal Performance Improvement team	2007/2008	Operating costs on Scorecard
9	Data, Information, Knowledge				
	MIS/GIS for Performance and Asset Management	Begin with simple MIS to supply benchmarking and other performance indicator data	Tech. Director Finance Director	2006/07	Monthly availability of KPIs
10	Organizational performance				
	Benchmarking System	Joining REPRMASI System	Main Director	2006/10	All Indicators on Scorecard

147. Internal Performance Improvement Team (IPIT): Many past performance improvement plans have failed for lack of application of the opening principle – lack of “champions”, top management support, ownership and on-going development of OD capacity within the PDAM. To overcome this, an Internal Performance Improvement Team will be established within three months of the loan signing. The team will be 6 in number at least, be cross functional and staffed with senior but volunteer PDAM employees. They will have responsibility for updating the FOIP each year as part of the Strategic Plan routine updates. The FOIP will update this document. Its contents and approach will be similar.

148. The IPIT will advise and report to the Directors and be maintained for the life of the Project at least.

149. Good Corporate Governance: It is now widely agreed that many problems in the PDAM originate in poor governance level decisions, or decisions that have not involved sufficiently the

owners and stakeholder of the PDAM. The GCG program aims to correct this problem. The WSSP is founded on a commitment of the participating local governments to reform and good governance of the water and sanitation sector. If the Badan Pengawas is not constituted in accordance with national guidelines, it will be by loan signing.

150. The seven components of the GCG will cover establishment of (1) a GCG system (2) the appropriate role of the Badan Pengawas (3) similarly for the Directors (4) a program to ensure the PDAM progressively complies with PP16/2005 and other laws (5) a program to manage risks, especially corruption and fraud (6) a system for managing PEMDA rights (as owner) and (7) a system to guard the rights of stakeholders. Attachment 4 to the FOPIP details the components of the GCG System and how ongoing performance will be monitored.

151. The Badan Pengawas members will then receive training to improve their capacity to govern the PDAM. They will prepare, launch and be maintaining in cooperation with the Directors a GCG program for the PDAM by the end of the first year of the project.

152. Financial Management Capacity: It is essential that the project finances as well as ongoing revenues and expenses of the PDAM be accounted for properly and management decisions be taken on good quality financial data. All PDAMs have weaknesses in the area of financial management. Upon loan signing, the local government in cooperation with the PDAM will establish the temporary project implementation organizations, and nominate staff meeting competency levels specified by the project executing agency.

153. The areas to be addressed are practices that ensure (1) the personnel managing finances are knowledgeable (educated), skilled, experienced and have appropriate values and attitudes (2) appropriate accounting policies are in place and respected with regard to (i) segregation of duties (ii) budgeting (iii) revenue receipt and payments (iv) policy and procedure production and review (v) cash and bank procedures (vi) safeguards over PDAM and local government assets and (vii) management of decentralized offices/branches (3) external audit is effective (4) internal audit is effective (5) reporting and monitoring procedures are effective; as are (6) financial management information systems. Attachment 5 to the FOPIP details the components of these practices.

154. With assistance from consultants, key persons will receive training and be assisted in the first year of the project to improve manage systems for the finances associated with implementation of the project, as well as PDAM revenues and expenses. Particular attention will be given to upgrading the capacity of the internal audit function using professional human resource development and management approaches. Key financial management and procurement practices will be progressively documented, to form a manual of Standard Operating Procedures which will be up-to-date and specific to the PDAM's needs a year before loan closing.

155. Procurement guidelines and practices will also be reviewed (see below) to ensure that they are transparent, effective and efficient, and that the PDAM procurement managers can be held accountable. Documentation of these, along with the financial policies and practices, will help improve the governance of the PDAM, thereby promoting the agenda to allow greater autonomy of the PDAM in return for more accountability.

156. Rapid Revenue Improvement Program (RRIP): The PDAM needs to increase revenue as quickly as possible while keeping down costs. Rapid improvements in revenue will also provide the enthusiasm needed to sustain more long term changes foreseen under the FOPIP. It is therefore important to have early and demonstrable success. This mandatory improvement program (like the water loss reduction program) covers this need. Attachment 6 to the FOPIP describes actions that will be taken to immediately improve revenues of the PDAM.

157. The areas covered by the Program are (1) improving accounts receivable (2) exchanging meters to ensure sales are properly recorded (3) improving the information held with respect to customers (4) acting to reduce illegal connections and (5) making connection fees affordable, so as to maximize revenues and capture the economies of scale that are needed to make the PDAM financially viable. Improved means for customers to make payment, such as more accessible payment points (loket), payment collection agents, electronic transfers etc will also be reviewed and improved as necessary

158. The RRIP will be prepared by the Financial Director within 6 months of loan signing, and action started immediately. Targets will be reflected in the "Performance Scorecard" of the

PDAM, progress reported monthly to the PEMDA and updated each year as part of the Strategic Plan Review and preparation of the Annual Work Plan and Budget (RKAT).

159. Annual Customer Survey and Customer Responsiveness Program: The performance of the PDAM relies mainly on the PDAM understanding customer and stakeholder needs and expectations and delivering services which respond to those needs and expectations. But PDAM understanding of their customer and stakeholder perceptions is generally poor. As a critical input to the annual Strategic (Corporate) Plan Review, an annual (or on-going) survey will be completed before July each year to inform the Review. The format of the survey has already been established by PERPAMSI under their benchmarking system.

160. The Customer Services Division of the PDAM will be responsible for implementing the survey and for its analysis. Consultants will advise the Division on approach and methodology, and help with benchmarking aspects of the program. Customer complaints systems will also be established, along with other opportunistic means of gathering information on stakeholder perceptions.

161. The systems and procedures developed will be recorded in a Manual of Standard Operating Procedures specific to the needs of the PDAM, as a part of improving the management system documentation. This is needed to help the agenda of establishing a systematic / quality "management system" specific to the PDAM.

162. Annual Review and Update of Corporate Plan: The current corporate plans of the PDAMs participating in WSSP are very low quality. They have little relevance to serving stakeholder needs, are based on visions that are not credible, have no performance indicators by which achievement of their objectives can be assessed, have not allocated the resources needed for their implementation and do not have contingency plans. In summary, present plans are not effective. But a Strategic Plan is vital to improve coordination and act as a reference against which the Badan Pengawas and Directors can be held accountable. A Plan is essential for improved governance.

163. The Corporate Plan will be reviewed and upgraded (or prepared from anew if the current document is considered of no use) by September each year. This will form the basis of the Annual Work Plan and Budget (RKAT) currently required of the PDAM. The Corporate Plan will be prepared under the guidance of the Badan Pengawas and discussed with PEMDA and the Stakeholder Committee. It will contain an assessment of the external environment and the mission / vision of the PDAM. In its assessment of the external environment, social and environmental aspects will also be included. Targets will be agreed for strategic objectives as operationalized in the "Performance Scorecard" for the PDAM. Options for physical and non-physical investment under the project will be considered each year by PDAM governors (members of the Badan Pengawas) and actions chosen which will effectively and efficiently meet the objectives, for inclusion in the next year's RKAT. Standing procedures for budget approval will be complied with.

164. Good Corporate Governance will be the main means of ensuring the Plan is kept relevant to the ever changing social and institutional environment in which the PDAM operates. The Corporate Plan will be the main instrument through which Directors and personnel understand higher level objectives and coordinate their actions. As part of the Corporate Plan Review, it is expected that reviews will be undertaken of the plans of the various Divisions ("Bagian") that comprise the PDAM and a cascade of objective setting be introduced, so that performance management can in time be realized throughout the PDAM.

165. The performance indicators of the Corporate Plan/Scorecard will be disseminated to the public at least once a year within a month of the results becoming available, as a means of providing succinct performance information to the owners and other stakeholders. This dissemination may be part of a greater public information campaign.

166. Employee Attitude Improvement and Human Resources Management: The perception of PDAM employees about the degree to which the PDAM trust, develops, manages and cares for its employees may be the most dominant factor influencing the performance of the PDAM. Directors and senior managers of the PDAM need to understand employee attitudes in order to design actions, including training, which will improve the capacity and satisfaction of their employees. This practice is widespread in private sector, but state owned enterprises are just beginning to adopt the practice.

167. Like the Customer Responsiveness Program, the Employee (Attitude) Improvement Program needs to be more than just an annual survey; it needs to be approached systematically. With assistance from consultants, a Human Resources function will be established or upgraded to enable it to design, implement, analyze and follow-up with actions to improve people management within the PDAM. The full cycle from HR Information Systems and planning through to employee termination will be addressed, as well as "soft" issues, such as communications, continual improvement, development, education and training, empowerment/involvement, well being/satisfaction and teamwork will be addressed. A Complaints Processing and Grievance Resolution System will be established as part of a Performance Management System.

168. The systems and procedures developed will be recorded in an Employee Handbook specific to the needs of the PDAM, as a part of improving the governance instruments needed to advance the "autonomy but accountability" agenda.

169. Water Loss Reduction Program: No organization can afford to lose the amount of its product the PDAM does, especially when it is a PDAM struggling to provide responsive, effective and efficient services fairly to the whole community. Water losses must be reduced by a systematic approach involving both reduction of technical as well as commercial losses. Past experience of the difficulty of achieving this result will be taken into account by paying more attention to the incentives of senior managers to control losses, by improving the role of measurement in providing incentives and designing plans, and by improved management and operational practices.

170. The program will start by constructing a water balance and attempting to estimate the split between technical and commercial losses, and then develop specific actions based on that estimate. Again, a systematic approach will be taken. The organizational structure will be reviewed to focus attention on control of losses, and operating practices steadily upgraded. Operational practices to detect leaks will be instigated and a simple MIS / GIS introduced to record asset details and provide basic information on the network and its operational characteristics. Record keeping, data collection and analysis, use of computer software to monitor supply and pressure, improved customer and community relations and information systems will all be addressed. Simple methods using the knowledge and innovativeness of existing personnel will be applied as much as possible, but the longer term need to establish District Metering Areas (DMAs) will not be forgotten.

171. A simple 5-year NRW Reduction Plan will be developed by September of the first year of the Project and reviewed by that date each year thereafter as part of the Corporate Plan Review. The Plan will set targets, allocate responsibilities and contain description of review procedures. It will progressively be turned into a manual of Standard Operating Procedures (SOP) to be completed a year before the loan closing date and fully owned by NRW reduction personnel of the PDAM. Consultants will advise on key elements of the NRW system and help the PDAM link their efforts to a national NRW approach and methodology being developed by PERPAMSI. Methods of involving contractors in the program will be investigated, particularly using model incentivized schemes being developed nationally and which are based on "pay for performance". Attachment 7 to the FOPIP describes the fundamentals of a water loss reduction program.

172. The benefits of the Program include increased revenues, greater capacity of the personnel to manage the system, delayed next source development (less negative environmental and social impact) and better quality water delivered to the customers as ingress into pipes is lessened.

173. Energy audit and other supply processes: The cost of operation, or the PDAM's efficiency, is mainly dependent on the level of prices of inputs, such as electricity, chemicals, piping, and labor. The PDAM and its stakeholders should be confident that it is operating as efficiently as possible. Stakeholder commitment is especially dependent on this confidence.

174. To address frequent concerns expressed by personnel in the FOPIP survey, an audit of the efficiency of the process of procuring inputs will be undertaken. An energy audit will be the first activity, to identify possible efficiency gains and deliver immediate results. The activity overall will lead to production of a Manual of Standard Operating Procedures for Procurement, which should be completed two years after sub-loan signing.

175. Benchmarking and Performance Information Systems Improvement: One vital principle to be adopted is the approach of using data, analysis and continual improvement as the basis for

performance improvement planning. Without data from routine and special measurement, information and knowledge is difficult to create and the performance of the PDAM is likely to only improve in a hap-hazard manner, if at all, and certainly not in a sustainable way. A systematic management system recognizes this need (the ISO 9000: 2000 standard on Quality Management Systems and its Indonesian equivalent, SN 19-9000: 2001 devote a whole Section to requirements for measurement, analysis and improvement).

176. The PDAM will adopt the performance assessment system managed by the PERPAMSI Benchmarking Unit. The 10 performance indicators on the Performance Scorecard are in fact the "primary" (P) indicators in this system. The System also provides the results for the Ministry of Home Affairs indicator set under Kepmendagri 47 / 1999 as well as the international IBNET system sponsored by the World Bank.

177. Data will be provided by June of each year to the PERPAMSI Benchmarking Unit using a data entry diskette provided by PERPAMSI. The PDAM will become a member of the System by paying the small membership fee within 6 months of loan signing and establishing the two-person Benchmarking Team that PERPAMSI suggest as being essential. The performance of the PDAM in relation to peers, other PDAMs in the province and other Project participants will then be monitored, from which performance improvement actions can be incorporated in the annual Corporate Plan Review and the Annual Work Plan and Budget (RKAT).

178. But just submitting benchmarking data is not enough to improve performance. "Process benchmarking" practices will also be introduced. The Benchmarking Team within the PDAM will make comparisons with other PDAMs to identify the best performers, from which visits to these "centers of excellence" can be arranged. The Benchmarking System covers all important aspects of PDAM financial and operational performance and so provides a comprehensive system to measure the factors which are contributing to PDAM performance. Besides performance from the financial perspective, perspectives are provided from that of the customer/stakeholder, quantity, quality, cost and continuity indicators are provided, as well as personnel attitudes and capacity building efforts. The Benchmarking Program will allow the PDAM to both objectively assess performance in relation to its peers, as well as facilitate the operation of the mandatory "Project Performance Monitoring System" (PPMS) required by the Asian Development Bank (ADB) and central government for WSSP.

179. Data, Information and Knowledge creation: While benchmarking should be concentrating on using performance measurement to design improvement plans and communicate with stakeholders, those processes are underpinned by the collection of quality information on finances, operations, asset management and performance. Improving asset information in MI / GI Systems is important as the PDAM becomes more business oriented, and to allay concerns among some stakeholders that state assets are being mismanaged.

180. Performance information systems will be reviewed first and upgraded as necessary to provide the data needed for benchmarking. The Good Corporate Governance Index component number 4 (of disclosure, transparency and legal and regulatory compliance obligations) will also be serviced by this program. Further, the mandatory Project Performance Monitoring System (PPMS) required by central government and the ADB will also be serviced, as well as ensuring other statutory requirements for provision of information can be complied with.

SPECIFIC PROGRAMS BASED ON SURVEYS AND RESEARCH

181. Actions may also be chosen based on the results of the customer, organizational and employee perception surveys with specific content adapted to specific local circumstances. They are to come mainly from the FOIP list of best practices (see Questionnaire at Attachment 1 and results at Attachment 2 to the FOIP appended to each SPAR).

182. The main criteria for selection are (i) they clearly support achievement of the project objectives as indicated on the performance scorecards at (ii) have been identified as priority by a survey or other assessment tool and (iii) there is a clearly identified method for delivering the program. Activities that enable economies of scale will be given preference.

OPTIONAL PROGRAMS AND PROGRAMS FOR TRAINING

183. These are expected to be delivered by (i) PERPAMSI (ii) Cipta Karya (iii) the Project or (iv) purchased by the PDAM from an accredited training provider, based on PDAM identified needs, which will be identified using the survey instrument at Appendix 1 of the FOIP, as

adapted by the Project from time to time. All programs shall include an evaluation of the effectiveness of the training. Specific training needs will be agreed with consultants in the first year and then each year thereafter to ensure efficient preparation of training programs.

4. APPROXIMATE COST OF FOPIP

184. Table 15 shows the estimated cost over 5 years allocated for undertaking the FOPIP for a typical PDAM. The FOPIP contains matters only of concern to the PDAM. It does not cover sanitation. The cost of providing a "standard package" has been estimated and then an allocation as a percentage of this made to each RG, based on an estimate of the total available funds for IDCB activities. The percentage of the standard package is shown in the costing of the each FOPIP.

185. Costs should be shared between government and the PDAM, depending upon where the work is done. The cost of implementing the FOPIP will be paid by the PDAM, local, provincial or central government, depending on the specificity of the activity. Model documents, systems, tools and techniques prepared centrally for project-wide application should be charged to central government.

186. Technical assistance provided specifically to the PDAM, as well as materials and equipment, will be charged to the PDAM. If the PDAM or local government funds the FOPIP, it should be counted as counterpart funds.

Table 16: Summary of Costs and Inputs for the FOPIP

No.	DESCRIPTION	UNIT	Total	2006	2007	2008	2009	2010
	Approximate Citizens	Nr. '000		1,550	1,550	1,575	1,600	1,625
	Approximate PDAM Connections	Nr.		24,500	32,013	32,268	32,578	32,881
	Approximate Total Persons Served	Nr.		104,000	160,063	161,441	162,888	164,407
	Approximate Total Revenue of PDAM	Rp. M	66,789	9,349	12,949	13,844	14,806	15,841
A SOURCE OF FUNDS								
1.0	Levy on PDAM Revenues	Rp. M	452	0	102	109	116	125
	Total fees as % of PDAM revenue (approx.)	%		0.0%	0.8%	0.8%	0.8%	0.8%
2.0	Other Levies on Third Parties in Sector	Rp. M	2,073	76	237	408	585	767
3.0	Grants or equity injections	Rp. M	4,253	1,256	1,155	713	549	581
	Total Revenue	Rp. M	4,423	1,256	1,190	754	592	628
B USE OF FUNDS								
B.1	Operational Expenditure							
0.1	Wages/Salaries	Rp. M	274	45	49	54	60	66
0.2	Office Running Costs	Rp. M	36	65	69	73	77	82
0.3	Reporting Costs	Rp. M	12	2	2	2	2	2
	Minimum Cost of FOPIP Secretariat	Rp. M	663	113	120	130	140	150
1.0	Leadership / Governance Group and Communications	Rp. M	123	21	23	24	26	28
	Normal Cost of FOPIP Unit and Project Governance	Rp. M	776	134	143	154	165	179
B.2	Capital Expenditure							
2.0	Improve Financial Management and Revenue	Rp. M	149	135	8	4	2	2
3.0	Improve Customer Services and Responsiveness	Rp. M	185	99	69	6	0	11
4.0	Improve / Update Corporate (Strategic) Plan and other Planning	Rp. M	401	161	155	30	28	28
5.0	Personnel Surveys and HR Management Systems	Rp. M	293	135	94	64	0	0
6.0	Organizational Structure and Resources	Rp. M	383	120	118	49	49	49

No	DESCRIPTION	Unit	Total	2006	2007	2008	2009	2010
7.0	Water Loss Program and Other Processes, Procedures & Product	Rp M	1,744	388	421	302	311	321
8.0	Improve Purchasing and Partner Relations	Rp M	161	0	101	60	0	0
9.0	Data, Information and Knowledge Management	Rp M	87	19	19	17	17	17
10.0	Demonstrate Organizational Performance	Rp M	234	66	66	66	19	19
11.0	Miscellaneous	Rp M	11	0	3	3	3	3
Total Investment (2 to 10)			Rp M 3,648	1,122	1,050	600	427	449
TOTAL EXPENDITURE			Rp M 4,423	1,256	1,193	754	592	628
TOTAL REVENUE			Rp M 4,423	1,256	1,193	754	592	628

Notes:

1. The above represents a 37.5% portion of a standard package.
2. Includes costs of international experts
3. International expert manmonths and associated costs will not be included in "Wilayah Contracts", but consolidated into Contract(s) at a higher level.
4. Sources of funds to be confirmed

Table 17: FOPIP Costs Breakdown Summary

COSTS BREAKDOWN	UNIT	TOTAL	2006	2007	2008	2009	2010
Total Foreign Manmonths	mm	6.3	3.2	2.4	1.1	0.8	0.8
Total Local Manmonths	mm	44.3	11.6	21.6	7.3	1.9	1.9
Total Manmonths	mm	52.5	14.8	24.0	8.4	2.6	2.6
Total Costs Foreign Consultants	Rp M	1,815	701	536	248	165	165
Total Costs Local Consultants	Rp M	741	225	360	107	24	24
Total Consultant (Remuneration) Costs	Rp M	2,556	926	897	354	189	189
Total Training Costs	Rp M	790	120	156	162	171	181
Total Purchases equipment and software	Rp M	244	9	88	49	49	49
Other (travel, accomm, campaigns, fees, etc)	Rp M	58	67	91	34	17	30
Total FOPIP Capital Expenditure	Rp M	3,648	1,122	1,050	600	427	449
Consultants as % FOPIP Expenditure	%		83%	85%	59%	44%	42%
FOPIP/PIU and Leadership Group Opex	Rp M	776	134	143	154	166	179
Total FOPIP Expenditure	Rp M	4,423	1,256	1,193	754	592	628

Notes:

1. The above represents a 37.5% portion of a standard package.
2. International expert manmonths and associated costs will not be included in "Wilayah Contracts", but consolidated into Contract(s) at a higher level.

5. APPROXIMATE TIMING OF FOPIP

187. Figure 10 shows the approximate duration, sequencing and timing of FOPIP activities. It is clear that most IDCB activities will be opportunistic in nature. What is important is to begin addressing the 10 categories in a holistic manner and to use early success and experience to help design the next round of improvements. The activities proposed in the first year are sufficiently concrete in nature to enable PDAM personnel to see early result and encourage the next round of planning.

Figure 10: Outline of FOPIP Implementation Schedule

ACTIVITY	2005		2006		2007		2008		2009		2010	
	Dec	Jan	Dec	Jan	Dec	Jan	Dec	Jan	Dec	Jan	Dec	Jan
PIU / IPIT / secretariat / operational expenditure												
Wages / salaries												
Office running costs												
Reporting costs												
FOPIP												
Leadership / governance group & communications												
Improve financial management and revenue												
Improve customer service and responsiveness												
Update PDAM corporate plan												
Prepare PDAM annual work plan												
Personnel surveys and HR management systems												
Organizational structure & resources												
Water loss program and other processes												
Improve purchasing & partner relations												
Data, information and knowledge management												
Demonstrate organizational performance												
Miscellaneous tasks												

H. OUTLINE OF AN ACCREDITATION SYSTEM

188. There is a close link between the reform agenda of promoting more autonomy / accountability and accreditation for personnel and organizations working in the water supply and sanitation sector. The more autonomous the provider (the PDAM), the more likely the PDAM will recruit in the open market – and so the more accreditation is needed to ensure standards are maintained and to facilitate the movement of skills through the sector. Accreditation systems can also protect the PDAM from the practice of “titipan”, which means the assignment of unqualified personnel to the PDAM by PEMDA or through nepotistic practices of Directors and other powerful persons.

189. For these reasons the TOR requested the consultant “outline a system of accreditation of personnel and organizations (including civil works contractors and consulting firms) that will guarantee competencies and levels of performance through accreditation.”

190. Discussions have been held with PERPAMSI, and MoHA, and local branches of the contracting association, the Association of Water Supply Contractors. Discussion with professional associations such as those representing the accounting profession and water and sanitary engineers are also needed. In recent times INKINDO and BAPPENAS have worked together to establish an accreditation scheme for consultants – lessons from this exercise are that it is the individual who is best accredited, not the firm, because firms are so transitory and they also find it easier to capture the accreditation agency and exclude competition.

191. The main competencies for sector level staff have been outlined in the IEA / LIDAP. Organizational competencies for PDAMs have also been outlined (in the FOPIP categories). PERPAMSI also have established a set of competences for middle level PDAM personnel and provide a certification service for senior personnel. The service is governed by a board, consisting of members drawn from various central government agencies and the scheme is “accredited” itself by the Ministry of Labor and Transmigration. There is a separation of testers from those delivering the training courses within PERPAMSI, to ensure that conflicts of interest do not adversely affect standards.

192. There seems little reason to go beyond this framework at present for individual accreditation, but rather, the system could be formalized and upgraded. There are two main problems though: (1) one of the main challenges is to get PDAMs and especially PEMDA to respect accreditation when choosing personnel for promotion and for directorships. Work under the LIDAP to reform the local legal framework should include this in the (re)drafting agenda; and (2) there has not been any formal pronouncement by responsible central agencies – the MoHA or Public Works – as to the status of the scheme. Without this formalization, local government may be reluctant to adopt rules which they may see as restrictive, illegal or at as a perverse incentive with respect to maintaining an employment market to their liking.

193. The Ministry of Public Works has the authority under Law 18/1999 concerning Construction Services and the establishment of standards in the construction industry, including the accreditation of contractors and consultants. Contractor and consultants in the water supply sector are included. Government Regulation (PP) 28 of 2000 regulates the role of business and the community with respect to services, while PP 29 of 2000 prescribe the set-up and way construction services should operate in the Indonesia.

194. The mandated duties are fulfilled through a foundation (Lembaga Pembina Jasa Konstruksi - LPJK) or the Construction Services Foundation according to PP 30 / 2000. It has branches in most provinces and an oversight board constituted from a wide cross-section of actors in the industry. Most Indonesia trade association concerned with construction, including the Association of Water Contractors (AIKINDO) are members of the LPJK.

195. Again, there seems little reason to go beyond this framework. More voice might be given to PDAM, perhaps through greater representation in the LPJK through PERPAMSI.

196. The main challenges to creating a formal system of accreditation of individual and organizations working in the water supply sector are (i) obtaining a clear consensus on whether the scheme should be administered for the sector, by industry sub-sector or profession (ii) locating an "administrative home" for the chosen structure (iii) agreeing the degree to which the scheme will be regulated – the extremes being external and tight regulation versus self regulation; and (iv) funding mechanisms. The entry point appears to be to concentrate on upgrading the PERPAMSI individual accreditation scheme for PDAM personnel and to work through MoHA to increase the official support for the scheme.

I. REVIEW OF PRIVATE SECTOR PARTICIPATION

1. BACKGROUND

197. A review of the current involvement of the private sector in providing water supply and sanitation services was carried out in each RG as part of the 4-days of field work. The data collection consisted of:

- A number of questions in the LIDAP survey concerning perceptions on PSP;
- A questionnaire to be completed by a director of the PDAM
- A questionnaire to be completed by the local branch of AIKINDO
- Certain questions during interviews with key staff,
- Provision of copies any major contracts with the private sector; and
- Observation.

2. INSTANCES OF PSP FOUND

198. A range of PSP was found in the larger PDAM on Java, but nothing of any substance in small PDAMs in Sulawesi and in Sumatra. The most advanced RG was Serang, where the PDAM, beginning in 1992, has been involved as a "licenser" or "concessionaire" of various private sector schemes, mainly designed to provide the high industrial demand in the Kabupaten. It is involved in four schemes. All the schemes pay a royalty to the PDAM and go about their business basically without further PDAM involvement. At one location the PDAM is actually producing and selling water back to the concessionaire – who distributes it to his (mainly industrial) customers. None of the contracts are performance oriented or based – payment to the concessionaire is not related to achievement of performance targets or standards. At a small scale, there is some carting of water, although the PDAM operate a small fleet of tankers.

199. PSP in sanitation services appears not to have any formal agreements. Private operators provide de-sludging services.

200. A similar pattern was observed in Bogor and Bandung, but on a much smaller scale. The most common reason given for PSP was the inability of the PDAM to service a new housing estate, so the developer was supplying the service himself. There appears to be no doubt that the PDAM has the authority to demand it be consult with respect to proposals, and the impose

charges if it so desires. The PDAM commented that often they (the PDAM) were requested to take over the scheme(s) after the developer had completed his development, but the schemes were small and difficult to service. Bigger schemes, which presumably are no more profitable because they capture economies of scale (and scope), continue to be operated by the developer (and quite likely profitably – with tariff setting power being retained fully by the developer).

201. There had been various attempts in Kabupaten Bandung and Kota Semarang over the years to procure a private sector partner under a concession model, but negotiation had always failed. Semarang in particular have a long history of both BOT and concession proposals, but had failed to conclude a deal on any. The inability of government and the PDAM to define their own objectives with respect to PSP and the vested interest the PDAM has in maintaining its monopoly probably lead to break-down of the negotiations. A number of small scale providers are known to operate in Kabupaten Bandung with the tacit approval of PEMDA. These providers work outside of the PDAM legal framework, but because they are seen to provide a service that the PDAM has failed to do, are not discouraged by local government, somewhat to the chagrin of PDAM.

202. Surprisingly, more "low-powered" cooperation with the private sector appears quite limited. No service agreements for specialized maintenance and simple outsourced tasks such as meter reading were identified. No management contracts were identified, but a number of PDAM report having received proposals for Build Operate and Transfer (BOT) schemes, presumably because the private sector see this mode as having the lowest risk.

3. THE INSTITUTIONAL ENVIRONMENT

THE BARRIERS

203. Private sector participation is an emotive issue in the Indonesia water and sanitation sector (as evidenced by the backlash against the new law on water resources - Law 7 of 2005 - and the judicial review granted by the constitutional court). In theory it should not matter who the service provider is – public or private – so long as the service is provided as efficiently as possible. In practice, there are a number of barriers:

- The ideological barrier – the belief that the profit motive will cause private sector participants to disregard the social obligations that any public water supply provider will always have – publicly or privately owned. This attitude has perhaps been strengthened over the years in Indonesia because of the current leaders were brought up in a time of "big – government", and the bitter experience of "crony capitalism" of the late 1980s and 1990s.
- There is so little performance information available that it is difficult for stakeholders to make judgments about the effectiveness and efficiency of PDAMs. The result is that many key decision-makers have little or any idea as to the relative efficiency of their PDAM and therefore are not sensitive to arguments that the water supply service needs to be more efficient, even if this means more participation of the private sector".
- The attitude of the PDAMs themselves. They enjoy a monopoly and have little real pressure on them to improve performance – be it coverage, service or efficiency. While one might argue that it is in the interest of the PDAM directors to engage with the private sector, there are obvious risks for the PDAM that a risk – averse president Director may judge private sector participation to be "not worth the effort".
- Asymmetries of information: The latter two points highlight problems with information flows in the sector. The PDAM has most of the information needed to mount an argument for or against PSP and others do not. Combine this with their monopoly position, and the private sector will only ever be able to enter if the President Director agrees – unless he himself is directed by an owner who acts more on instinct than analysis.

204. To help assess the real position of key decision-makers on the issue, the LIDAP survey included a number of questions, both directly related to PSP, and on the aspects of the environment of interest to potential private sector partners. Table 16 shows a typical result for these questions.

205. The results highlight a number of areas that need attention if private sector participation is to be promoted. These include:

- Questions 75, 76 and 77 relate to different modes to PSP, about which there are very different perceptions:
 - Question 75 results indicate it is common for there to be little resistance to the idea that the private sector should be allowed to invest only (with the existing PDAM operating the system).

Table 18: Perceptions – Is the Institutional Environment Conducive to PSP?

Question	Category	Perceptions / Action that support PSP			Gap	Rank
		nr	Practice			
General Environment						
11	2. current PDAM performance	11	Better the tariff is increased now		1.60	74
13	2. current PDAM performance	13	Service quality ruins the public image of Bupati		1.80	74
14	2. current PDAM performance	14	Service quality ruins the public image of the DPRD		2.00	57
18	2. current PDAM performance	18	PDAM has too many personnel to be efficient		1.60	74
46	5. WSSP institutional activities	46	Better if BAPPEDA or a Regulator sets WSS policy, not PDAM		1.60	74
47	5. WSSP institutional activities	47	Regulation, like Jakarta Water Supply Regulator, will be successful		2.80	28
48	5. WSSP institutional activities	48	Tariff level must cover costs		2.60	36
61	5. WSSP institutional activities	61	PDAM Annual Budget is realistic and published		1.80	65
64	5. WSSP institutional activities	64	PDAM paid a subsidy for providing social services		1.40	86
65	5. WSSP institutional activities	65	PEMDA ready to pay a subsidy		0.20	126
73	5. WSSP institutional activities	73	PDAM ready as "PT" by 2008		4.00	8
117	8. Managing finances	117	Community objects if tariff rises > 50%		1.80	65
121	9. Physical implementation	121	Single contract will raise efficiency		2.60	36
122	9. Physical implementation	122	Sharing procurement will raise efficiency		2.00	57
123	9. Physical implementation	123	National contractors better than local		2.40	46
124	9. Physical implementation	124	Whatever, consultant supervision needed		1.40	86
128	10. Performance monitoring	128	Need performance management system from start		0.40	119
134	10. Performance monitoring	134	Stake. Committee has active monitoring role		2.20	53
			Average		1.89	65
Specific - private sector participation						
75	5. WSSP institutional activities	75	Private investors in PDAM are welcome		0.80	107
76	5. WSSP institutional activities	76	Private investors are welcome to build new systems		1.60	74
77	5. WSSP institutional activities	77	Private contractors are invited to manage existing systems		3.00	22
			Average		1.93	63
			Average Overall		1.91	64

Notes:

1. Practices are a selection from the main questionnaire, but those that have implications for use of the private sector

2. Gap is the difference between perceived importance assigned by respondents and a theoretical maximum

Rank (in resistance) is based on gap. The less the gap, the less important the practice or perception is for changing during

3. Project implementation, if PSP is to be promoted through the LIDAP.

- Question 76 indicates that more resistance is likely with the suggestion that the private sector should be allowed to develop new or "greenfield" sites.

- Question 77 results however typically indicate that there is likely to be considerable resistance to allowing the private sector to operate existing PDAM facilities.
 - The importance of the tariff and regular increases appears to be under-valued. The suggestion that tariffs were too low at present, even for PDAMs, is far from universally accepted. The presence of the private operator is hardly likely to change this perception overnight
 - Independent regulatory arrangements needed for confidence building with the private operators is not well understood or accepted; and
 - Transparency, participation and wide dissemination of performance information are not the norm, and so pose problems for the open, competitive bidding process needed to sustain PSP. The resistance to or skepticism concerning the Stakeholder Committee probably summarizes the situation – any reforms, including introduction of private sector participation, which threaten the current power holders will be treated with great caution.
206. Positive signs in the institutional environment with respect to encouraging PSP include:
- A lower resistance than expected to the suggestion that the PDAM (and any private operator?) should be paid to provide services to low income households or households that cannot afford to pay the full amount for a service; and
 - There is an acknowledged need to instigate performance management.

WHAT OF DESIGN, BUILD AND (EXTENDED) OPERATION?

207. Questions 121 to 124 probed perceptions concerning the proposed "Design Build and Operate" (DBO) approach to WSSP. The response was variable, but as the table shows, there can be significant resistance to the proposal. Further analysis of these questions may reveal a different perception between PDAM respondents and those from elsewhere in PEMDA, particularly if there is also strong resistance in the PDAM to private sector involvement in operation of existing assets.

ADMINISTRATIVE PREPAREDNESS

208. Moving beyond emotive (behavioral) barriers, there are also some very concrete barriers in terms of institutional arrangements and experience (let alone the willingness of the private sector to invest in the sector – mainly because tariffs are so low and their change is so fraught with risk, particularly political risk outside their control).

209. The consultants conducted various discussions with PEMDA officials and local contractors during the 4-day visit, using a set of questions related to assessing whether the institutional environment is conducive to PSP. Table 16 shows on the left the areas probed, and an overview of the environment on the right. It is obvious that the larger PDAMs on Java are far more advanced than those in Sulawesi or Sumatra, but even so, PSP is very much approached in an ad-hoc manner.

210. Discussions with AIKINDO in a number of locations were also revealing as to the extent that PDAM controls other possible providers. In a number of locations AIKINDO members, when asked whether they felt confident they could provide more investment and management-oriented services than at present answered "yes" when alone with the consultants, but tended to withdraw from this position if PDAM staff were present.

4. THE LEGAL / REGULATORY FRAMEWORK

211. Discussions were held with AIKINDO representatives in a number of the larger RGs. These discussions, complimented by the Consultants experience and observations, indicate there are certain circumstances which encourage the private sector to seek PSP opportunities. These circumstances involve conditions that provide positive incentives, and also circumstances that involve the minimization of risks. Table 1 summarizes these.

212. The greatest obstacle in the legal and regulatory framework is the uncertainty of payment stemming from control over tariffs by the local administration and politicians. Article 60 of PP 16 /

2005 opens the door for tariffs largely determined by formula, and gives a role to an "independent regulator, be it the central government level. These are two key issues which will need to be "operationalized".

5. THE WAY FORWARD

213. The WSSP project contains a number of features which will promote greater private sector participation; these include (i) the design build and operate (DBO) approach to wastewater supply construction (ii) the insistence that tariffs begin to reflect costs (iii) creation of a Stakeholder Committee to increase the administration's sensitivity to performance (iv) introduction of performance agreements between the PDAM and PEMDA to put at arms length the operator and regulator and (v) the general improvement of the sector structure to separate roles, highlight weaknesses and make each actor more accountable.

214. The DBO contracts are expected to demonstrate that the private sector can be trusted to perform with better quality work, more efficiency and better marketing, that performance is better than the PDAM could do alone, that when operators are paid for performance the performance will be better and generally that risks shared with the contractor help the PDAM perform better themselves. The risks involve possible corrupt and fraudulent behavior in the bid process and capture of supervisory bodies by the contractor.

215. The project's while viability rests on tariffs being set at full cost recovery levels. Once this becomes the norm, the private sector will be much encouraged to participate in the sector. Achievement of sustained cost recovery levels is a major challenge. While loan covenants may help, it is more likely that the FCR state will only be sustained once institutional development has reached a threshold level. A key to this will be a combination of pressure to instigate automatic tariff increases under P 16/2005, improved transparency and accountability from the PDAM and improved capacity of the key sector organizations.

216. Creation and operationalization of a Water Supply and Sanitation Stakeholder Committee is an important driver of this change. It should increasingly act as a break on the secretive and bureaucratic way decisions are made in the sector. It should be the driver of improved governance in the sector, and so give hope to the private sector that what is valued is performance and not other criteria, such as closeness to the administration, when the government is pondering the most efficient way to provide services.

217. The proposed introduction of performance agreement between the PDAM and PEMDA is also a crucial step for promoting PSP. Once the PDAM is being managed at arms length and according to performance, it is just a small step to managing a private sector operator under the similar arrangements.

218. Finally, the LIDAP provides a set of actions which should move the sector from its present confused state to one where the policy making, regulatory and operational roles are better defined. The LIDAP is expected to address many of the barriers that restrict private sector entry. Improving tariff setting mechanisms and creating a subsidy scheme founded on a fully costed and fully funded public service obligation subsidy mechanism removes the main obstacle. But performance agreements and a independent "umpire" (regulator) also provides the RG with hands-on experience of operating at arms-length to the provider. Similar experience will come from initiatives to increase both the PDAM's autonomy and accountability through various actions, including building capacity of Directors and the board of Supervisors and upgrading the local legal framework to orient it more to clarifying authority and accountability based on performance. Improved sector leadership and coordination based on the early drafting of a integrated water and sanitation sector strategic development plan in consultation and with the participation of key stakeholders. Improved information flows and performance management underpin all these actions.

219. The FOPIP within the PDAM is also important in promoting PSP, even if less directly. As the PDAM becomes more efficient, there will certainly be a greater realization that there are limits to what they can do alone, the employees will become more employable in the sector (even working for the private sector), and the private sector will feel less at risk in working with PDAMs. The WSSP does not aim to promote private sector participation per se, but in promoting sustainable investment, it is in fact creating the conditions under which private sector participation become much more likely.

Table 19: Legal / Regulatory Framework and Credit Enhancements¹

No	Aspect	Issues / Finding
Aspects which impede		
1.	The agreement will require higher approvals	Past practice has been that decisions stop at PEMDA level. This is manageable for contractors. Whether PP 16/2005, or the re-write of Keppres 7/1998 will alter the situation is unfolding
2.	Excessive bond / insurance / bid security	Has not been an issue. Perhaps too low in the past
3.	Possible completion during life of contract	Not an issue, except where dramatic increases in coverage or water quality are required, or reduction of water losses.
4.	IRR will be recalculated ex poste	Is currently not foreseen by national regulators, but may become an issue as the generally accepted 22% IRR is considered more fully in the light of economic stability.
5.	No government involvement	Hard to avoid in Indonesia. Many investors in Indonesia like some involvement to provide some security.
6.	Government procurement procedures applied to concessionaires	Has not been a major problem in the past, but Law 8/1999 and anti monopoly laws may make this more of an issue in the future. The DBO contract will need to address this issue. Theoretically, if the DBO is competitive, need no further competitive process.
7.	DED before start	The DBO approach addresses this common barrier.
Aspects which encourage		
8.	Contractor free to choose areas, method etc	Government has in the past been very wary of "design and build" in the sector. ON the other hand, contractors complain not enough feasibility work has been done before they must offer firm bids. Needs good consulting work.
9.	Gov. willing to assist with planning approvals, licenses etc	Not so much of a problem if PDAM involved.
10.	EIA and processing assisted by Gov.	Not a major issue with water supply, but will be more so if sanction moves in PSP direction.
11.	Credit enhancements possible	Nothing at present. Minimum would be PEMDA to pay a subsidy for services to low income households.
12.	Physical security guaranteed by Gov.	Supposedly not a problem, but government has made it clear guarantees cannot be provided.
13.	Tax holiday possible	Being considered at present.
14.	Sales tax etc exemptions	PDAMs have not been able to get them.
15.	Public liability limitations	Not an issue, but may become one.
16.	Land procurement aided by Gov	PP 36 / 2005 will help.
17.	Value capturing possible	PEMDA have traditionally worked schemes involving land swaps etc. Just needs the sector to be more profitable.

¹ At present this refers specifically to the stance of Provincial / local government, but can be applied equally to the central governments stance

Table 20: Fact – Is the Institutional Environment Conducive to PSP?

1.	Is there a local government regulation (PerDa) that specifies the conditions under which the private sector will be permitted to participate in the provision of urban and public services?	Only Bandung have prepared a PerDa. Without this, investors may feel at risk.
2.	Does the local strategic plan (Renstrada) and the local development program (Propeda) contain specific references about local government policy towards the role of the private sector in providing public and urban services?	It appears that Serang, Bogor, Bandung and Semarang believe at this level the private sector have a role, and have mentioned it. Other RGs not so advanced.
3.	Do any of the local Dinas strategic plans (Renstra Dinas) contain specific references about local government policy towards the role of the private sector in providing public and urban services?	Those that mention it do not address the real issues, which are the need for realistic tariffs and certainty that they will be adjusted according to contract terms. No real awareness of the role the PS can play in more mundane matters, such as supplier of special services.
4.	Has a special Team been formed at within the local government to promote and facilitate PSP activities and projects?	No. Bandung, Serang and Semarang appear to have contacts between the PDAM and the investment promotion board (BKPMID).
5.	Has the local government ever made a PSP project proposal to the private sector?	Bandung only.
6.	Has the private sector ever made a PSP proposal to the local government?	Semarang, Bogor, Bandung, Pemalang, Semarang certainly.
7.	Has the local government ever conducted a pre-feasibility study for a PSP project?	Serang, Bandung, Semarang, Maros
8.	Has any study or special review ever recommended that potential exists to develop a commercially viable PSP project for a public or urban service?	Yes, in Serang, Bogor, Bandung, Pemalang, Semarang, Maros
9.	Are there any public or urban services that have already been contracted to the private sector?	Septage removal with vacuum trucks appears to be the only service consistently provided. Many private real estate developments also.
10.	Has the local government or any other local forum ever conducted a workshop or presentation to promote local PSP opportunities?	Not known other than certainly Bandung, but surprising if any other than Bandung.

Appendix B:
Public Health and Hygiene Assessment

APPENDIX B: PUBLIC HEALTH AND HYGIENE

A. BACKGROUND

1 From the health perspective, improving access to safe water supply and sanitation services is a preventive intervention, the main outcome of which, is a reduction in the number of episodes of diarrhoea and accordingly a proportionate reduction in the number of deaths due to this disease. Health impacts of such improvements will vary from one region to another as they depend on the existing levels of water supply and sanitation access and the region-specific levels of morbidity and mortality due to diarrhoeal diseases. Health impacts would be greater in regions where the number of unserved is high and where the diarrhoeal disease burden is significant.

2 The level of water services required to promote health is illustrated in Table 1. This summarizes the degree to which different levels of service will meet requirements to sustain good health and interventions required to ensure health gains are maximised.

Table 1 Summary Of Requirement For Water Service Level To Promote Health

Service level	Access measure	Needs met	Level of health concern
No access (Quantity collected very low, often below 5 liters per capita per day)	More than 1 Km/ more than 30 minutes round trip (collection time)	Consumption : cannot be assured Hygiene practice – not possible/ compromised (unless practise at source) Basic consumption may be compromised	Very high Provision of basic level service
Basic access Average unlikely to exceed approximately 20 liters per capita per day	Within 1 Km/ within 30 minutes round trip (collection time)	Consumption should be assured Hygiene may be compromised, handwashing and basic food hygiene possible Laundry may occur off-plot- i.e away from home	High Hygiene education Provision of intermediate level of service
Intermediate access Average of approximately 50 liters per capita per day	Water provided on - plot through at least one tap (yard level) or within 100 mt or 5 minutes collection time	Consumption assured Hygiene should not be compromised (all basic personal & food hygiene assure Laundry likely to occur on-plot- i.e within the confines of the household	Low Hygiene promotion still yield health gains Encourage optimal access
Optimal access Average of 100 –200 liters per capita per day	Supply of water through multiple taps within the house	Consumption assured Hygiene should not be compromised (all needs should be met)	Very low Hygiene promotion still yield health gains

Source: Howard G. Bartram, J Domestic water quantity, service level and health Geneva, World Health Organization, 2003

3 The quantity of water delivered and used for households is an important aspect of domestic water supplies, which influences hygiene and therefore public health. The public health gains derived from use of increased volumes of water typically occur in two major increments. The first relates to overcoming a lack of basic access, where the distances and time involved in water collection result in use of volumes inadequate to support basic personal hygiene and may be marginally adequate for human consumption. Further significant health gains occur largely when water is available at household level. Other benefits derived from the second step in improving access include increased spare time for example, child-care and food preparation and productive activity. Health gains derived from increased access between these two major steps appear limited, although other gains in relation to increased spare time (including education) may be significant and progressive. Further incremental improvements may also occur at higher levels of service, associated with further increased access and drinking-water quality control, but also linked to improved socio-economic status

4 Where the basic access service level has not been achieved, hygiene cannot be assured and consumption requirements may be at risk. Therefore providing a basic level of access is the highest priority for the water and health sectors. Within the population served by basic levels of service, public health gains are primarily achieved through providing protected water sources, promoting good water handling hygiene practices and household treatment of water and in other key hygiene behaviours (notably hand and face washing) at critical times.

5 Traditionally, "water supply" and "sanitation" appear together as an inseparable concept in

public statements; sometimes "hygiene" is also included. Incorporation of sanitation and hygiene into water supply provision shall not be questioned, as it brings better reduction of water related disease, especially diarrhea diseases. Simply having access to sanitation increases health, well-being and economic productivity. Sanitation and hygiene usually disappear, however, when it comes to policy-making, planning, budgeting and implementation.

6 In fact, even when appropriate water and sanitation options are available, it is still the factor of human behavior that poses perhaps the biggest challenge to the problems of finding effective mechanisms to interrupt or reduce disease transmission. The problem is so formidable that, in Indonesia, many programs and projects have tended to focus on technical infrastructure (clean water or improved sanitation) or medical treatment solutions (Oral Rehydration Therapy), rather than attempting to tackle the "human behavior" challenge. Yet, behavioral change is seen as the principal mechanism for achieving hygiene improvement and further reduction in disease transmission.

7 Considering the above illustrations, there are three – inseparable key factors involved in this scope: provision of water supply and sanitation facilities and hygiene practices (behavior). The assessment intends to find the answers of the present service level of Regional Government both for water supply and sanitation; adverse health effect that occurring due to level of services, currently hygiene practice done in relation to the water, sanitation and health, programs on behavioral change. In addition, efforts and capabilities of the Regional Government will be explored to see if they are able to implement the proposed project.

B. CURRENT STATE OF PUBLIC HEALTH

B.1. ACCESS TO SAFE WATER SUPPLY AND SANITATION

8 Water supply and sanitation projects are one way to reduce the occurrence of such diseases. Indonesia has made progress in water access over the past few decades. The statistics shows however that there is evidence of a slow-down in the pace of progress in the years following the financial crisis in 1997/1998.

9 The SUSENAS 2003 data shows that percentage of households without drinking water facility is 10.56% for urban and 13.89% for rural area and the ownership of the facility for the six selected provinces is as below. We can see that private ownership is higher at urban and no facility is higher at rural area. Among the provinces, household with no facility, for Jawa region is certainly better off than outside Jawa except Banten (Table 2).

Table 2 Percentage of household by province and facility of drinking water, 2003

PROVINCES	URBAN				RURAL			
	Private	Shared	Public	No Facility	Private	Shared	Public	No Facility
North Sumatera	78.52	12.54	4.20	4.73	53.64	11.08	21.09	14.19
Bangka Belitung	55.61	31.07	8.60	4.72	39.52	36.14	9.53	14.81
West Jawa	70.06	17.10	6.77	6.08	48.66	24.85	20.67	5.83
Central Jawa	63.96	23.07	5.85	7.11	47.64	28.34	16.94	7.08
Banten	67.23	18.86	5.07	8.84	48.90	22.53	16.39	12.18
South Sulawesi	58.96	25.12	6.24	9.68	34.58	34.58	19.49	11.35
INDONESIA	64.92	18.72	5.80	10.56	45.72	23.93	16.46	13.89

Source: Susenas 2003

10 Further, source of drinking water provided by Susenas data shows that lower percentage of unprotected sources (around 20% of household unavoidably get the unprotected sources; from unprotected well - 12.09%, unprotected spring - 4.93%, and river - 3.10%). Taken from the data for selected provinces is presented in Table 3. Piped water is relatively higher in urban but well and spring is higher in rural areas.

11 One of the task of health center officers is doing routine sanitation inspection to houses and its environment. This objective of this activity is to examine if the condition of house, water supply and private latrine availability, and household sewerage have a little or no risk to public health. From the report could be read the percentage of availability of water supply facility, private latrine and sewerage

in project districts are 63.40%, 57.63%, and 35.70% respectively. (Table 4).

Table 3 Percentage of household by province and source of drinking water, 2003
PROVINCES

	Bottled water	Piped	Pump	protected well	Unprotected well	Protected spring	Unprotected spring	River	Rain water	Others
URBAN										
North Sumatera	0.59	48.74	8.44	32.79	5.51	1.53	0.72	0.35	0.40	0.93
Bangka Belitung	1.68	11.86	10.15	51.01	22.91	1.46	0.10	0.07	0	0.77
West Jawa	3.03	18.21	36.86	30.73	6.35	2.84	1.31	0.19	0.10	0.38
Central Jawa	2.07	26.53	13.17	45.24	8.23	3.39	0.82	0.32	0.12	0.13
Banten	6.50	22.56	42.63	21.99	3.75	0.96	0.41	0.26	0.05	0.89
South Sulawesi	0.65	58.59	11.57	20.08	5.56	1.30	0.47	1.39	0.07	0.32
INDONESIA	4.02	32.04	21.58	30.67	5.96	2.26	0.75	0.61	1.46	0.36
RURAL										
North Sumatera	0.21	6.54	10.14	33.88	19.67	13.88	6.49	5.20	2.59	1.40
Bangka Belitung	0.14	0	5.89	44.62	37.50	1.44	5.10	4.20	0	1.26
West Jawa	0.36	5.25	18.74	35.25	13.45	15.09	10.49	0.84	0.29	0.23
Central Jawa	0.16	6.05	8.00	47.21	13.32	15.53	7.37	1.13	1.11	0.12
Banten	0.39	2.76	14.74	43.49	13.09	7.01	13.43	2.49	2.37	0.25
South Sulawesi	0.09	6.69	9.28	33.61	23.69	13.42	9.07	2.96	1.05	0.13
INDONESIA	0.29	6.41	9.30	39.04	16.43	11.86	7.89	4.86	3.50	0.41

Source: Susenas 2003

12 Perhaps more important to the objectives of this project is the persistence in levels of inequality in access, between urban and rural areas, and between the better off and the poor. The project indirectly differentiates urban and rural (but not all) whereas project areas are mostly located in city as the project is dealing with PDAM. Although there is some variation, the project target districts are generally less well served than national averages (75.55%), except District of Sidrap and Pangkajene Kepulauan Municipality. Detailed percentage of people using piped water in project districts is described elsewhere in this report.

Table 4 Percentage of Household Owned Water Supply, Private Latrine and Sewerage - 2003

No.	Project Districts	Water Supply	Private Latrine	Sewerage
1	Serang	53.59	35.56	25.78
2	Bogor	43.78	68.41	62.54
3	Bandung	62.40	58.18	35.95
4	Banjar	57.51	41.04	45.35
5	Pemalang	65.54	54.01	6.89
6	Semarang	-	-	-
7	Jeneponto	70.64	48.90	-
8	Baru	60.72	54.95	29.33
9	Palopo	63.29	76.37	27.38
10	Sidrap	90.87	72.43	57.29
11	Maros	56.88	47.68	19.60
12	Tapanuli Utara	42.96	43.25	5.87
13	Tapanuli Tengah	-	-	-
14	Pangkajene Kepulauan	88.29	90.79	76.68
	Proyek	63.40	57.63	35.70
	INDONESIA	75.55	-	-

13 Regarding sanitation, human excreta and to some extent sewerage systems, are a priority concern in the project. These are responsible for the transmission of diarrhoea, schistosomiasis, cholera, typhoid, and other infectious diseases affecting thousands of millions and cause considerable suffering and loss. It could have been prevented just simply by good sanitation, especially human

excreta management. In addition to this toll of sickness and disease, the lack of good excreta management is a major environmental threat to the water resources, and a fundamental stumbling block in the advancement of human dignity.

14 Susenas 2003 data shows the household had sanitation facilities that more 20% household members go to river/stream/creek or bush/ field for defecating. This "habit" is twice as prevalent in rural than in urban area (see Table 5).

Table 5 Percent Distribution Of Household Had Sanitation Facilities, 2003

Sanitation Facilities	Residence		Total
	Urban	Rural	
1. Private with septic tank	64.6	26.6	45.6
2. Private with no septic tank	8.9	10.2	9.55
3. shared/ public	9.3	6.2	7.75
4. River/stream/creek	11.3	26.6	18.95
5. Pit	2.9	16.5	9.7
6. Bush/ forest/ yard/ fields/ no facility	0.5	7.1	3.8
7. Other	2.2	6.6	4.4
8. Missing	0.3	0.2	0.25
TOTAL	100	100	100

Source: Susenas 2003

15 Regardless of the type of sanitation facilities, data is available from monitoring activity program done by DHA shows that in 2003 percentage of people using private latrine is only 57.63% (see Table 4). This situation is worsened by the fact that only 35.70% houses have waste water disposal facility. Such an environment is very receptive to waterborne disease transmission and parasite infestation.

16 The increased rate of latrine construction in many areas continues to lag behind that needed compared to water supply facilities construction. At the overall project districts, access of safe water supply and good sanitation shall, ideally, be increased from the current level to at least 90% and 75% respectively in 2015. This is an impossible task considering the proposed advances needed compared to the capability of the RGs. Beside, there is no investment for outside city areas while the access is lower than inside city. But they also reveal that a number of low-income communities have made tremendous gains in expanding services, even in the face of rapid population growth and economic stagnation. The lesson that can be drawn is that rapid progress is indeed possible, and that the goals, while ambitious, are within our grasp. Getting on track to meet the target in both drinking water and sanitation will mean better health, longer lives and greater dignity for many poorest people.

17 On this basis there is considerable scope for the project to make a major contribution to access to safe water and sanitation within the target districts and move them substantially along the road to achievement of the relevant MDGs. The Project will cover 12 districts in which the water supply and sanitation access is relatively low, respectively around 63.4% and 57.6%. While the project will not affect all areas within the districts (limited to city area and piped water supply), it will less sufficient by itself to achieve the MDG objective. However decision was made, the challenge is how to make it much useful to the beneficiaries, especially for the poor. Within the city area, as limited open land available, peoples are forced to build their own latrine. Beside, ground water is the only source available (with the certain risk of pollution) that opens one mind to shift to pipe water. Thus, with limited coverage but will have significant contribution.

B.2. WATER RELATED DISEASES PREVENTION AND SITUATION

18 Water related disease is well known term for classifying a group of diseases that are closely related to water use and consumption. Close relations with water could be interpreted that constituent exists in the water may cause diseases either as hazardous chemical or parasite, bacteria or viruses. One purpose of grouping the diseases is to facilitate their prevention and control. Accordingly, we

may classify the diseases by the mode of transmission into four categories.¹ Further, health problem could also be raised due to water resource development [hydropower, irrigation, fishery cultivation, or flood control]. This induces adverse effects to the environment and in turn creates health problems.

19 There are at least 25 diseases having close relationship with water and sanitation,² but not all of them exist in Indonesia and are considered as problem. Further, not all of them could directly be reduced through provision safe water and better sanitation and hygiene behavioral change program as other factors also play role in its transmission. Recently, some respiratory infections are included in the list referring the fact that handwashing with water and soap could prevent acute respiratory infection – the most killer disease in the world. In Indonesia, with inclusion of respiratory disease, we have five type of diseases which correlated with lack of water supply and poor sanitation and hygiene practice, those are: (1) diarrhea (amoeba, giardia), cholera, typhoid, dysentery, and hepatitis infection and, (2) worm infestation - ascariasis, dracunculiasis, cacing tambang, cacing pita, *threadworm* and *whipworm*; (3) skin and eye infection and group of disease caused by small animal like mite and tick, (4) schistosomiasis in certain geographical location; (5) *acute respiratory tract infections*- ISPA), and (6), such as malaria and dengue haemorrhagic fever (DHF) – indirectly correlated with water supply, sanitation and hygiene.

20 Risks factor and high risk people shall also be understood when someone talk about disease. We may describe and construct the disease pathways and chain of transmission, but determination of which chain and the fraction of its contribution is very difficult work as those all are very close related and influence each other³ - refer to Attachment 1. One factor is prompt than other depend on the local condition, and combination of those through time have successfully reduce water-related diseases. Some water-related diseases could be prevented just using immunology and genetic, and some extent nutrition and behavior. The most significant achievement is made by environmental factors changes and services and the newest is social factor intervention.

21 High risk group is those who have common similarities – tend to easily committed to or suffering from certain disease than other. For Waterborne or water related disease however, high risk group is not easily identified; it depends on the disease in questioned. Many people do not aware that mild diarrhea experience by adult will be killer for infant or it is true that more than 75% elementary student in Indonesia infected with worm while it is not happen for adult and infant. Information on high risk group (including their background characteristics) is essential for developing strategy for controlling the disease.

22 One important feature is age – as it determines which people is in the category make them at the most weak or at higher risk. Diarrhea and respiratory infection are the most burden for under five and young people. Therefore, big effort has been invented to reduce diarrhea among children through safe water and sanitation facility provision and hygiene promotion. Efforts on diarrhea reduction has been elapsing for years and therefore lessons much more available for the diarrhea programs than respiratory disease control.

23 Three decades have been spent for implementing the diarrhea control programs and seem there is no much changes in the intervention options and the old options is still used at present: **(a) medical option:** this option is merely based on preference and place the more value on case management. The first effort tends to focus on health of mother and child such as forcing beneficial use of breast milk, oral re-hydration and treatment at home, and access to oralit use. Even great effort has been initiated; diarrhea disease is kept persistently in the top-ten of disease treated in health center in Indonesia. It is doubted that people who stay at the distance of more than 5 km from health center will come to this facility for diarrhea treatment. Numbers of people with such situation are many and they don't get access to modern treatment service. Informal estimation made (by MoH) that the number diarrhea case is ten times of case treated and recorded in health center. When health facility develops case management, it might be enjoyed only by 5 – 10% of the sick. **(b) engineering inputs:** in Indonesia, construction of water supply system and sanitation done alternatively between Ministry of Health and Dept. Of Public Work/ Kimpraswil. There was a period where technical option was dominated by Public Work/ Kimpraswil. This program emphasized

¹ Those four categories are: (a) waterborne disease, (b) waterwash mechanis, (c) water-based mechanism, and (d) water related insect vector.

² WHO Facts Sheet, 2005

³ There is one model that called as **BEINGS**, abbreviated from **B**iological factors and **B**ehavioral factors; **E**nvironmental factors; **I**mmunological factors; **N**utritional factors; **G**enetic factors; **S**ervices, **S**ocial factors, and **S**piritual factors.

technical aspects for providing domestic water and sanitation; and the result was not as expected – costly but ineffective. Since then, public health initiative return back to Ministry of Health supported technically by Dept Public Work. (c) **Integrated Efforts:** study is still going on to search the better prevention method abstracting from engineering and health perspective and enriching with inputs and refines from aspects of government politic, management, social, and behavior psychology. Further found that health education packages have solved behavior change problems.

24 Estimates of incidence and mortality rates from waterborne or water-related diseases are not commonly calculated because of difficulties in getting the relevant information. For purposes of this project, the most relevant measures would be incidence and mortality conditions related to diarrheal diseases among the general population or, more pertinently among infants and children under age five. But even here, data tend to be weak. In fact, the most common estimates relate to prevalence rates that measure whether or not the child experienced the disease during a specific period of time.

25 Periodically, National Demographic and Health Surveys (DHS) have reported prevalence rates for diarrhea among children under age 5 during.

Table 6 Percentage of children under five years with diarrhea, by province, Indonesia, 2003

Provinces		Diarrhea	Number of children
Sumatera	North Sumatera	12.3	1,325
	West Sumatera	14.3	445
	Riau	6.1	413
	Jambi	8.1	189
	South Sumatera	3.3	368
	Bengkulu	8.2	86
	Lampung	9.2	509
	Bangka Belitung	9.4	66
Jawa	DKI Jakarta	7.8	497
	West Jawa	15.1	2969
	Central Jawa	7.9	1731
	DI Yogyakarta	5.2	142
	East Jawa	9.8	2022
	Banten	12.5	713
Bali and	Bali	11.9	191
Nusa Tenggara	West Nusa Tenggara	13.5	307
	East Nusa Tenggara	12.9	359
Kalimantan	West Kalimantan	8.3	291
	Central Kalimantan	2.4	171
	South Kalimantan	9.9	241
	East Kalimantan	11.1	249
Sulawesi	North Sulawesi	9.5	147
	Central Sulawesi	6.4	204
	South Sulawesi	15.5	620
	Southeast Sulawesi	9.0	170
	Gorontalo	12.2	84
TOTAL		11.0	14,510

26 Diarrhea has been singled out for investigation for two reasons. In many countries, dehydration from watery diarrhea is a major cause of death in infancy and childhood, and the condition is amenable to treatment by oral rehydration therapy. This combination of a high cause-specific mortality rate and the existence of effective treatment makes diarrhea and its treatment a priority concern for health services.

27 Table 8 show that 11% of children under five had diarrhea in two week preceding the survey. The prevalence of diarrhea is highest among children age 6 – 11 months. Diarrhea prevalence does not vary by the child's sex and residence. However, mother's education is associated with prevalence of diarrhea among their children. Children whose mothers have secondary or higher education are least likely to have diarrhea. While the difference is small, children whose source of drinking water is surface water are slightly more likely to have diarrhea than other children. Diarrhea prevalence is highest in South Sulawesi (16 percent) and West Jawa (15%).

Table 7 Percentage Under Five Child Had Diarrhea at 2 weeks Before the Survey

Characteristic	Diarrhea in 2 weeks Before survey	Number of Children
Background		
Ages		
< 6	8.7	1,570
6 – 11	19.4	1,373
12 – 23	14.8	2,819
24 – 35	12.0	3,026
36 – 47	7.9	3,008
48 – 59	6.4	2,714
Sex		
Male	10.8	7,483
Female	11.2	7,026
Area		
Urban	11.2	6,830
Rural	10.8	7,680
Mother's Education		
No schooling	11.9	666
Unfinished Primary School	15.5	2,102
Passed Primary School	11.3	4,865
Unfinished Junior High School	11.0	2,947
Passed Junior High School +	8.1	3,929
Water Source		
Piped water	11.8	2,525
Protected well	10.3	5,807
Unprotected well	11.0	2,600
Surface water	13.8	2,210
Others/missing	8.0	1,368
TOTAL	11.0	14,510

Source: Demographic and Health Survey, 2003

28 The Ministry of Health (MOH) does conduct some surveys in cooperation from the National Statistics Board (BPS),⁴ the "national" estimate of diarrhea disease incidence among children under age 5 was 1.036 episodes per year in 1990, but a year earlier (1989) it was only 0.784. Again, if we compare the diarrhea survey in 2000 and 2003, incidence among children under age 5 was 1.278 episodes per year and 1.084 episodes per year respectively; while for all ages is 301 per 1000 population and 374 per 1000 population respectively. We may see the degree of instability in the data. However, despite of the data problems, it is possible to conclude that diarrheal disease incidence in Indonesia is already fairly low for children under age 5 since the national (as well as most of the reported province rates) are generally around 1 or a bit more episodes per year and have remained around that level. To put this in perspective, a figure often cited in the international literature was 3.5, which was considered to be high and was often used as a justification for water supply and sanitation interventions. These conditions no longer exist in Indonesia.

B.3 WSS DISEASES IN PROJECT DISTRICTS

29 Data on diarrhea and gastroenteritis in project districts is presented in Table 8. Among the project districts, Palopo (40.53 cases per 1000 population) is the highest and Pematang is the lowest (11.77 cases per 1000 population). Despite the large variation among project districts, the number is significantly lower than national figure. However, special care should be taken reading the data as the poor recording and reporting procedures and the diversity of information flow cast doubt on the accuracy of the data.

⁴ These are known as the household health surveys (Survei Kesehatan Rumah Tangga or SKRT). Several rounds have been carried out (1989, 1990, 1993, 1995, 1996 and 2000) with each survey covering 8-10 provinces at a time (but not necessarily the same provinces between different rounds). This means that the 'national' estimates produced in each of these surveys is influenced by the choice of province included in the estimate as conditions vary amongst the provinces. Thus one should probably not try to think of the results of 'national averages' as some kind of trend.

Table 8 Communicable Cases (water borne disease) by District Project, Year 2003

NO	District	DHF	Diarrhea	Cholera	Dysenteri	Typhoid	Hepatitis
1	Serang	0.15	28.07	0.10	3.18	0.89	0.03
2	Bogor	0.11	26.48	-	-	-	-
3	Bandung	0.22	32.17	-	0.19	0.29	-
4	Banjar	0.20	14.33	-	-	-	-
5	Pemalang	0.005	11.77	-	2.61	2.89	0.12
6	Semarang	0.82	18.36	-	-	-	-
7	Jeneponto	0.20	10.73	-	1.87	1.45	-
8	Baru	0.63	13.33	-	-	-	19.47
9	Palopo	0.19	40.53	-	-	-	0.70
10	Sidrap	0.79	13.62	-	-	-	0.01
11	Maros	2.46	24.03	0.01	4.11	1.07	0.19
12	Tapanuli Utara	-	25.03	-	-	-	-
13	Tapanuli Tengah	-	-	-	-	-	-
14	Pangka Pinang	0.73	-	-	-	-	-
	Project District		18.46				
	INDONESIA		91.40				

30 Even with lower rate of the WSS related diseases, diarrhea is always within the top ten diseases recording in the Health Centers. Below (Table 9) are some reports from project districts. These indicate the position of diarrhea diseases among the others. The data could not all collected, however, it seems fairly consistent for all project districts where diarrhea kept stayed at the higher rank of top ten diseases and mostly happen at younger age group.

Table 9 Percentage of Visit with types of Diseases by Project Districts

No.	District	ARI	Common Cold	Skin diseases	Diarrhea/GE	Gastritis	Conjunctivitis	Anaemia	Gangguan gigi	Hypertensi	Myalgia
1	Serang	25.71	15.87	10.36	6.47	4.68	3.59	1.77	1.72	1.71	1.61
2	Bogor	14.67	6.61	6.82	4.33	3.38	2.09	0.28	1.20	3.32	*
3	Bandung										
4	Banjar	9.33	10.39	2.98	3.93	9.32	*	*	*	6.01	*
5	Pemalang	43.15	3.58	6.03	4.65	3.85	2.23	1.58	*	2.69	*
6	Semarang										
7	Jeneponto										
8	Baru										
9	Palopo										
10	Sidrap										
11	Maros										
12	Tapanuli Utara										
13	Tapanuli Tengah										
14	Pangka Pinang										
	Project District										
	INDONESIA										

* pada urutan di bawah 10 besar

B.4 RELATED BEHAVIOR TO WATER RELATED DISEASE PREVENTION

32 In fact, even when appropriate water and sanitation options are available, it is still the factor of human behavior that poses perhaps the biggest challenge to the problems of finding effective mechanisms to interrupt or reduce disease transmission. The problem is so formidable that, in Indonesia, many programs and projects have tended to focus on technical infrastructure (such as clean water or improved sanitation) or medical treatment solutions (such as Oral Rehydration Therapy for diarrhea), rather than attempting to tackle the "human behavior" challenge. Nevertheless, all too

often "behavioral change" strategies are included in program prospectuses, but are found to be delayed and diluted during implementation.

33 More recently, commercial advertising techniques and various participatory methodologies have been developed to attack the chronic problems of implementation of behavioral change related to sanitation and hygiene. But even these new techniques have largely come from outside the medical establishment and have yet to be widely adopted by rural public health services, which continue to either skirt the issue of hygiene behavioral change or tend to impose inappropriate and often resented sanctions that do little to win popular support for improved hygiene behaviors or practices.

34 Technicians running water supply sector activities also remain largely disconnected from maternal-neonatal health programs run by the health service, and even those involved in diarrheal disease control mechanisms and in relevant treatment programs, tend to be less involved with aspects of behavioral change. They are certainly disassociated from water supply engineers except at the highest coordinating levels within MOH.

35 Although it is hard to document statistically, the story from past observation and experience is thus one of a population that has some elements of safe hygiene understanding and behavior, but where much remains to be done. And, perhaps, more important, it is a story of a medical and technical establishment that is generally not well attuned to innovating or facilitating significant behavioral change. Yet, behavioral change is seen as the principal mechanism for achieving hygiene improvement and further reduction in disease transmission. Addressing this problem in ways that are appropriate, acceptable and that lead to sustainable changes in human behavior thus constitutes one of the major challenges for the Project.

36 Many diseases are readily transmitted through contaminated food or from hand to mouth. Hand washing minimizes the transmission of both enteric (fecal) and respiratory pathogens. Susenas 2003 data shows the percentage of women wash their hands before preparing meals is 96%. There are almost no differences in hand washing practice among ages, area, and source of drinking water.

37 The proper disposal of children's feces is extremely important in preventing the spread of disease. If feces are left uncontained, disease may spread by direct contact or through animal contact. Demographic Health Survey Report shows that only 21% of children under five always use toilet/ latrine, while 31% of mother usually throw the stool into toilet/ latrine. Children in urban areas are more likely than rural children to have their stools contained. Overall, the percentage of urban children who always use a toilet or latrine or whose stools are thrown into a toilet/ latrine or are buried is 72%, while for rural children it is only 41%. Mother education is related to use of a toilet/ latrine; as mother's education increase, so does the percentage of children who use a toilet/ latrine or whose stools are thrown into a toilet/ latrine.

B.5. WATER RELATED DISEASES AS PROJECT INDICATOR

38 It is recommended that the project not place an over-emphasis on trying to make formal measurements of trends in waterborne diseases such as diarrhea or associated mortality (although some effort needs to be placed on monitoring health conditions in project locations, even without attempts at detailed measurement, along – and perhaps more importantly – with studies of impact of improved water and sanitation access and improved hygiene behavior on disease incidence⁵). Rather, the focus should be more on general aspects regarding improved "quality of life" due to the infrastructure and hygiene behavior interventions and on the impact of these interventions on key aspects of individual and community health, rather than on amounts of overall absolute change.

39 The relatively low levels of diarrheal disease incidence observed in what limited data are available, supports the view that, in fact, many Indonesians do practice some level of sound hygiene behaviors. For example, the great majority of Indonesians today attempt to boil water or consume what they consider to be clean and "safe" water whenever possible. More recently, hand washing at appropriate times to interrupt disease transmission has been advocated and, in theory, the point is well known amongst the population. However, in practice, there are still many instances where

⁵ A methodology has been developed and applied in WSSLIC I. This does not measure overall incidence, but rather "relative" incidence among case and control groups defined in terms of their experience of diarrhea and can be used to assess the "relative" effectiveness of different interventions.

behavior could be improved.

40 Right to water and sanitation – as the new perspective – shall be used as a basis for provision safe drinking water and sanitation. As illustrate above, considering the level of diarrhea incidence and the difficulties interpreting the disease statistics, right to water and sanitation is best used for project indicator. Under heading of water supply, overview of the right to water and sanitation is presented.

B.6 PUBLIC HEALTH IMPACT OF LACK OF WATER SUPPLY AND POOR SANITATION

41 In many parts of the world *"Lack of Water Supply and Poor Sanitation"* still is a major contributor to the community burden of enteric disease. Its impact on human health can take numerous shapes of various severity and clinical significance, ranging from asymptomatic infections to gastroenteritis and diarrhoea to severe illness and ultimately death. At present, there is no widely accepted metric for defining and measuring health risks. The use of an epidemiological approach to directly measure the health risk is a powerful tool; however, where the overall burden of enteric disease is low, the possible effects of interventions are less easily measured.

42 In recent years, considerably international effort has been put into the development of summary measure of population health. The summary measure of population health can be classified into two classes: health expectancies and health gaps. DALY is a health gap measure that combine both time lost due to premature mortality and non-fatal conditions. DALY for a disease or health condition are calculated as the sum of the years of life lost due to premature mortality (YLL) in the population and the equivalent 'healthy' years lost due to disability (YLD) for incident cases of the health condition.

43 The DALY is based on the premise that the best approach for measuring the burden of disease is to use units of time. Having chosen units of time as the unit of measure, the burden of disease can still be calculated using incidence or prevalence measures. Time lost due to premature mortality is a function of the death rate and duration of life lost due to a death at each age. Because death rates are incidence rate, there is no obvious alternative for mortality using an incidence perspective. By contrast for non-fatal health outcomes both incidence and prevalence measures have been routinely used.

44 Based on this concept, health loss attributable to lack of water supply and poor sanitation can be assessed by:

1. Estimating the number of people affected (N) (based on surveys and registries, or estimated using occurrence and growth of pathogens, concentrations and exposure models, dose-response models, etc);
2. Estimating the average duration of the adverse health response, including loss of life expectancy as a consequence of premature mortality (D);
3. Attributing weights for severity to the unfavorable health conditions (S), and
4. Calculating the health loss in DALYs, using the equation: $DALY = N \times D \times S$.

45 When assessing the burden of disease in DALYs it is often useful to distinguish between the calculation of the mortality and of the morbidity fractions of the burden of disease, respectively the Years of Life Lost (YLL) and the Years Lived with Disability (YLD). YLL is the number of years of life lost due to mortality and YLD is the number of years lived with a disability, weighed with a factor between 0 and 1 for the severity of the disability or disease. YLL is calculated as the product of the number of deaths with the standard life expectancy at the age of death. YLD is calculated as the accumulated product over all diseases related to an agent, of the number of persons affected by a non-lethal disease with the duration of this disease and with a measure for its severity. Obviously the two fractions are calculated in the same way, since remaining life expectancy can be regarded as, 'duration' of mortality, while the severity of death is equal to 1 and therefore omitted in the calculation of YLL.

46 Using result National Burden Diseases (NBD) ⁶ of indonesia shows that DALYs for diarrhea is 1,278,270 for all ages and 473,700 for under five. Case Fatality Rate of Diarrheal disease is two deaths every 1000 cases (2%). Severity weights and duration and burden of disease per health

⁶ Health Research

outcome case following diarrhea disease (Table 10) was taken from the (NBD). The disability weight for watery diarrhoea is 0.09 - 0.12 and duration is usually reported as 0.02 years (7 days). The number of life-years lost by a fatal case of diarrhea, using the NBD 2004 reference and exercise done for under five category, the mean loss of life years associated with 1 fatal case of diarrhea was 34.2 years

Table 10 Severity weights, duration and burden of disease following diarrhea disease for under five category

YLL	YLD
Age at death (a), 0 - 4	3 Disability weight (Dw), years, 0 - 4 0.09 - 0.12
Expectation of Life (L), 0 - 4 62.97	Age of onset of disease (a), years, 0 - 4 2.50
Case fatality rate 0.2%	Average duration of disability (L), years, 0 - 4 0.02
Outcome	Disease burden (DALY) per 1000 cases of diarrhea
Watery diarrhoea	= $1000 \times 0.12 \times 0.02$ = 2.4 years
Mortality	= $1000 \times 2 / 1000$ (mortality) $\times 34.2$ = 68.4 years
Total	= 70.8 years

48 Over recent decades, compelling evidence has been gathered that significant and beneficial health impacts are associated with improving water and sanitation facilities. In terms of burden of disease, beneficial health impacts gained from: (a) reduction in number per year, (b) reduction in number of deaths avoided per year, and (c) reduction in DALYs (DALY is one of the two summary measure of health impact). DALY for a disease is calculated as the sum of the years of life lost due to premature mortality (YLL) and the equivalent 'healthy' years lost due to disability (YLD) for incident cases of a disease.

49 Disease case as normally happen do not reflect the real situation. For example diarrhea case recorded in health facility is around 10% those need medical treatment, mostly severe cases. Misclassification happens very often in health center or because of economic problem they go to HC rather than to hospital. With number of cases of each project district, Dalys of each is presented in Table 11.

Table 11 Estimate Burden of Diseases (DALYS) for project Locations

NO	District	Cases of Diarrhea visited Health Services	Cases of Diarrhea in Community	DALYs
1	Serang	48,712	487,120	34,488
2	Bogor	104,886	1,048,860	74,259
3	Bandung	130,721	1,307,210	92,550
4	Banjar	2,231	22,310	1,580
5	Pemalang	15,124	151,240	10,708
6	Semarang	25,299	252,990	17,912
7	Jeneponto	3,877	38,770	2,745
8	Barru	2,124	21,240	1,504
9	Palopo	4,896	48,960	3,466
10	Sidrap	1,466	14,660	1,038
11	Maros	6,892	68,920	4,880
12	Tapanuli Utara	7,531	75,310	5,332
13	Tapanuli Tengah			
14	Pangka Pinang			
	Project District	346,236	3,462,360	245,135
	INDONESIA			1,278,270

C. DISTRICT HEALTH PROGRAM AND ACTIVITIES

C.1 OVERVIEW

50 District health programs have a certain pattern and format. They begin with vision, mission, objectives, targets, strategy, and program and ended with activities. There are some program and activities, which could be used as a basis for the project. Among them is Human

Resources Development with the objectives of enhancing capacity of targeted communities and health personnel's; community empowerment with objective of healthy and cleanliness behavior promotion and community participation in health programs (disease control, health finance, environmental sanitation creation, etc). While, the related activities are:

- Prevention and control of diarrhea disease
- Environmental sanitation services (sanitary inspection for house and its environment, public places, industries, institutions);
- Water quality monitoring
- Sanitation and Health behavioral change
- Technical and functional training for health personnel's, and
- Improvement of health infrastructure and media including water and sanitation constructions
- Health city; and
- Sanitation clinic;
- Health promotion (including advocacy, CIE, and community empowerment)

51 Activities mentioned in the point above in practice are very close related and create mutual relationship with ultimate objective of people having capacity to sustained his/ her own health and live in healthy environment. Capacity to sustained his/ her own health will be reached through health promotion, Sanitation and Health behavioral change, and sanitation clinic. The remaining activities are likely to reach the healthy environment. Those activities are routinely carried out by DHA and Health Center with varying degree of intensity according to local issues and problems, availability of health manpower (in number and skills), and budget.

52 Each program and activity has own approach, method, and procedure. In general, demand responsive approach is a common in each. Community empowerment is the key used by DHA reaching the ultimate objectives. Construction of water and sanitation shall come from community demand and as far as possible they willing to reach it through their own effort and resources. Raising the demand is the main process in which all resources expensed. In relation to the project, however, all activities mentioned might not fully match. Prevention and control of diarrhea disease, for example, as it uses more medical option

C.2. DRINKING WATER QUALITY

53 Regulations and Standards for water quality and monitoring has been established through MoH Decree of Number 416/1990 and 907/2002 to ensure that the consumer enjoys safe potable water, not to shut down deficient water supplies. It outlines the responsibility and authority of a number of agencies and describes the relationship between them. The regulations no. 416/90 applicable to three water supplies used: Clean water, swimming pool, and public bath. While, the regulation no. 907/2002 specifically applied for drinking water. Hence, monitoring and drinking water quality shall follow the regulation 2002.

54 Legislation has establish the legal functions and responsibilities of the water supplier. The supplier is responsible for continuous and effective quality assurance and quality control of water supplies, including inspection, supervision, preventive maintenance, routine testing of water quality and remedial action as required. The scope of responsibility goes up to a defined point in the distribution system and may not have responsibility for deterioration of water quality as a result of poor plumbing or unsatisfactory storage tanks in households and buildings. Where consecutive agencies manage water – a drinking-water wholesaler, or a municipal water supplier or a local water distribution company – each agency should carry responsibility for the quality of the water arising from its actions.

56 Legal and organizational arrangements aimed at ensuring compliance with the legislation, standards or codes of practice for drinking-water quality goes to Municipal/ District Health Agency (M/DHA) with defined duties, obligations and powers. However, seems that necessary power given to administer and enforce regulations, standards and codes is not strong enough. The structural connection between surveillance agency at the national level and regional and local levels has not been established yet. Its responsibilities include the surveillance of water quality to ensure that water delivered to the consumer, through either piped or non-piped distribution systems, meets drinking-water supply service standards; approving sources of drinking-water; and surveying the provision of drinking-water to the population as a whole. Unfortunately, a high level of knowledge, training and

understanding of the agency does not meet requirement for regulatory action.

57 The regulation covers a large number of potential constituents in drinking water in order to meet the varied needs of the country. However, only a few constituents will be of concern under any given circumstances. Consequently, local water authorities determine and respond to the constituents of relevance. This will ensure that efforts and investments can be directed to those constituents that are of public health significance. Different parameters may require different priorities for management to improve and protect public health.

58 Priority setting should be undertaken on the basis of a systematic assessment based on collaborative effort among all relevant agencies and be applied at national and system-specific levels. It involved the formation of a broad-based interagency committee including authorities such as health, water resources, drinking-water supply, environment, agriculture and geological services/mining to establish a mechanism for sharing information and reaching consensus on drinking-water quality issues.

59 The most common and widespread health risk associated with drinking water is microbial contamination, the consequences of which mean that its control must always be of paramount importance. Priority needs to be given to improving and developing the drinking-water supplies that represent the greatest public health risk. Nevertheless, the majority population without access to improved drinking-water supplies resides in rural areas. Similarly, small and community supplies in most countries contribute disproportionately to overall drinking-water quality concerns.

60 Not all of the chemicals will be present in all water supplies or, indeed, all districts. If they do exist, they may not be found at levels of concern. Only a few chemicals have been shown to cause widespread health effects in humans as a consequence of exposure through drinking water when they are present in excessive quantities. These include fluoride and arsenic, lead (from domestic plumbing), and selenium and uranium (in some areas), iron and manganese (widespread significance because of their effects on acceptability). These constituents should be taken into consideration as part of any priority-setting process. Drinking water may be only a minor contributor to the overall intake of a particular chemical, and in some circumstances controlling the levels in drinking water, at potentially considerable expense, may have little impact on overall exposure. Drinking-water risk management strategies should therefore be considered in conjunction with other potential sources of human exposure.

61 Drinking Water Quality Surveillance activities for piping distribution **externally** done by District Health Agency (DHA) and carried out through:

- Sanitary inspection; it inspects all water treatment process in every point and installation starting from water intake, treatment processing, distribution pipe, and house connection.
- Water sampling; it regulates number of water sampling, frequency of sampling taken, and sampling points.
- Water quality analyzing in laboratory and in the field; it could use DHA Laboratory or other appointed ones. For routine monitoring, it does not necessarily examine all parameter except there is indication of water pollution. It includes 2 microbial parameters, 4 physical parameters, and 19 chemical parameters.
- Assessment and evaluation,
- Recommendation for further improvement

62 Beside, regulation 2002 also decides responsibility of drinking water management with regard to **internal water laboratory examination**. It is said that water sample shall be taken from water source, water reservoir (at outlet) and distribution pipe (at farthest point). Parameter examined includes 2 microbial parameters (E.coli and Total coli) every one month, 9 physical parameters (pH, DHA, alkalinitas, dissolve oxygen, kesadahan, CO2 agresive, temperature) every week, and chemical parameters (residual chlorine, Ferro, Mangaan) every month if any indication to. For residual chlorine shall be examined every day.

63 To strengthen water quality surveillance, there is an agreement between PERPAMSI and Ministry of Health (in 2000) regarding 'monitoring of water quality' in which water produced by PDAM shall be examined by PDAM and the rest is the responsibility of District Health Agency (Dinas Kesehatan). Laboratory that might be used is PDAM Laboratory, laboratorium kualitas air - dinas Kesehatan (if it is operating), Balai Laboratorium Kesehatan – Propinsi, and Balai Teknik Kesehatan

Lingkungan-regional.

64 Before year of 2000, there was a technical assistance from Japan (JICA) for developing water quality laboratory and all districts have laboratory equipment type A (for limited chemical parameter) and type C (for bacteriology examination). After the economical crisis (1998/99) and come into decentralization era, the operational budget allocation for water quality laboratory (dinas kesehatan) was stopped, some equipment was broken/ out of order. Other health laboratory is Balai Laboratorium Kesehatan located in province (the access becoming less) while BTKL only exist in 10 provinces. And the consequence is that there is no latest picture of water quality in Indonesia.

65 Legislation established has not operated as expected. Water quality surveillance in Project District usually is far away from background illustrated above. The basic program on water quality surveillance in this municipal could not be sustained because of some classical reasons: limited equipment and personnel, and fund availability. Of 12 project districts, only 6 districts reported the water quality monitoring activity; but the report format and content was so varies. The variations are: (i) pemeriksaan laboratorium menurut jenis sarana, (ii). pemeriksaan laboratorium menurut kecamatan, (iii) perkiraan risiko pencemaran melalui inspeksi sanitasi. Below the water quality monitoring report

66 Laboratorium tested that reported by source of water and kecamatan by was carried out by Kabupaten Serang as presented in Tabel 1 and Tabel 2 below. Water quality of PDAM relatively better compare to other sources (especially shallow well – the most number of source used). With the extention of PDAM supply, then water quality for public consumption will improve.

Table 12 Water Quality Monitoring Result of Serang District by Source, 2003

No.	Indicator	Number of sample examined	Number of sample meet the standard	Percentage
Bacteriological - drinking water standard				
1	PDAM	117	112	95.73
2	Bottled drinking water	25	18	72.00
Bacteriological – clean water std				
1	Shallow well	88	44	50.00
2	Well with electric pump	184	150	81.52
3	Spring water protected	4	3	75.00
4	Rainwater	7	6	85.71
5	Piped water	3	3	100.00
		428		

67 Table 13 indicates water quality level consumed by community in project location. Eventhough with limited coverage (only 0.24%), the water quality is relatively good.

Table 13 Water Quality Monitoring Result District of Serang by Kecamatan, 2003

NO	KECAMATAN	Population	Number of Facility	Number of Sample	Percentage of sample	Percentage fulfill Physical Std	Percentage fulfill Chemical Std	Percentage fulfill Bacterio-logical Std
1	Serang Kota	177,043	24,149	58	0.24	65.52	86.67	81.03
2	Taktakan	60,524	7,353	10	0.14	80.00	66.67	90.00
3	Cipocok Jaya	50,486	5,432	14	0.26	71.43	80.00	71.43
4	Ciruas	59,081	512	16	3.13	68.75	70.00	75.00
5	Curug	40,990	5,263	8	0.15	62.50	80.00	87.50
6	Kasemen	76,571	4,473	10	0.22	40.00	80.00	80.00
Project		464,695	47,182	116	0.25	64.70	77.22	80.83
SERANG		1,735,560	169,487	403	0.24	72.46	73.68	79.65

68 Kabupaten Bogor reported sanitation inspection of community water facilities, the result is presented in Table 14. The coverage of this activity is only 19.4% for project areas; facilities with very high and high risk is around 15% and the rest is at the risk of medium or low. However, special care should be addressed to Kecamatan Klapanunggal as the higher percentage of very high and high risk.

Tabel 14 Percentage Level of Risk for Polluted Facilities in Water Supply in Kabupaten Bogor Tahun 2003

No.	KECAMATAN	Total facilities	Facilities inspected	%	Safety level	High	Medium	Low
1	GUNUNG PUTRI	16,254	1,933	11.89	6.98	8.48	25.45	56.65
2	CILEUNGS	17,627	3,543	20.10	0.56	3.19	12.16	21.48
3	KLAPANUNGGAL	7,817	472	6.04	27.97	27.54	19.07	27.75
4	CIBINONG	22,346	2,048	9.16	6.15	7.47	17.04	24.12
5	CITEUREUP	20,319	1,329	6.54	6.09	10.38	54.48	27.84
6	SUKARAJA	17,521	950	5.42	5.47	12.74	28.21	49.47
7	BOJONG GEDE	29,939	816	2.73	4.66	4.29	30.39	47.18
8	BABAKAN MADANG	8,869	5,600	63.14	0.61	4.45	16.38	77.93
9	CIOMAS	10,423	5,854	56.16	2.65	5.02	18.02	70.93
10	CIAMPEA	11,553	1,506	13.04	0.13	4.45	25.17	60.96
	PROJECT SITES	162,668	24,051	19.4	6.1	8.8	24.6	46.4
	JML.KAB./KOTA	390,666	46,964	12.02	5.13	9.17	22.69	48.38

Source: Health Profile District of Bogor, 2003

69 Kabupaten Bandung reported the laboratorium tested results by kecamatan. But the number of samples is very small compare with number of kecamatan and population. It is surprising that the bacteriological tested for piped drinking water is worse than non piped supply – both for the project areas and kabupaten as a whole.

Table 15 Hasil Pemeriksaan Kualitas air di Kabupaten Bandung, 2003

No	Kecamatan	Bacteriological				Chemical			
		Clean water		Piped drinking water		Clean water		Piped drinking water	
		sampel diperiksa	sample MMS	% MMS	sampel diperiksa	sample MMS	% MMS	sampel diperiksa	sample MMS
1	Soreang	40	35	87.5	3			3	3
2	Dayeuhkولد				3	3	100.0	3	3
3	Margahayu								
4	Katapang								
5	Marga Asih								
6	Arjasari	82	65	79.3		2			
7	Pameungpeuk								
8	Banjaran Kota								
9	Cimaung	2				2			
10	Bale Endah				6	6	100.0	6	6
11	Bojongsoang								
	Project	124	100	80.6	12	9	75.0	68	12
	Bandung	220	150	61.2	54	25	46.3	220	60

70 Kabupaten Pemalang reported result of water quality monitoring limited for proposed project location: Kecamatan Taman and Kecamatan Pemalang. Sanitation inspection was reported for all villages but laboratorium tested was only for some. Beside, laboratorium tested only done for Shallow well and Hand Pumped Well. Results of the activity of each kecamatan presented in Table 7. Sanitation inspection did not specify the type of water supply facilities. Of the shallow well, in general only half of the samples tested passed the standard. However, for hand-pumped well the result was generally higher than 75%. Meanwhile, of sanitation inspection, 25% community owns high risk facilities and might endanger their health.

Table 16 Water Quality Monitoring Results of Pemalang Districts, 2003

No.	Kecamatan	Desa	Facility	Sample	MMS	%	Safety level	High	Medium	Low
1	Taman	Pedurangan	SGL	20	8	40.00	0	15	33	57
		Taman	SGL	20	11	55.00	11	44	28	10
		Kedungbanjar	SPT	4	3	75.00	0	72	87	105
			SGL	16	2	12.50				
		Jebed Selatan	SGL	20	9	45.00	3	13	63	22
		Wanarejan	SGL	9	5	55.56	20	60	81	110
			SPT	11	8	72.73				
		Gondang	SGL	20	13	65.00	0	13	50	35
2	Pemalang	Wanamulya	SPT	5	4	80.00	0	6	27	67
			SGL	15	6	40.00				
		Sungapan	SGL	20	15	75.00	0	8	12	80
		Lawangrejo	SPT	20	15	75.00	0	4	31	65
		Mengori	SGL	12	6	50.00	20	10	28	51
			SPT	8	6	75.00				
		Mulyoharjo	SGL	20	11	55.00	0	0	28	62
		Pelutan	SGL	20	9	45.00	0	0	1	92

SGL: shallow well accessed by bucket; SPT: shallow well with hand pump.

71 Kabupaten Maros might be the best in water quality monitoring operation (in term of number of sample taken). All samples taken was tested for physical parameter, but only small part for chemical tested and only half for bacteriological testing – it's probably constrained by fund problem (chemical testing is the most costly among them). The bacteriological result was not good and it indicates that water quality still bear a risk for community health.

Table 17 Water Quality Monitoring Result of Kabupaten Maros, 2003

No	Type of Source	number of facility	Fisik		Kimia		Bakteriologi	
			Sampel tested	% passed standard	sample tested	% passed standard	sampel tested	% passed standard
1	Shallow well	879	698	84.5	16	93.8	568	57.7
2	Hand pumped well	25	17	100	4	100.0	12	66.7
3	Protected spring	117	89	88.8	23	87.0	72	66.7
4	Rain water	323	107	87.9	6	100.0	32	75.0
5	Piped supply	94	84	95.2	23	87.0	70	92.9
6	Public hidran	76	65	100.0	6	100.0	24	50.0
7	Water terminal	4	4	100.0	4	100.0	4	100.0
8	Public tap	20	20	100.0	6	100.0	0	0
9	House connection						0	0
		1538	1084	87.5	88	92.0	782	62.5

Source: Dinas Kesehatan Kabupaten Maros

72 Kabupaten Banjar reported the result of sanitation inspection activity. The coverage is not extensive (only 14.4%); while the result show that the percentage of facilities which is at very high and high is relatively high, it implies that half of water facilities in city of Banjar is relatively not safe for public consumption.

Tabel 18 Number and Probability of Contamination By Kecamatan – City of Banjar, 2003

No	Kecamatan	Number SAB	SAB Inspected	%	TINGKAT RISIKO							
					Very high	%	High	%	Interme- diate	%	Low	%
1.	Purwaharja	96	96	100.0	15	15.6	40	41.7	28	29.2	13	13.5
2.	Langensari	8,048	8,048	100.0	1,924	23.9	1,815	22.6	1,381	17.2	2,928	36.4
3.	Palaruman	48,764	628	1.3	50	8.0	98	15.6	266	42.4	214	34.1
4.	Banjar	43,151	5,594	13.0	178	3.2	361	6.5	1,690	30.2	3,365	60.2
		100,059	14,366	14.4	2,167	15.1	2,314	16.1	3,365	23.4	6,520	45.4

73 Microbiological parameter was focused on: Total coli and E coli; meanwhile parameter of ferro, mangaan, residual chlorine and pH for chemical parameters, and turbidity and TDS for physical parameter. With all varieties and unreported results, we might say that illustration from the reported monitoring, is a normal situation faced by all districts in Indonesia.

74 Sanitary inspection as mentioned has been carried out by the DHA as supplement or indirect water quality monitoring activity. This activity is carried out through observation on physical condition of water facilities, its facility environment, and community behavior. Observation determined four levels of pollution (and probably correlated to health risk): low, medium, high, and very high. The accuracy of course is lower than laboratory examination, however experience proved that it is more practical and low operation cost, cover larger area and the result is immediately known. This activity is also specially carried out in investigating disease outbreak and persistently exceed water quality parameters. This method has been used since 1997 and run efficiently by all health center sanitarian (see the detail in sanitary inspection manual).

75 Basically, inspection sanitation consists of checklist (for each type of water facility) and then scoring the answer. Q1, Q2, Q3, and Q4 respectively represent the risk of low, medium, high, and very high. After doing the inspection, the sanitarian discusses the defects of the water facility with the owner or person in charge and provides some recommendation for correction. Before inspection is carried out, sanitarians have to identify all water facilities and give it identification number and put in the water facility list (the list contains identification number, name of owner or person in charge and address). Based on this list, they field to do the inspection while take note/ identify if any new water facility installed. They report the sanitary inspection activity every month informing number of user, date of inspection, physical appearance, risk of pollution sources, and level of pollution risk. It is done at regular basis and so far work well. We may know the possibility causes for failure to comply from the report. As the report is so detail we cannot bring it in the description.

76 After water examination from house connection (piped water from PDAM), DHA usually sends a letter to PDAM describing the findings and expecting any correction action taken. For non piped water system (usually owned by private), recommendation is given directly after sanitari inspection – hopefully that next cycle will be improved.

77 The main constraints encountered for water surveillance is low capacity of the DHA, they think that all currently activities are enough. They are not able to calculate the risk of lack water quality to public health and confirm the decision maker the importance of water quality surveillance. In fact, it is not easy to prove the correlation between poor water quality and disease occurrence without focused study. National Government is expected to involved in this matter.

C.3 WASTE WATER QUALITY

78 Approximately 75% of existing access to sanitation in urban areas is through on site sanitation since government policy makes household responsible for the treatment and disposal of waste water. Around 50% of wastewater from toilets is passed to septic tanks for treatment. A further 25% is dealt with direct by leaching systems. Septic tanks provide only very limited removal of pollutants – around 33% - yet surveys in the late 1990s indicated that around 50% of effluent from septic tanks was discharging direct to surface drains. A further problem is that around 80% of bathroom, kitchen and laundry wastes are passed direct to surface drains without any form of treatment. Regulations generally require that septic tanks be provided with leaching system; however, this regulation is not enforced. Septic tank effluent, along with untreated wastewater from kitchens and bathrooms, therefore flows into drainage systems creating costly and severe environmental pollution of urban areas.

79 To the present time waste water quality monitoring is not an area which is a concern to the Regional Government. Bapedalda is the Regional Government Body responsible for controlling of adverse environmental impact. However, there monitoring programs area limited and operate on the basis of "self-monitoring" with regard to industry. Industries are required to treat their waste to discharge standard. They are further required to test their waste on a monthly basis and send their result to the RG. In practice, this results in considerable environmental pollution from industrial sources.

80 Concerning domestic waste, neither Bapedalda nor Dinas Kesehatan has a waste water quality monitoring program. Dinas Kesehatan does, however, have a program for inspection and checking of sanitation facilities. This monitoring is based simply on inspection of the sanitation facilities, checking the local environment for evident damage and observing local community behavior. Low income areas are generally targeted in these activities. Special programs are mounted in areas of disease outbreak. This qualitative approach is less than optimal but appears relatively effective, given the limits on available resources. After completion of inspections a report is provided to the owner of the water and sanitation facilities, outlining any problems and suggested remedial actions. If the owner is a PDAM customer, a copy of the report is provided to PDAM.

81 Although domestic waste water quality is not specifically monitored it is of interest to note, with reference illustrated given from some water quality reports, water quality in shallow well is relatively badly polluted compared with that from deeper wells and other sources.

D. PUBLIC AWARENESS AND EDUCATION PROGRAMS

D.1 CURRENT PROGRAMS

82 Public awareness and education program is internally attached to almost every health program. It is understood well as every effort to get better health must involve people. Aware about this situation, it was established under Ministry of Health a center called as Center for Health Promotion. Main function and responsibility of this center is developing national guidelines on health promotion, assisting divisions within the ministry on developing specific health promotion program, and doing national health promotion.

83 With high acceleration in global era and demographic and epidemiological transition, behavior and life style related diseases tends to be complex. The solution cannot be relied merely on improvement of health services and better environment but the most important does on behavior and health practices factors as well. The latter contributes around 35% to health status. Because of the significant contribution, then programs on unhealthy behavior and life style change were established – called as "clean and healthy life practices".

84 This program launched in 1996, since then various activities have been carried out, among them are training at various level and trainee targets, produce distribute technical guidelines, IEC materials, and program management guidelines. The results are all provinces staff have been trained and including more than 75% districts and health centers, and achievement (in 2001) is more than 35%. Problems of program implementation are mostly low partnership and inter sector supports, high turn over of trained staffs that lower program achievement, limited budget, structure organization change, and achievement indicators.

85 Clean and healthy life practices are form of reflection of awareness, willingness and affordability to clean and healthy life. There are five main indicators to see how many people practicing the life style, those are MCH care, nutrition, environmental sanitation, life style, health insurance. Meanwhile clean and healthy life program is an effort to give learning experience or create a condition to individual, family, group of people and community at large through open communication network and delivering information, education and messages in order for them to have better knowledge, attitude and practice about the life style. The general approach used for this program is advocacy, social support or communication, and community empowerment. Process in which the program implemented will be that people (at various level or institution) know and solve the problems by themselves.

86 The program implements through 4 step activities namely (1) assessment phase, (2) planning phase, (3) movement and empowerment, and (4) monitoring and evaluation. Each step has its own activities, procedure, methods, requirements, etc. Basically, assessment phase will identify and analyze the behavior and practice problems with regard to those 5 indicators using guided methods. Planning phase will formulate appropriate intervention to solve the identified problems. Example, from assessment, it is found that there are a lot of people defecate along river bank. Through deep analysis reveal that the main cause is they do not have private latrine at home. Activity with social support aspects will likely be a choice. Movement or empowerment phase will implement planned activities set in the previous phase. There are three main approaches / strategies as mentioned above: advocacy,

sosical support, and community empowerment. The last is money phase.

87 There are other organizations at lower level within MoH do public awareness and education program, such as nutrition, HIV/Aids, school health, immunization, etc. One organization lies under directorate of safe drinking water and sanitation – called as "water and sanitation behavior". This division is established considering the importance of appropriate behavior toward water and sanitation uses. Water and sanitation facilities should not be constructed until the candidate user undergoes process in which they are informed about problems that might be solved through water and sanitation facilities, they are interest to have the facility and will build it through participation and will use and maintained it properly in the future. In fact, the process has been successfully make the facilities sustained as their behavior about safe water and sanitation improved.

88 One approach used for running the process is PHAST method, where women and children, the poor being given information to improve their hygiene behavior (Annex 3). It seem successfully brings higher awareness and better understanding about the relationship between water, sanitation and diseases transmission. Beside, community involvement and togetherness among them increase significantly.

89 When center for health promotion covers all health perspective and therefore message delivered usually on strategic matters with general target audience. In contrary, specific program (sanitation, diarrhea reduction, nutrition, immunization, etc) focuses on their own program. For example: water borne disease prevention – Attachment 1. The paper shortly describes areas to be considered in a program, starting from the causes, high-risk group and target, intervention options, and local condition. The program manager/ planner is skillful enough to plan and implement the program from the beginning down to intervention options. They are usually weak, however, when it comes into the local condition. Confusion sometime has occurred at intervention option as it involves three crucial factors: cost quantification, benefits effectiveness, and feasibility. Some good interventions, clearly, have proved too costly, while other interventions seem quite ineffective or are of uncertain effectiveness.

90 Human behavior might poses the biggest challenge to the problems of finding effective mechanisms to interrupt or reduce transmission. The problem is so formidable that in Indonesia many program and policy people in both the government and private sectors have tended to channel their energies towards technical infrastructure or medical treatment "solutions", rather than attempting to tackle this "human behavior" challenge. Indeed, the science of health promotion is yet in its infancy, and the problem is acute when it comes to altering the behavior of the rural population with respect to personal and domestic hygiene. All too often "behavioral change" strategies are included in program prospectuses, but the best minds and energies are rarely devoted to tackling this issue. All too often the problem is passed on to "the next" phase, or "the next" project.

91 One of the great challenges to changing hygiene-related behavior is to efficiently target main problems, and to not waste institutional program strength by trying to accomplish too much and ending up with too little. We see from assessments of the HSE package in WSSLIC-I project. Here, there were several shortcomings noted:

- The program was very general and failed to specify a limited number of targeted diseases. All waterborne and water-related diseases were "equal".
- The health promotion program was not adapted to local condition sufficiently, to make the program compelling locally. Reduction in the occurrence of a set of diseases, common to an area or village, should be attempted, since in a village, a "package" of complaints that captures the attention of villagers is more relevant than attempting to deal with one simple complaint. To do this would require a more sophisticated approach than is usually seen to date
- Similar to the problem that health promotion has missed the focus on appropriate diseases, so these programs have sometimes failed to specify a more limited of high risk hygiene behaviors that could make the most dramatic changes in health.
- WSSLIC-I found that, in retrospect, too much attention had focused on achieving understanding and knowledge, to the neglect of achieving appropriate behavior or practices. This finding flies in the face of advice that people require a deep level of theory and context before they are willing to change. Usually that is interpreted to mean training with lots of theory and not much time spent on practicalities WSSLIC-I found that the mechanisms for formal transfer of knowledge were established, but after that, it was a kind of "take it or leave

it" attitude on the parts of those responsible for behavioral change.

- Programs initiated by the Department of Health and various NGOs have over and over again engaged in training and extension that have focused on reviewing basic concepts in hygiene and sanitation, and while the knowledge of participants is not perfect, it has been generally good enough. Little effort has been given to training and extension on the psychology of bringing practical mechanisms into play, to achieve appropriate behavior or practices. This problem is now beginning to be recognized more widely and efforts are being made to make up the shortfall.
- Considerable advances have been made in the design of WSS projects and donor agencies now have teams of professionals who monitor project progress looking at a complex matrix of indicators. But sometimes projects become so complex in their execution that women as mothers tend to get lost in the scheme of things, as they are still the main target group who initiate domestic hygiene behavioral change on a daily basis, and they remain one of the main controllers of the health of infants and young children

92 A number of international studies have shown over and over again, that mother's education makes a big difference in the risk of their children contracting diarrhea and other diseases, and that mothers of different educational attainments "think differently" about how children suffering from a disease are to be treated. Children whose mothers who are uneducated or have not completed primary school are at highest risk of morbidity and mortality. Mother's education does not in itself "prevent" waterborne disease transmission, but mother's education plays an important role in the overall process. Studies have shown that higher educated mothers have better or safer behavior and tend to have healthier children. Less educated mothers can also benefit from training in hygiene behavioral change, but special efforts are necessary to reach the same level of effectiveness as is observed among better educated mothers.

93 The issue is further complicated by the fact that higher educated mothers tend to be economically better off and often have better access to clean water and sanitation facilities. Poorly educated mothers tend to lack the same level of improved infrastructure. So it is not simply a matter that poorly educated mothers are "stupid" as has been often asserted, but given their life situation, they cannot hope to achieve the same level of safe behavior.

94 This socio-economic issue sometimes clouds the fact that poorly educated women really do less well on the issue of safe behavior, whether or not they have improved infrastructure or not. Better educated mothers make better use of less than optimal conditions and their behavior is critical to keeping their infants and young children safe from diarrheal transmission.

95 Numerous projects have attempted to recruit mothers of young children and provide them with a hygiene education behavioral change package. Results have been mixed and those seeking short-term benefits have sometimes gone away disappointed. These mothers are clearly a key factor in the success of reducing diarrheal incidence among young children, but on their own, "mother" programs are incomplete and the benefits uncertain.

96 Projects have attempted to address the aforementioned problems by expanding the pool of support to initiate behavioral change. This is an integrated approach that incorporates major stakeholders, including:

- local government
- the health care infrastructure
- the whole community, including local leaders
- primary school children mobilized through child-to-child activities
- schools and their teachers
- men's groups, women's groups, and
- individual mothers of at-risk children

97 Extraordinary efforts in promoting behavioral change have evolved in Indonesia within the context of WSSLIC-1, WSSLIC-2, and now with WSSP. There are still critics unwilling to make necessary expenditures for hygiene education and programs designed to promote behavioral change, as they remain unconvinced of program effectiveness. With decentralization, and the requirement that local governments must cover their own costs, hard decisions must be made at district levels about expenditures. This is an international problem and Indonesia is not alone. But there is far too much evidence to indicate that taking the limited path with improvements to infrastructure while ignoring

human behavior is going to result in many, many problems, and will minimize or even negate project benefits. The costs of making this mistake would be much too high.

D.2 PROPOSED PROJECT ACTIVITIES

D.2.1 PARTICIPATORY PLANNING AT DISTRICT AND COMMUNITY LEVEL

98 Traditionally, urban communities in Indonesia have not experienced control over development resources or infrastructure management. It is proposed that the WSSP Project utilizes a community, demand-driven, participatory approach in its planning and implementation. The participatory planning process will be designed to provide opportunities to specific urban communities to fully participate in the project, giving communities a voice in decision-making using gender and poverty sensitivity approaches to help ensure community involvement in planning and decision-making to obtain services that they want and are willing to pay for (co-finance).

99 Steps taken for this design will be initiated with Project Orientation and Launching Workshops. The purpose of the project launching is to expose and publicize the project, its goals and objectives, concept, components, expected outcomes and outputs, with all relevant communities and the public at large. It will be carried out starting from the district level goes down to sub urban. The persons invited and materials disseminated are relevant to the purpose of each level orientation and workshop. Socialization materials will be designed to ensure that all relevant communities are well informed.

100 Project Management Unit (PMU), assisted by specialist consultants, will be responsible for the development and dissemination of promotional materials to the respective districts. The district PMU will be responsible for distribution of the promotional materials to the pre-identified sub-districts and urban communities. The promotion materials will be in the form of posters, brochures, and banners. Three sets of materials will be developed, including:

Set 1: Description of project goals, objectives and procedures;

Set 2: Description of eligibility and selection criteria; and

Set 3: Awareness materials to encourage active participation of all stakeholders.

101 Urban communities, which have been socialized and are interested in participating, should submit a letter of intent (LOI) to the district PMU, stating their desire to participate in the project and meeting all community requirements. The district, then in close collaboration with respective sub-district authorities will review all submitted LOIs. Based on selection criteria, technical assessment, and field validation of indicators, the proposed urban communities are ranked based on pre-determined criteria. Next, the district PMU will announce the selected urban communities in a scheduled public meeting, open to all sub-districts and urban communities submitting LOIs. The districts together with the sub districts will announce the final confirmation of participation to qualifying urban communities.

102 To facilitate the activities required of the community during project planning and implementation, the community will form an Urban Community Implementation Team (UCIT). The community will choose UCIT members democratically. The UCIT is responsible for planning, implementing and maintaining WSS facilities and community health and sanitation programs. It will act as the legal representative of the community as a whole, and have financial and management responsibility for all project activities.

103 One of the UCIT's tasks will be to facilitate the Participatory Health and Sanitation Transformation process (PHAST). This process will end with the formation of Community Action Plan (CAP). It summarizes community decisions for desired sanitation and hygiene behavioral changes, detailed engineering design for improved water service facilities, the associated budget, and local and external resources needed and a suitable schedule for sub-project implementation. It is the responsibility of the UCIT to submit their UCOP to the District PMU

104 Upon final approval of the CAP by the PMU, a contract will be made between the PMU and the UCIT, witnessed by the urban community head. This contract will be necessary for the initial and following transfers of funds to the UCIT from the PMU. Funds will be transferred in three separate steps; phase 1, 40% of approved budgeted funds; phase 2, 30% of funds; and finally

the phase 3, the final 30% of funds. The funds will be used to finance procurement of goods and services directly related to project activities, and therefore all contracts will be directly controlled by the UCIT. Once the funds are in place, prior to project implementation, the community should make their contributions in cash or materials

105 Immediately before initiation of project implementation, and each month thereafter until project implementation is completed, the UCIT will hold public meetings at the urban community level to present the implementation progress report, and to receive feedback from the community on any issues related to the implementation. Upon completion of project implementation, a statement of project completion will be made, summarizing the final physical and financial achievement of the project as compared to the project design, and including an explanation and justification for any divergence from plan. Before this statement is signed by the UCIT and the urban community head, the statement and ancillary implementation report will be presented to the urban community in a scheduled public meeting.

106 At the urban community level, facilitators will be the main point of contact and interaction between the project and participating communities. Facilitators will work with the community, directly facilitating project activities. The quality of the facilitators will be a critical ingredient to project success. Given the importance of the facilitators to the overall success of the project, a six-week training course will be given to candidates before they are selected, to be followed by refresher courses given from periodically, to meet specific needs that will be identified as the project progresses

D.2.2 SANITATION AND HYGIENE BEHAVIOR CHANGE – REFER TO ATTACHMENT 2

107 Sanitation and hygiene behavioral change cannot be left behind in water supply and sanitation project; but in contrary, to they should come together to yield maximum health benefit. Prevention of diarrhea diseases and other waterborne diseases is possible only when these three components are applied in an integrated manner and successfully disseminated to and adopted by community members. This component is designed to initiate sanitation and hygiene behavioral change (SHBC) to extend the health impact of project investments. The main objectives are to (i) strengthen the capacity and capability of communities and district governments to plan and implement programs to dramatically expand sanitation coverage through the construction of family and school/religious facility latrines; and (ii) extend the health benefits of improved water and sanitation facilities by enhancing community awareness of the linkages between improved facilities, improved sanitation and hygiene behavior, and community health.

108 The successful proven approaches will be used in combination such to achieve the objectives. Among them are Hygiene Improvement Framework (HIF) approach; the package of methodologies adopted specifically for the water, sanitation, and hygiene sector is known as PHAST; basic sanitation package (BSP) and associated school sanitation and hygiene guidelines developed by UNICEF. SHBC materials available in Indonesia, or are available from other countries will be assessed in detail, and the most relevant and useful of them will be adopted for use in the Project.

109 To achieve better health through the reduction of water and sanitation related diseases, the whole community needs to be involved at all stages of activities, particular attention has to be paid to gender issues, target groups, and high-risk groups, especially with regard to site selection of water and sanitation facilities, including use and maintenance. Women must participate in decision-making and training as she plays a key role in promoting better personal and domestic hygiene practice. Women should be involved in the process of collecting village funds, and to encourage both men's and women's involvement during construction of new latrines. Men should also participate in activities, to learn about better personal and domestic hygiene practice, and make better decisions about local improvements to health. Likewise, primary school children and teenagers as the next generation and potential champions of change need to be taught about safe water, hygiene practice, and good health by using improved latrines, so they grow up with sanitary knowledge and practices.

110 Two aspects of project implementation are closely linked: construction of water and sanitation facilities and SHBC. To maximize the benefits from the PHAST techniques, it is important that project activities unfold in a prescribed sequence so that the SHBC and latrine construction activities occur at the right time.

111 The scope of the component includes: (i) school health and sanitation program; (ii) hygiene promotion at religious facilities; and (iii) community health program. Priority of activities will be a special concern in this approach, considering health risk and weakness of training in the past. For example, if the sanitation coverage is less than 25% and hence sanitation risk is high. This area will be the first choice in which SHBC be implemented.

112 The school health and sanitation program will commence once construction of water supply and latrines and other sanitary facilities has been initiated at schools. The project will adapt technical options and adopt the school sanitation and hygiene education program guidelines. The national primary school curriculum on health and sanitation will be enhanced through the PHAST approach focusing on topics such as (i) latrine user education (how to use and maintain the latrines properly); and (ii) linkages between water, latrines, personal hygiene practices, and health; and how good personal, domestic, and community hygiene behavior can reduce disease transmission.

113 School Latrine User Education is based on commonly problems encountered, such as the poor use and maintenance of school toilets, lack number of toilets are installed at a school, school playgrounds or yards near toilets are infested with intestinal worm eggs, or that there are very bad smells from contamination of the surrounding ground because children who cannot wait any longer simply urinate or defecate behind the existing toilet, some children, especially the younger ones, are afraid to use a toilet as it is dark, smelly, dirty, and they are afraid of ghosts, the children are not accustomed to using toilets at home and have not been taught by their parents how to use them. Similarly, teachers, especially if they have lived most of their lives in the area, are often also unacquainted with these toilets, and are certainly not prepared to organize and manage how to maintain them.

114 The students need to be educated about the linkages between water, latrines, personal hygiene and health. They also need to be convinced to practice the good practices they have been told about, and reminded regularly until they become the norm. To have good back up, The Project will develop school health and sanitation materials and workbooks. It is expected that some of the materials already produced through previous project, materials available from international sources be reviewed, updated, and adapted to the Project during the first year of Project implementation. A multi-level training program will be conducted for master trainers at the provincial and district levels. Additional topics may be supplemented into the school health and sanitation curriculum.

115 Villages will be given the opportunity to improve water supplies and sanitation at local religious sites. Religious leaders will also be provided with training about SHBC and be encouraged to apply this information, as they wish, to their weekly sermons, and in discussion and counseling in their communities. As religious leaders are usually quite influential in supporting and encouraging widespread adoption of new behavioral practices, it is important that these leaders are made full members of the decision-making process, learn about PHAST techniques, and integrate these ideas for maximum benefit to the community.

116 This subcomponent encompasses a wide range of possible campaigns and activities focusing on particular target groups within the community as a whole. Target groups could be mothers of children under the age of five/pregnant mothers, teenage girls, all-women or all-men groups, youth groups, poor and poorly educated women and men, or rich elites. The implementation of activities will be regulatory supervised and monitored for evaluation and potential modification. Attention will be paid to the language and literacy capabilities of the various audiences, and campaign materials should use simple messages and in the main local languages.

117 The Coalition for a Healthy Indonesia (*Indonesia Sehat*) has run various television campaigns promoting the washing of hands before eating. The Project will establish and maintain links with the Coalition and avail itself of posters, brochures and other materials they might have, including videos/CD's, etc. The Project should coordinate and be an integral part of this national campaign and contribute to it to achieve its target. Similarly, Indonesia now has a National Hand washing Initiative, and the Project should work closely with the consortium of organizations participating in this initiative.

118 Radio communication will be given priority because of its wide penetration and reach, and because costs of introducing local programming are relatively low and controlled locally. A series of educational radio spots and jingles will be produced and aired during a period of 24 months and will

be spread across the various radio networks. Meanwhile, local-weekly newspapers that are targeted to small towns and villages and these will be provided materials. Also, local reporters will be given the opportunity to prepare "specials", including photographs, as the project proceeds. Banners will be prepared for display in front of community health centers and clinics. Public transportation vehicles can be provided advertising in the form of stickers for display on trucks, buses, motorcycles.

119 Several surveys conducted in Indonesia indicate that nearly everyone over the age of five have heard that they are supposed to wash their hands before eating and after defecation. Soap campaign will give the basic idea a new twist and to hopefully maintain people's attention. The primary target audience for the soap campaign will be young mothers (15-35 years), especially those with only a primary school education, and with children still under the age of five years; women (typically school teachers themselves, nearby neighbors to schools, and older, widowed, female-heads of household) who prepare and sell snacks, especially those selling directly at primary schools; primary school children; teenage girls, out of school but not yet married; and children under the age of 14 years who have dropped out of school. Youth and adult males, local opinion leaders, religious leaders, male parents, parliamentarians and politicians may also become secondary target groups.

120 Petty food and drink vendors have been singled out for many years in Indonesia as the source of contamination for school children and others who buy local snacks and drinks. One way to attempt to mitigate against the risk of getting sick from contaminated food and drinks is to bring in the petty food and drink vendors, and use participatory hygiene education techniques to raise their awareness of how they can better cooperate and improve local health.

D.2.3 OUTLINE DURATION, SEQUENCE, COST, AND RESPONSIBILITY FOR IMPLEMENTATION

121 The health and sanitation behavior component has been included in this project because of its importance to complement water and sanitation supply improvements if maximum health benefits are to be gained. The objective of this component is to improve health and sanitation behavior and community management of health services related to water-borne diseases. This component will provide for the adaptation and implementation of Participatory Hygiene and Sanitation Education and Promotion (PHAST) methodology to be used in communities and schools to achieve sustained improvements in personal, domestic, and environmental health, hygiene and sanitation practices. The project uses a two-pronged approach to improve health and sanitation: First, a school health and sanitation program will use participatory hygiene and sanitation education to reach young children both to influence their long-term behavior and to use them as change agents for their families and communities. Second, a community health and sanitation component will focus on improving health and sanitation behavior by using the participatory approach to encourage behavior change in individuals, family and community. It will also strengthen the capacity and communication skills of local health and sanitation service providers, including the sanitation agent, village midwife and other local health resources, such as cadre and PKK.

122 The foundation of the health promotion component is the PHAST approach (Participatory Hygiene and Sanitation Transformation). This method provides the community with an opportunity to conduct their own problem analysis or needs assessment regarding water-borne diseases. They can then develop a local-specific approach to improve hygiene behavior and prevent diarrheal and other water-borne diseases. The PHAST approach will be adapted for both the school health program and the community health program, including the development of training manuals and toolkits for teachers and health providers and workbooks for students and community members.

123 All of the community health and sanitation activities—school-based and community-based—will be identified in the Community Action Plan (CAP). The CAP will lay out the health and sanitation priorities of the community. However, as knowledge and awareness of health and sanitation and their relation to water supply systems increases, it is anticipated that the health priorities and activities in the CAP will also change.

SCHOOL HEALTH AND SANITATION PROGRAM

124 The schools in Indonesia are an important network for reaching young people and provide an excellent opportunity for teaching children early about good hygiene and sanitation practices. The school learning environment provides the opportunity for a group to make a collective review of the information on hygiene and sanitation in the community, and teach a deeper understanding of the

issues and arrive at a course of action. The school-based health and sanitation program consists of several distinct activities:

Enhancing the current national primary school curriculum on health and sanitation through the PHAST approach. A curriculum for health and sanitation currently is part of the national curriculum taught in grades one to six that is being implemented as part of the school health program (Usaha Kesehatan Sekolah, UKS). The project will strengthen this curriculum by developing supplementary teaching and student materials using the PHAST concept that will be used to encourage information exchange and learning for students about health and sanitation.

Supplementing the school health and sanitation curriculum with special topics on other priority basic health problems. The community can elect for certain priority basic health topics to be taught in the school. This differs from the PHAST program in that the village will select which health topic they wish covered in the school-based child health program. Among these modules might be nutrition, immunization, diarrheal disease management, worm infestation, malaria, dengue, acute respiratory illness and tuberculosis. A series of modules will be prepared to cover these topics and serve as teaching guides for the teacher.

Worm infestation treatment for all school children. It has been argued that targeting delivery of anthelmintic drugs to schoolchildren through the existing educational structure is one of the most cost-effective approaches to intestinal worms control. This program will cover all children in each school, and will be managed by the school and the local health center and will follow program guidelines based on previous experience in Indonesia.

Water quality monitoring and fecal streptococcus testing. There would be special attention placed on building commitment to removing excreta from the environment, keeping water clean, and washing hands so that students and their families believe and understand why excreta is the problem. Student would complete assignments and practical exercises that require interacting with and sharing their hygiene and sanitation experience with parents and neighbors.

125 Following the start of school health and sanitation activities, the school will be eligible to submit proposals for special funding for health and sanitation activities under a Block Grant for Health and Sanitation. These funds could be used to support special activities in the school or community to promote health and sanitation, such as conducting special sanitation surveys, or conducting special events such as "Clean Friday" or other campaigns or contests, to promote hygiene and sanitation. Access to this fund would hinge on the preparation of proposal that is submitted as part of the CAP.

COMMUNITY HEALTH PROGRAM

126 Although many community leaders and families recognize the need to improve water supply for household and labor needs, many do not recognize or understand that parallel need to improve the water supply and sanitation in order to reduce the incidence of water-borne and sanitation related diseases.

127 Good health is a responsibility shared with the individual, family, community and public and private sectors. Although targeting school children is one very important avenue to improve health behavior, by itself it is not sufficient. Health and sanitation education has not successfully worked using a top-down approach, where most of the training is focused on medical personnel and political leaders. The project, therefore, will strengthen the skills of the local health team who can support the community in these efforts. The project will also support the development of a well-prepared, carefully targeted communications strategy to reach the broader community. The focus on the Community Health Program will be on three activities:

Strengthening local capacity in health, hygiene and sanitation through the PHAST approach to community participation;

Mass media promotion for health and sanitation; and
Health Infrastructure and Services Block Grants.

128 The project will employ the PHAST approach to improve the health promotion skills of local health workers so they are better prepared to teach and assist the community to improve public attitudes and behavior about hygiene and sanitation. The project will support the training of Subdistrict expertise, in particular the health center sanitation worker, the village midwife and other

local resource people, in participatory methods for improving hygiene and sanitation in the community. The project will also develop materials and visual aides based on the PHAST methodology that can be used by these local health providers.

129 A Block Grant will be made available to each urban village to support small-scale activities related to reducing the incidence of water-borne disease in the community. These activities must be identified and designed by local groups of concerned citizens, and they must be included in the CAP. Some communities may not be ready to precisely identify their priority health concerns at the time the initial CAP is submitted. Therefore, if they so desire, Villages will allowed to submit a revised version of their initial proposal for the health Block Grant at a later date, when they may be better prepared to conduct an assessment of their priority health needs.

MANAGING IMPROVED HEALTH AND SANITATION BEHAVIOR AND SERVICES

130 At the Urban-village level, the School and Community Health Programs will be managed by the Urban-village Implementing Team (UIT), with support from the school health teacher and the local health workers. It is important that the membership of the UIT include the school health teacher, and community-based health staff, especially the sanitation worker, village midwife and cadre. To a large extent, it is through the work and collaboration of these latter agents that the success of the health behavior and services component depends. They will play important roles in changing behavior of school children and in conveying messages related to proper water, sanitation and hygiene practices. The Community Facilitation Team along with circuit riders from the health center, especially the sanitation worker, and the local health and education personnel will provide on-going support and monitoring of village-based health and sanitation activities.

131 At the district level, project activities will be managed by the District Implementation Team, in particular the Community Health and Development Specialist, with support of the Community Facilitation Teams. District level MOH and MoNE staff will be very important for the implementation and supervision of the school and community health and sanitation component. The responsibilities of the Community Health Facilitators, in particular, will be to:

Assist communities with assimilating the PHAST into the school program:

Assist the school health teacher to conduct the water quality monitoring, fecal contamination monitoring, and sanitation surveys; and

Work with the community to identify and plan for community-based health and sanitation activities that could be financed through the Block Grant.

HEALTH ACTIVITIES IMPLEMENTATION SCHEDULE

132 During the first six months of the project, the PHAST school hygiene and sanitation program and the community health program must be clearly defined, and a work plan for both components agreed upon and coordinated with the larger water supply and sanitation activities. During Year One, activities will focus on preparation and procurement of materials and supplies for the school health program and the community health program and the preparation of a communications strategy. All of these materials will be field tested, revised and finalized, and printed and procured. Only after this has been done will the multi-level training of master trainers, trainers and trainees be started. Training of Community Health Facilitators, schoolteachers, sanitation workers, village midwives and other health agents will be phased to start first in those villages most ready to start water supply and sanitation activities. The training team will conduct regular supervision and monitoring visits to the community and school.

133 During the later years of project implementation, there will be ongoing interaction with communities and supervision of the school health and community health activities. Special emphasis will also be put on implementing school health activities, conducting community outreach activities, implementing the school de-worming program and promoting a limited mass media effort. The health and sanitation implementation schedule is shown in enclosure.

MONITORING AND EVALUATION

134 In order to evaluate the outcomes of WSSP, it is essential to have impact and monitoring indicators and monitoring systems. The monitoring system, if carried out on a continuous process, can help program managers find out whether planned activities were conducted and the quality of this output. The monitoring should be done in collaboration with the community, and information

disseminated back to the communities so that lessons learned from success or failure can be shared with others and used to improve design and implementation.

135 It is difficult to measure health improvements, as related to reductions in disease, since many reductions in morbidity and mortality in children under five can be caused by other changes. Since improvement of health is one of the objective of WSSP, the project will monitor and evaluate health impact using a combination of quantitative and qualitative methods. There will be three parts to the monitoring and evaluation of the health component: First, the project will establish a baseline on knowledge, attitudes and practices related to water supply and sanitation, and on health status during the first year of the project. Second, an annual community-managed performance monitoring system will be developed. This will use a small set of easily measurable indicators that can be used by the community and district to monitor project activities and to improve project management. To the extent possible, this data will be analyzed in the Village or at the Subdistrict level and results fed back to the community. Community beneficiaries will be made fully aware of the monitoring system and will be completely involved. Third, special surveys will be used to supplement the routine monitoring system. Rapid assessments of water-borne disease, including diarrhea, malaria, dengue, will be conducted annually in the project zone. These surveys will provide information on disease prevalence as well as management of the illness by the mother and health provider. Fourth, the community will conduct self-monitoring. Schools can be a focus of community monitoring by helping students to make their own monitoring charts or check lists on a few important issues, i.e. cleanliness of latrines, or prevalence of diarrhea among young children in their families. The results of this could be posted in the classroom or other public facility.

COST

126 Following major design that project will last for four years, so at first year shall consist of launching and ownership workshop and training and other related support. Hardware (sanitation construction) will come after community is prepared and shows the growing interest toward WSSP and scheduled at second year and third (and fourth). Project Management Unit shall be responsible for running all management and supported by District Supporting Team (DST) and Community facilitator Team (CFT) for community level. Meanwhile, cost structure will consist of sub components of : (1) Training and workshop, (2) Community TA Support, (3) Training material procurement, (4) Water and sanitation (hardware), and (5) School Health Education Program, (6) Community Health , and (7) Drainage water Quality Monitoring. Budget needed for each year implementation illustrated in Table 19 below.

Table 19 Proposed Budget for Public Health and Hygiene Program (in million rupiah)

No.	Activity Component	2006	2007	2008	2009	TOTAL
1	Training and Workshop	50.0	75.0	25.0	13.0	163.0
2	Community TA Support	Pm	Pm	Pm	pm	Pm
3	Training Material Procurement	Pm	Pm	Pm	pm	Pm
4	Sanitation (training for mansonny)		20.0	10.0	6.0	36.0
5	School Health Education Program					
	a. Training Implementation		30.0	15.0		54.0
	b. Printed Material /Printing	12.0	89.0	89.0	77.0	267.0
	c. Worm Infestation Package		20.0	20.0	20.0	60.0
	d. Water Quality Monitoring		20.0	20.0	20.0	60.0
6	Community Health					
	a. Strengthening local capacity		20.0	20.0	20.0	60.0
	b. Mass Media Promotion	20.0	20.0	20.0	20.0	80.0
	c. Health Infrastructure Block Grant	5.0	5.0	5.0	5.0	20.0
7	Drainage Water Quality Monitoring					
	a. Investation	20.0	60.0	65.0	15.0	160.0
	b. Recurrent	30.0	30.0	40.0	40.0	140.0
	GRAND TOTAL					1.100.0

ATTACHMENT 1

WATERBORNE DISEASE PREVENTION

1. INTRODUCTION
2. WATER-RELATED AND WATERBORNE DISEASES
3. MAJOR FACTORS OR CAUSES OF DISEASE
4. HIGH-RISK GROUPS
5. INTERVENTION OPTIONS
6. NARROWING THE OPTIONS
7. INTERRUPTION AND REDUCTION
8. CHANGING HUMAN BEHAVIOR
9. HIGH RISK CONDITIONS, PRACTICES AND BEHAVIOR
10. KNOWLEDGE, ATTITUDES AND PRACTICES
11. TARGET GROUPS
12. THE CHALLENGE

1 INTRODUCTION

This paper takes a particular perspective towards "health" that focuses on preventive measures of waterborne disease. As it is written for general readers, an overview of the various options aimed at prevention of waterborne diseases is provided, to put project preparation for WSSP into some kind of theoretical and historical context of Indonesian and world trends, and rationales for the design of similar projects. Often the public simply demands access to water, but their demands tend to lose sight of considerations of health and the need to prevent diseases. So before launching in to yet another water supply project, we wish to review "how we got to this stage" first.

2 WATER-RELATED AND WATERBORNE DISEASES

Water related and Water borne Diseases

Arsenic Poisoning (in ground water)
Ascariasis (roundworm)
Campylobacteriosis
Cholera
Cyanobacterial Toxins
Dengue and Dengue Haemorrhagic Fever
Diarrhea (several causes)
Dracunculiasis (guinea worm disease)
Fluorosis
Hepatitis
Hookworm
Japanese Encephalitis
Lead poisoning
Malaria
Malnutrition
Mercury Poisoning (in ground and river)
Methaemoglobinemia
Onchocerciasis (river blindness)
Pesticide Poisoning (in water supply)
Plywood processing chemical (river dumping)
Ringworm (Tinea)
Scabies
Schistosomiasis
Tapeworm
Threadworm (pinworm, enterobius)
Trachoma
Trichuris, Trichocephalus (whipworm)
Typhoid and Paratyphoid Enteric Fevers

The usual, or traditional list of water-related and waterborne diseases harmful to mankind is quite a long one (see accompanying table) and not all of them are of concern in Indonesia. Of the diseases listed, only some can be directly controlled or mitigated by improving water supply and sanitation facilities, and implementing a strong hygiene education program. Recently, it has been suggested that the traditional list of water related and waterborne diseases be expanded to include acute respiratory tract infections. This is because there is growing evidence that hand washing with soap and water works to prevent acute respiratory tract infections, which are the biggest infectious killers in the world today. So if we expand the traditional concept of water related and waterborne diseases to include all the various viruses leading to acute respiratory tract infections, we can come up with a list of five disease groups in Indonesia, where WSS and hygiene education can make a direct impact. These five groups are: (1) diarrheal diseases (amoeba, giardia), (2) various "worms", (ascariasis, dracunculiasis, hookworm, tape-worm, threadworm and whipworm); (3) a group of skin diseases, (4) schistosomiasis in specific geographic locales; and (5) acute respiratory tract infections (In Indonesia, known as "ISPA - Infeksi Saluran Pernafasan Akut").

Other diseases in the list are either not commonly found in Indonesia, and/or may be only slightly or indirectly affected by WSS interventions, although they could in part be controlled through appropriate hygiene education programs.

Examples of diseases excluded from this list are malaria, dengue and dengue haemorrhagic fever. Similarly, mercury poisoning, pesticide poisoning, and exposure to plywood processing chemicals have been noted as problems in the often highly polluted rivers of some parts of Kalimantan and Sumatra. These are serious problems, but due to the complicated economic and political issues surrounding them, they have been excluded from the discussion.¹

¹ Insofar as improvements to water supply and sanitation facilities remove standing pools of water and close off access to water for purposes of breeding by mosquitoes, then WSS projects can arguably be said to impact against those diseases. But here we limit the discussion to the five groups as listed as the situation with malaria, dengue and dengue haemorrhagic fever is too complicated for the current discussion.

3 MAJOR FACTORS OR CAUSES OF DISEASE

"BEINGS"- the Categories of Preventable Causes of Diseases

Biologic factors and Behavioral factors
Environmental factors
Immunologic factors
Nutritional factors
Genetic factors
Services, Social factors, and Spiritual factors

Although we can readily provide names to groups of diseases with key links to - water, it is not so easy to define the major factors or causes of disease, as these can be quite complicated and interlinked. To get an idea of how many different possibilities exist to explore when studying the "causes" of a disease, students of the subject have come up with a little tool to help remember the cause categories. It is called the "BEINGS" Model. This is an acronym for summarizing all the categories of preventable causes of diseases.

Some of these factors are easier to impact upon than others. Efforts to reduce and eradicate waterborne diseases have worked their way up and down this list over the previous three decades, producing different programmatic emphases and changing the "mix" for different projects. Waterborne disease prevention efforts have had only limited success in the areas of immunology and genetics, and to a certain degree, nutrition and behavior. Probably the most success has been seen in efforts concentrated in changing environmental factors and services, and more recently, social factors.

4 HIGH RISK GROUPS

High risk groups are simply those people with certain commonalities who are more likely to contract or suffer from a specific disease than persons who do not have a certain characteristic. We know this from research, that people who smoke form a high risk group for lung cancer, and that obese older people are at-risk of heart disease and diabetes. With waterborne or water-related diseases, it is less obvious who are at risk and it really depends, on the specific disease in question. Many people do not understand, for instance, that the unpleasantness of diarrhea experienced in adults can become a lethal killer in infants, or that intestinal worm infestations attack around 75% of Indonesian primary school children, but not so many adults or infants.

Efforts to attack or eradicate waterborne diseases require information about the at risk population, to develop a disease profile and define appropriate strategies. Ideally there should be epidemiologic measurements taken, including the frequency of disease occurrence (incidence and prevalence). Collecting information about the at-risk population requires data on the total population, number who are susceptible, number who are exposed, number who are infected, number who are ill, and the number who are dead. One should also know basic facts, such as age (and sometimes sex), socioeconomic status, local living conditions including existing water supply and sanitation facilities and educational attainment.

One very important consideration is that of "age". Age continues to be a primary definitive feature as many of these waterborne diseases attack those among the population who are weakest physically, and these are predominantly the very young (and the very old). High risk groups for each disease category are thus:

diarrheal diseases (amoeba, giardia): attacks people of all ages, but the main at risk age group are children under the age of five years, especially those between the ages of 6-11 months, when infants begin to switch from a diet of pure mother's milk to one including food supplements, and 12-23 months when toddlers begin to pick up food and other items and put them in their mouth.

acute respiratory tract infections: includes severe cases of respiratory tract infections, bronchitis and pneumonia; affects people of all ages, with high morbidity and mortality experienced by the very young, the elderly, and those already suffering from chronic or other debilitating medical conditions.

various "worms", (ascariasis, dracunculiasis, hook-worm, tape-worm, threadworm and whipworm): these have debilitated people of all ages, but the main at-risk group appear to be primary school-age children, between the ages of 6-12 years and others who tend to risk

exposure by walking barefoot over contaminated soils or be in close contact with children who are already infected.

skin diseases: no particular age group, but young children tend to suffer greatly from various skin problems, especially when bathing sites are located far from a house or when water quality is poor.

schistosomiasis: no particular age group, but seems to be worse among adults who have longer exposure time; exposure risk is limited to a few geographic sites in Indonesia (e.g., parts of Central Sulawesi).

5 INTERVENTION OPTIONS

Of the five disease groups mentioned here, diarrhea and acute respiratory tract infections are clearly the leading causes of concern and have greatest impact on the lives of infants and young children.

As much effort has been devoted to reducing diarrhea in young children, through improvements to water supply, sanitation and hygiene education, we have a great deal more information about their linkages than we do with the situation regarding reducing acute respiratory tract infections through improvements to water supply, sanitation and hygiene education. The following sections, then, are primarily devoted to discussing the control and elimination of diarrhea.

Considerable time and effort have been spent over the previous three decades in attempting to identify the cheapest, simplest, and most effective mass interventions for the control and elimination of diarrhea. Little has changed regarding options available in the intervening period, and the ideas expressed in earlier years is still operative today. The main difference now is that with experience in implementing programs, the perception of what is "simple" or "straightforward" has changed, as have ideas about the true costs and level of effort necessary for effective mass interventions.

Medical Options: We see this change in viewpoint by looking back at the programs of the 1970's and 1980's, where early priorities reflected initiatives taken by the medical establishment that valued better case management and other medical treatment options. These medical initiatives have, by now, been refined and incorporated into many standard medical protocols and treatment programs. Much effort has also been expended in medical research to develop effective vaccines. This has, to date, been met with limited success, although vaccines have been developed for the control of measles (one symptom of measles is diarrhea).

Early efforts tended to focus on issues surrounding maternal-infant health, such as encouraging the benefits of breastfeeding, and relying on home remedies for oral rehydration treatments, and access and use of Oralit. During this phase, great efforts were made to reach mothers as the primary group with the greatest direct impact on the health of their infants and young children.

Despite efforts in strengthening maternal-child health initiatives by the medical community, diarrheal diseases remain among the "top ten" most frequently treated diseases² in rural health care clinics in Indonesia. Unofficial estimates by health department officials indicate that the number of persons suffering from bouts of diarrhea may be "ten times higher" than those who show up for treatment and are reported in official statistics. Indeed, for the majority of the rural population who live more than five kilometers from a rural health clinic, it is exceedingly doubtful that they would come to such a clinic for treatment of a diarrheal disease. Those suffering from diarrhea outside the five kilometer limit tend to go uncounted and their treatment often lacks the benefits that could be derived by access to modern medical services. Thus, while there have been improvements to case management, these improvements may only impact on 5-10% of those who are suffering.

Engineering Inputs: In Indonesia, construction of water supply systems and sanitation facilities has "bounced" back and forth between the Departments of Health and Public Works/ Kimpraswil. There was a period of time where engineering options through the Department of Public Works predominated. These programs emphasized technical improvements to water supply and sanitation, but these engineering "answers" were very expensive and brought disappointing results on their own.

² Acute respiratory tract infections are also among the top ten

Since then, these public health initiatives have mostly returned to the general management by the Department of Health, with the joint cooperation from the Department of Public Works.

Integrated Efforts: The search continues into the 21st Century, for better preventive methods that draws upon the insights contributed through medicine and engineering, but has also expanded to incorporate politico-government, management, social and psycho-behavioral aspects. Increasingly, hygiene education packages have tackled the problem of behavioral change.

The following table provides a classification of the many possible anti-diarrhea interventions for the reduction of morbidity and/or mortality among children under 5 years of age. Sections I and II list early strategies for the elimination of diarrhea through better case management and programs designed to increase resistance to infection. These options are still very important today. Section III of the table summarizes options relating to programs to reduce transmission of diarrhea, namely through improvements to water supply and sanitation and effective hygiene behavioral change strategies.

6 NARROWING THE OPTIONS

Interventions to control or eliminate diarrhea, following the logic of the table shown above, have been tried with varying degrees of success over the previous three decades. Quantifying the costs, benefits effectiveness and feasibility has not always been possible. Some good interventions, clearly, have proved too costly, while other interventions seem quite ineffective or are of uncertain effectiveness. At present, out of a total of 18 potential interventions, there appear to be a total of seven interventions where there is sufficient evidence of adequate effectiveness and feasibility. These are:

Child Health:

- Promotion of breastfeeding
- Improvement in weaning practices

Immunization:

- Measles immunization
- Rotavirus immunization (when an effective vaccine becomes available)
- Cholera immunization (in selected countries, when a more effective new vaccine becomes available)

Interrupting Transmission :

- Improvement of water supply and sanitation facilities
- Promotion of environmental, personal, and domestic hygiene

Table 1:
Intervention Options for Reducing Diarrheal Morbidity or Mortality among Children under Five Years of Age

No.	Potential Interventions
I.	Case Management
A.	Oral Rehydration Treatment
1.	Oral rehydration treatment at home
2.	Oral rehydration treatment at health facility
B.	Non -oral Rehydration Treatment
1.	Rehydration administered through intravenous or other procedures at health facility
C.	Appropriate food diet
1.	Promotion of appropriate food diet for children during sick and convalescent period
D.	Parmaceutical Treatment
1.	Parmaceutical Treatment at home
2.	Parmaceutical Treatment at health facility
II.	By increasing host resistance to infection and/or illness and/or death
A.	Maternal nutrition
1.	Improving prenatal nutrition to reduce the incidence of low birth-weight
2.	Improving prenatal and postnatal nutrition to improve the quality of breast milk
B.	Child nutrition
1.	Promoting exclusive breast-feeding up to age 4-6 months and partial breast-

		feeding thereafter
	2.	Improving weaning practices for children aged 4-18 months (introducing non-milk foods not later than the sixth month, continuing breast-feeding for as long as possible, and using nutritious and locally available weaning foods)
	3.	Supplementary feeding to improve the nutritional status of children aged 6-59 months
	4.	Promoting the use of growth charts by mothers as an aid to proper child nutrition and child care
	C.	Immunization
	1.	Rotavirus and/or cholera immunization (when effective and tested vaccines are available) of the child and/or mother
	2.	Measles immunization to reduce measles-associated diarrhea
	D.	Chemoprophylaxis
	1.	Chemoprophylaxis of children at special risk, such as contacts of known cases, to reduce the incidence and/or severity of diarrhea
III.	By reducing transmission of the pathogenic agents of diarrheal diseases	
	A.	Water supply and excreta disposal
	1.	Constructing water supplies that improve the quality and availability of water for domestic purposes, and improved excreta disposal facilities; and providing the necessary educational support to ensure use and maintenance of those new facilities
	B.	Personal and domestic hygiene
	1.	Promoting specific features of personal and domestic hygiene, such as hand-washing, by appropriate educational campaigns
	C.	Food hygiene
	1.	Promoting improved practices for the preparation and storage of foods, both commercially and in the home, and especially emphasizing the hygienic preparation of weaning foods
	D.	Control of zoonotic reservoirs
	1.	Control of infection of domestic and farm animals by pathogens causing diarrhea in man
	E.	Fly control
	1.	Control of flies, especially flies breeding in association with human or animal feces
IV.	By controlling and/or preventing diarrhea epidemics	
	A.	Epidemic surveillance, investigation and control
	1.	Improving the ability to identify and investigate an epidemic early in its course and the capacity to implement effective control activities

Source: Adapted from Feachem, Hogan and Merson, 1983.

We see, then, that the WSSP is part of a long line of environmental and behavioral interventions, including water supply and excreta disposal improvements, and hygiene education that have been advocated by the World Health Organization as part of a multifaceted strategy for diarrheal control and control of other waterborne diseases as well.

7 INTERRUPTION AND REDUCTION

Current technology cannot yet totally eradicate or prevent the replication of the pathogens that cause diarrhea or those pathogens that cause the other four major disease groups mentioned in this article. In the case of diarrheal diseases, what the world has armed itself to do is to fight with methods that interrupt and reduce transmission of those pathogens involving the fecal-oral route.³³ Similarly, acute respiratory tract infections which are often transmitted by means of the viruses getting on hands (that touch the face and thereby enter the respiratory tract through the nose or mouth), have emphasized the value of handwashing with soap and water. Results from various studies suggest that.

- Improving water supply and sanitation may reduce diarrhea incidence by 25-30% and reduce diarrhea mortality by around 30%.
- Promotion of personal and domestic hygiene may reduce diarrheal incidence by anywhere from 14-48%.
- One recent review in *The Lancet*, *Journal of Infectious Diseases*, indicates 42-47% of all diarrhea could be prevented if people washed their hands with soap.
- Another on-going study in Pakistan showed 44% reductions in diarrhea and 47% reductions in acute respiratory infections, as well as reduced skin infections in random households that use soap.

Combined with improved water supply, sanitation, and hygiene education, breastfeeding and proper weaning practices further reduce diarrheal incidence.

8 CHANGING HUMAN BEHAVIOR

It is the factor of human behavior which poses perhaps the biggest challenge to the problems of finding effective mechanisms to interrupt or reduce transmission. The problem is so formidable that in Indonesia many program and policy people in both the government and private sectors have tended to channel their energies towards technical infrastructure or medical treatment "solutions", rather than attempting to tackle this "human behavior" challenge. Indeed, the science of health promotion is yet in its infancy, and the problem is acute when it comes to altering the behavior of the rural population with respect to personal and domestic hygiene.

All too often "behavioral change" strategies are included in program prospectuses, but at the bottom of the outline, and the best minds and energies are rarely devoted to tackling this issue. All too often the problem is passed on to "the next" phase, "the next" project, a "special" study, or a minor "pilot" effort.

9 HIGH RISK CONDITIONS, PRACTICES AND BEHAVIOR

Part of the challenge of "health promotion", "hygiene education" and "behavioral change" has already been met, as we now have a fairly good idea which practices carry the highest risk and which practices Indonesian rural populations tend most to abuse, ignore, and expose families to risk. A health impact study (HIS) completed in 1999 for the WSSLIC-I Project found that some mothers who had infants and young children under the age of five years engaged in high risk practices centered on the following behaviors:

- handwashing, especially,
before breastfeeding an infant
after feeding (menyuap) infant

³³ It is estimated that anywhere from 2 to 5 million deaths per year occur in children under the age of 5 years in developing countries (excluding China). In every 100 children under the age of 5 years, there are 220 diarrheal episodes and 1.4 deaths per year.

- after defecating
- after taking feces from an infant/child
- after cleaning up (menyeboki) child

- boiling of drinking water
- storage of cooked food
- disposal of baby feces
- latrine regular maintenance and cleaning
- disposal of trash
- disposal of dirty water
- flies in the house.

The most problematic behaviors had to do with handwashing. The study showed that mothers tended to wash their hands before eating and after defecating themselves, so that they did not tend to become infected with diarrhea. But it was in their behavior with respect to the care and welfare of their own children (and husbands) that they continued to behave in a high risk fashion. Mothers with children suffering from diarrhea tended to have a higher proportion who said that they didn't always wash their hands before or after child care activities.

The same study also inspected households to look for obvious signs of unsafe hygiene practices. Some of the main differences between households where the child had diarrhea and those households diarrhea-free were the following:

- no soap available in the kitchen
- no towel available for drying/wiping hands
- if there was a towel, it was dirty
- unclean kitchen floors
- flies, spiders, cobwebs
- if there was a toilet,
 - feces were evident
 - strong smell
 - no water nearby
 - no soap
- cattle feces in yard
- no drain/ditch for kitchen water
- no trash pit
- poor condition of yard
- children with skin diseases
- children with runny noses/mucous
- children with dirty clothes.

The list reads like the standard litany describing the poor. Among those with poor water supplies, there were almost no differences in conditions between those with latrines and those without.

Differences between women with respect to membership in local organizations also appeared between mothers of infants with diarrhea and those who did not. The most striking difference noted was membership in the family welfare association, known as the Program Kesejahteraan Keluarga (PKK). One could say that, in general, the act of participation in almost any community group was better than not participating, i.e., participation reduced the risk of diarrhea. Those who are truly non-participants in public or community groups constitute a high risk group.

10 KNOWLEDGE, ATTITUDES AND PRACTICES

One of the great challenges to changing hygiene-related behavior is to efficiently target main problems, and to not waste institutional program strength by trying to accomplish too much and ending up with too little. We see from assessments of the HSE package in WSSLIC-I. Here, there were several shortcomings noted:

- The program was very general and failed to specify a limited number of targeted diseases. All waterborne and water-related diseases were "equal".

- The health promotion program was not adapted to local condition sufficiently, to make the program compelling locally. Reduction in the occurrence of a set of diseases, common to an area or village, should be attempted, since in a village, a "package" of complaints that captures the attention of villagers is more relevant than attempting to deal with one simple complaint. For instance, in any one small village, there may be only 2-3 cases of severe diarrhea a month—surely a tolerable level and not sufficiently compelling to create a sense of dedication to eradicating the problem. However, if there are a set of complaints—including, for instance, malaria, ISPA, bronchitis, pneumonia, diarrhea and skin/allergy complaints—then this captures their interest and imagination. To do this would require a more sophisticated approach than is usually seen to date.
- Similar to the problem that health promotion has missed the focus on appropriate diseases, so these programs have sometimes failed to specify a more limited set of high risk hygiene behaviors that could make the most dramatic changes in health. Failure to specify has diluted the urgency to change behaviors.
- WSSLIC-I found that, in retrospect, too much attention had focused on achieving understanding and knowledge, to the neglect of achieving appropriate behavior or practices. This finding flies in the face of advice that people require a deep level of theory and context before they are willing to change. Usually that is interpreted to mean training with lots of theory and not much time spent on practicalities. WSSLIC-I found that the mechanisms for formal transfer of knowledge were established, but after that, it was a kind of "take it or leave it" attitude on the parts of those responsible for behavioral change.
- Programs initiated by the Department of Health and various NGOs have over and over again engaged in training and extension that have focused on reviewing basic concepts in hygiene and sanitation, and while the knowledge of participants is not perfect, it has been generally good enough. Little effort has been given to training and extension on the psychology of bringing practical mechanisms into play, to achieve appropriate behavior or practices. This problem is now beginning to be recognized more widely and efforts are being made to make up the shortfall.
- Considerable advances have been made in the design of WSS projects and donor agencies now have teams of professionals who monitor project progress looking at a complex matrix of indicators. But sometimes projects become so complex in their execution that women as mothers tend to get lost in the scheme of things, as they are still the main target group who initiate domestic hygiene behavioral change on a daily basis, and they remain one of the main controllers of the health of infants and young children.

11 TARGET GROUPS

Mothers: Since so many children suffer from diarrhea and acute respiratory tract infections where the majority of them go untreated by health care workers, it is natural to look at what mothers know, their attitudes towards treating their children, and what they actually tend to do.

A number of international studies have shown over and over again, that mother's education makes a big difference in the risk of their children contracting diarrhea and other diseases, and that mothers of different educational attainments "think differently" about how children suffering from a disease are to be treated. Children whose mothers who are uneducated or have not completed primary school are at highest risk of morbidity and mortality. Mother's education does not in itself "prevent" waterborne disease transmission, but mother's education plays an important role in the overall process. Studies have shown that higher educated mothers have better or safer behavior and tend to have healthier children. Less educated mothers can also benefit from training in hygiene behavioral change, but special efforts are necessary to reach the same level of effectiveness as is observed among better educated mothers.

The issue is further complicated by the fact that higher educated mothers tend to be economically better off and often have better access to clean water and sanitation facilities. Poorly educated mothers tend to lack the same level of improved infrastructure. So it is not simply a matter that poorly educated mothers are "stupid" as has been often asserted, but given their life situation, they cannot hope to achieve the same level of safe behavior.

This socio-economic issue sometimes clouds the fact that poorly educated women really do less well on the issue of safe behavior, whether or not they have improved infrastructure or not. Better educated mothers make better use of less than optimal conditions and their behavior is critical to keeping their infants and young children safe from diarrheal transmission.

Numerous projects have attempted to recruit mothers of young children and provide them with a hygiene education behavioral change package. Results have been mixed and those seeking short-term benefits have sometimes gone away disappointed. These mothers are clearly a key factor in the success of reducing diarrheal incidence among young children, but on their own, "mother" programs are incomplete and the benefits uncertain.

Others: Projects have attempted to address the aforementioned problems by expanding the pool of support to initiate behavioral change. This is an integrated approach that incorporates major stakeholders, including:

- local government
- the health care infrastructure
- the whole community, including local leaders
- primary school children mobilized through child-to-child activities
- schools and their teachers
- men's groups, women's groups, and
- individual mothers of at-risk children

The program that is being designed for WSSP will be fully described in accompanying documents.

12 THE CHALLENGE

Extraordinary efforts in promoting behavioral change have evolved in Indonesia within the context of WSSLIC-1, WSSLIC-2, and now with WSSP. There are still critics unwilling to make necessary expenditures for hygiene education and programs designed to promote behavioral change, as they remain unconvinced of program effectiveness. With decentralization, and the requirement that local governments must cover their own costs, hard decisions must be made at district levels about expenditures. This is an international problem and Indonesia is not alone.

But there is far too much evidence to indicate that taking the limited path with improvements to infrastructure while ignoring human behavior is going to result in many, many problems, and will minimize or even negate project benefits. The costs of making this mistake would be much too high.

ATTACHMENT 2

SANITATION AND HYGIENE BEHAVIORAL CHANGE

INTRODUCTION

GENDER, TARGET GROUPS, AND HIGH-RISK GROUPS

SEQUENCING AND LINKAGES OF COMPONENT ACTIVITIES

COMPONENT SCOPE

- I. SCHOOL HEALTH AND SANITATION PROGRAM
 - SCHOOL LATRINE USER EDUCATION
 - WATER, LATRINES, PERSONAL HYGIENE PRACTICES, AND HEALTH
- II. HYGIENE PROMOTION AT RELIGIOUS FACILITIES
- III. COMMUNITY HEALTH PROGRAM
 - SOCIAL MARKETING/MEDIA CAMPAIGNS
 - SOAP CAMPAIGN
 - IMPROVING KFP OF MOTHERS WITH INFANTS AND TODDLERS
 - PARTICIPATORY TRAINING PETTY FOOD AND DRINK VENDORS

SANITATION AND HYGIENE BEHAVIORAL CHANGE

INTRODUCTION

1. This Sub Project Component is designed to initiate sanitation and hygiene behavioral change (SHBC) to extend the health impact of project investments in water supply and sanitation with improved hygiene behavior. The main objectives of the component are to (i) strengthen the capacity and capability of communities and district governments to plan and implement programs to dramatically expand sanitation coverage through the construction of family and school/religious facility latrines; and (ii) extend the health benefits of improved water and sanitation facilities by enhancing community awareness of the linkages between improved facilities, improved sanitation and hygiene behavior, and community health.

2. The component follows the Hygiene Improvement Framework (HIF) approach¹ of integrating hardware investments in water supply and sanitation with improved hygiene behavior by: (i) increasing access to hardware, (ii) promoting hygiene behavior, and (iii) creating an enabling environment for preventing diarrheal disease. Prevention of diarrheal diseases and other waterborne diseases is possible only when these three components are applied in an integrated manner and successfully disseminated to and adopted by community members, including men, women and children. The Project will adopt a gender-appropriate and user-friendly approach for boys, girls, men, and women and out-of-school children and teenagers for all three HIF components.

3. Participatory methodologies to achieve SHBC have been advocated by UNICEF, USAID, WHO, CARE, CIDA, the World Bank, and other donor organizations as well as many NGOs. The package of methodologies adopted specifically for the water, sanitation, and hygiene sector is known as PHAST. PHAST derives from the more general Self-Esteem, Associated Strengths, Resourcefulness, Action Planning and Responsibility (SARAR) techniques. SARAR has been used by sectoral development organizations for problem identification, analysis, and planning of water and sanitation schemes. PHAST goes beyond this and covers all phases of a project cycle. PHAST tools include six steps: i) problem identification, ii) problem analysis, iii) planning for solutions, iv) selecting options, v) planning for new facilities and behavior change, and vi) participatory monitoring and evaluation.

4. In addition to PHAST, there is also a basic sanitation package (BSP) and associated school sanitation and hygiene guidelines developed by UNICEF [name document source]. The BSP provides implementation guidelines for community sanitation and hygiene awareness programs to increase the knowledge, facilities and practices (KFP)² of the beneficiary population. The BSP will be modified/enhanced for this Project as it does not address certain fundamental issues such as the local government planning process, particularly the sort of participatory planning and monitoring and evaluation processes.

5. SHBC materials have already been produced and are available in Indonesia, or are available from other countries³. These IEC materials will be assessed in detail, and the most relevant and useful of them will be adopted for use in the Project. This assessment will be a part of a formal evaluation of the relative success of the numerous SHBC programs that have been carried out in Indonesia, with varying degrees of success. This evaluation will take place in the first

¹ *The Hygiene Improvement Framework originated from The World Bank; it is an integrated approach developed by USAID's Environmental Health Project for the prevention of diarrheal disease, comprising hygiene promotion, hardware and policy/institutional framework.*

² *KFP is an adaptation of KAP (knowledge, attitudes and practices).*

³ *WHO, 1998. "PHAST: Step-by-step Guide: A Participatory approach for the control of diarrhoeal disease". PHAST: Participatory Hygiene and Sanitation Transformation Series. WHO/EOS/98.3.*

year of Project implementation.

GENDER, TARGET GROUPS, AND HIGH-RISK GROUPS

6. When designing SHBC programs, particular attention has to be paid to gender issues, target groups, and high-risk groups.

7. To achieve better health through the reduction of water and sanitation related diseases, the whole community needs to be involved at all stages of activities. However, experience from past water supply and sanitation projects in Indonesia has shown that particular care must be taken to include women in the decision-making process, especially with regard to site selection of public tanks and taps, and household acceptance of latrines, including use and maintenance. Efforts should be made to ensure that the role of "decision-making" is not allocated simply to men. Women must participate in decision-making and training, for it is primarily women who carry, treat, and store, prepare food, care for the sick and the young, and play a key role in promoting better personal and domestic hygiene practice as they are often the ones responsible for maintaining and cleaning latrines.

8. That said, men should also participate in PHAST activities, to learn about better personal and domestic hygiene practice, and make better decisions about local improvements to health. Likewise, primary school children and teenagers as the next generation and potential champions of change need to be taught about safe water, hygiene practice, and good health by using improved latrines, so they grow up with sanitary knowledge and practices. Usually household financial expenditures are joint decisions, requiring both men and women's involvement, although publicly the role may be assigned exclusively to men. It is important that the project involve women in this process of collecting village funds, and to encourage both men's and women's involvement during construction of new latrines.

9. There is also need to differentiate between and adequately address both target and high-risk groups. A target group is generally a group of people with some commonality who are going to receive a specific type of training and who are expected to become change initiators, or to whom special key messages are "targeted". High-risk groups, by contrast, are those people with certain commonalities who are more likely to contract or suffer from a specific disease or health condition than persons who do not have a certain characteristic. High-risk groups for the most common waterborne and water-related diseases in Indonesia are as follows:

- For diarrheal diseases, the high-risk group is children under the age of five years. While diarrhea diseases attack people of all ages and can be unpleasant for adults, they can become lethal killers especially for infants between the ages of 0-5 months, when intestinal tracts (especially in premature/low birth weight infants) are thought to be "delicate" and easily upset; for infants between 6 and 11 months, when they begin to switch from a diet of pure mother's milk to one including food and drink supplements; and for toddlers of 11 to 23 months who pick up things dropped on the ground and put them in their mouth.
- For worm infestation⁴, school children between the ages 6 and 12 are the high-risk group. Worms of the intestinal tract debilitate people of all ages, but primary school-age children are typically more at risk to contract worms while playing in school yards or along riverbanks and beaches where people normally defecate. Around 75% of Indonesian primary school children are attacked by worm infestations. School yards are one of the worst sites for deposition of worm eggs, which are picked up on the feet and eventually enter either through the skin or through the nose and mouth.
- Acute respiratory tract infections (severe cases of respiratory tract infections, bronchitis and pneumonia) affect people of all ages, but the main at-risk group who suffer potentially the most serious consequences appear to be the very young, the elderly, and those already suffering from chronic or other debilitating medical conditions.

⁴ Such as ascariasis, dracunculiasis, hook-worm, tape-worm, thread-worm and whip-worm.

10 One commonality in all these complaints is that if hands were kept clean (of the infants, children, and particularly the care-giving mothers in the case of infants and small children), individual episodes of the diseases would go down. A major cause of spread of bacteria and some viruses is poor handwashing habits, causing disease to spread from hands to mouths, food, latrine, water, etc. Recently, more hard data have become available on the effectiveness of proper and timely hand washing with soap to reduce diarrheal related diseases in public, i.e., a 43% reduction in diarrheal disease incidence is possible through handwashing with soap

SEQUENCING AND LINKAGES OF COMPONENT ACTIVITIES

11 Two aspects of project implementation are closely linked: construction of latrines and SHBC (hygiene IEC). To maximize the benefits from the PHAST techniques, it is important that project activities unfold in a prescribed sequence so that the IEC and latrine construction activities for each village occur at the right time. Other support activities outlined below are consequent upon the successful initiation of the construction of latrines and personal hygiene promotion/education, although several of these ancillary activities could occur on a "stand alone" basis, depending on local conditions.

12 Key points in terms of sequencing and linkages are:

- promote the linkages between water, latrines, and good personal and domestic hygiene practice leading to better health from the start, and then ensure that as people are mobilized into specific activities (such as in the CIT), they continue to be told that the Project includes all 3 components;
- present simple yet complete explanations to communities about the technical options available. This is particularly important in critical areas where fewer than 20% of communities have regular access to latrines. The presentations must describe options (using posters, charts and photographs) for types of latrines—including relative costs, construction details, maintenance requirements, and various constraints depending on local environments, especially regarding septic tank construction;
- inform people (including district government and other leaders) during the PHAST process that the Project has certain principles, including user participation and contribution, demand-driven approaches, hygiene promotion, etc., at an early stage so they are realistic about what to expect;
- build public latrines in schools and at religious sites along with water supply systems and commission them both at the same time (the latrines can't be built first as they need the water for O&M);
- follow up the school latrine construction immediately with user education, hygiene education, and household latrine promotion before handing over latrines at the school and religious sites;
- use PHAST methods before and after commissioning the water supply system to help people use the new system hygienically to maximize health benefits;
- construct household demonstration latrines soon after the school latrines have been built; and
- use PHAST methods to promote sanitation on an on-going basis and to promote good personal, domestic, and community hygiene practices.

COMPONENT SCOPE

13 The scope of the component includes: (i) school health and sanitation program; (ii) hygiene promotion at religious facilities; and (iii) community health program;

14 For the project site where the majority of the population live alongside rivers and major streams where the quality and quantity of water is good and sufficient. In such areas the question

is not necessarily the problem of improving access to water but of improving sanitation, which remains nearly non-existent. In these areas, the SHBC component can also be implemented on a stand-alone basis (i.e. without improvement of water supply facilities), if the sanitation coverage is less than 25% and hence sanitation risk is high. The SHBC package for these areas would be based on the BSP and School Sanitation and Hygiene Education Guidelines.

15 During the project development phase, a number of trainings on SHBC will be carried out, taking into account the BSP and experiences of other organizations and projects. Generally, there seems to be a lack of comprehensive SHBC packages, and the duration of training in previous projects has been inadequate. Considering these facts, various training packages have been identified⁵, covering among others the project approach, strategies, components, and financial modalities; by personal, household, and environmental sanitation; importance of safe water; fecal oral communicable diseases; hand washing, face washing; protection of food and water; importance of changing behavior; importance and use of toilets and other sanitary facilities such as garbage pits, washing platforms, school sanitation and hygiene program. During the implementation phase, CFT and SHBC target groups will take time out to attend refresher training.

SCHOOL HEALTH AND SANITATION PROGRAM

16 While hygiene and sanitation behavior change activities will be initiated during the development phase, school latrines and urinals, along with sanitary facilities such as hand washing platforms and water points, will be constructed only during the implementation phase. School latrines and urinals will be constructed separately for girls, boys and teachers. A survey⁶ has revealed that 93% of students use latrines for urination during school. Therefore, the latrines will have both facilities for urinals and defecation. The Project will adapt technical options developed by DWSS for various types of school latrines depending on the number of students and ecological belts.

17 The Project will adopt the School Sanitation and Hygiene Education (SSHE) program guidelines developed by DWSS /UNICEF, which include:

- formation of child clubs of boy and girl students and out-of-school children and teenagers to discuss, plan, implement and monitor the sanitation and hygiene program;
- participatory assessment and analysis jointly by child clubs, other boys and girls, and teachers;
- life-skilled based sanitation and hygiene education;
- a child-to-child approach using games, comics, street drama, essays, quizzes, cartoons, video, singing, books and extra curricular activities and community/public award presentations that convey sanitation behavioral messages; and
- a school-based program to provide de-worming tablets complemented by awareness raising activities that stress links between poor hygiene and intestinal infections. This service will also be provided to "out-of-school" children and teenagers.

18 The School Health and Sanitation Program will commence once construction of water supply and latrines has been initiated at schools. The national primary school curriculum on health and sanitation will be enhanced through the PHAST approach focusing on topics such as (i) latrine user education (how to use and maintain the latrines properly); and (ii) linkages between water, latrines, personal hygiene practices, and health; and how good personal, domestic, and community hygiene behavior can reduce disease transmission.

School Latrine User Education

19 The poor use and maintenance of school toilets is common to most countries. Often only two toilets are installed at a school and because problems quickly arise, the response is to immediately lock at least one of these toilets for exclusive use by teachers and leave the other for all the children to use, without any maintenance. Where this situation occurs, the single toilet is overused and poorly maintained, and quickly breaks down.

⁵ For details refer to Supplementary Appendix I.

⁶ Community-based Water Supply and Sanitation, Project Preparation Technical Assistance (TA NO. 3844-NEP), Final Report, Supplementary Appendix on School Sanitation and Hygiene education (SSHE) Program.

20 Another problem commonly observed is that school playgrounds or yards near toilets are infested with intestinal worm eggs, or that there are very bad smells from contamination of the surrounding ground (not due to leaking septic tanks). One reason for this is that because only one toilet is functioning, children who cannot wait any longer simply defecate behind the existing toilet. Thus, it is important that there be at least two toilets available to the children to help cut down on the issue of being unable to wait in turn.

21 Some children, especially the younger ones, are afraid to use a toilet as it is dark, smelly, dirty, and they are afraid of ghosts or wild animals that may be lurking inside. Some toilets have been built with no place for light to come in, once the door is shut. This situation must be avoided. It is imperative that toilets be kept clean and that there be some openings to allow sunlight to filter in and for ventilation.

22 In places where the children are not accustomed to using toilets at home and have not been taught by their parents how to use them, the problems are often even worse. It would be reasonable to assume that most of the students in the Project areas will not have used a manual flush latrine before. Similarly, teachers, especially if they have lived most of their lives in the area, are often also unacquainted with these toilets, and are certainly not prepared to organize and manage how to maintain them where groups of 50-200 unruly children are concerned. The new or upgraded latrines should not be handed over for use until basic hygiene and user education have been carried out with the teachers, students and the water user committees. Cleaning rosters and all other management aspects must be in place before the latrines are opened.

23 User education will help students and teachers ensure that the new latrines are properly used and maintained. The use of participatory methods as a teaching technique is more likely to result in the students remembering and practicing what they have been taught.

24 One teacher should be responsible for managing the latrines and ensuring they are maintained properly. Training should ensure that teachers understand that cleaning toilets should not be simply delegated to girls, nor should cleaning toilets be kept as "punishment". A training checklist will include issues such as:

- organizing a cleaning roster, so the latrines get cleaned daily;
- ensuring the cleaning is properly carried out;
- ensuring the disposal of "wiping" paper and other materials is carried out. In some areas smooth stones or corn cobs are used for "wiping"; and it is imperative that children not drop or throw these stones down into the toilet as it will quickly become clogged;
- explain why sanitary latrines are needed and why you should always use a latrine;
- explain which diseases can be caught from poor latrines and poor hygiene practices;
- explain correct usage of the water seal latrine pan;
- emphasize the importance/value of washing hands with soap after using the toilet and before eating;
- keep water in each cubical for manual flushing; demonstrate to children how to keep the water relatively clean from waste;
- emphasize what NOT to put into the latrine pan (see above);
- demonstrate correct cleaning of the cubicle (including spider webs, ant nests, and sleeping snakes above) and water seal latrine pan;
- show how to avoid damage to the latrine;
- ensure the urinal is kept clean and water taps not left running;
- have funds available for repairs; and
- check for breakages and organize the replacement and repair of any leaking pipes or taps.

25 Smaller schools will need to make arrangements for cleaning latrines. In some areas, members of the community at large may also be interested in using these newly installed latrines outside of school hours. This must be discussed at village meetings and agreements established as to responsibility for maintenance. If the latrines are also used by the public, the CiT needs to be involved to ensure that the community use of the school latrines does not leave the school with hygiene or maintenance problems. Suggestions to help this work effectively include:

- decide whether this option is chosen by the community before the latrine designs are finalized; the latrines will not function properly if they are designed for 50 students but used by 100 people;
- formalize who is allowed to use the school latrine and who is not;
- involve all households who have agreed to use it in the cleaning, upkeep and maintenance (as they would need to if the latrine was their own);
- make arrangements about who is responsible for payment and repairs if something gets broken or ceases to work properly (water seal pans and taps can easily get broken); and
- make arrangements for who pays for water, as the school should not bear the costs of other people using it.

Linkages between Water, Latrines, Personal Hygiene Practices, and Health

26 The students need to be educated about the linkages between water, latrines, personal hygiene and health. They also need to be convinced to practice the good practices they have been told about, and reminded regularly until they become the norm.

27 Rather than a long, one-off session where children's attention would be expected to wane, it is better to deal with all aspects of water, hygiene and health in short sessions, spread out over several weeks. One half hour at a time, once or twice a week is recommended. Different topics could be discussed each time, but it is also necessary to reinforce, or reiterate what has been previously taught, as students may not actually "get it" until all the bits and pieces have been presented. Topics in this checklist will include a range of subjects, such as:

- water, sanitation and disease;
- how sanitary latrines protect your health;
- which diseases can be caught from poor latrines and poor hygiene;
- face and hand washing with soap;
- preventing intestinal worms; and
- clean water and simple water quality monitoring.

28 The Project will develop school health and sanitation materials and workbooks, translate them into Bahasa Indonesia, and field-tested them during the first year of the Project. It is expected that some of the materials already produced under the WSSLIC and WSLIC-II will serve as the basic resource for preparation of appropriate materials and workbooks. There are also materials available from UNICEF, CIDA, CARE, USAID, AusAID, the World Bank, and others.⁷ These must be reviewed, updated, and adapted to the Project during the first year of Project implementation. This will be done in consultation with the Ministry of National Education (MONE) and MOH at national and provincial level, and include consultation with the Coalition for a Healthy Indonesia housed in MOH. These materials may need to be modified for appropriateness for provincial and district cultural variations and environmental circumstances. After successful field-testing and revision, the materials will be printed at provincial levels and distributed to the districts. A multi-level training program will be conducted for master trainers at the provincial and district levels. Teacher training will be conducted by a team of MOH staff and the health and sanitation members of the community facilitator teams.

29 Activities will include:

- develop and field test PHAST materials for (a) school health teachers and interested parents; and (b) students (especially 4-5th grades); arrange for various existing health and hygiene promotion comic books and children's magazines to be reviewed;
- develop and field test basic health modules for teachers (the facilitators) and students;
- review curriculum and materials with central- and provincial level MONE and MoH staff and get their endorsement;
- conduct master training of provincial and district teams;
- train community facilitators in use of PHAST and school materials;
- train school teachers in PHAST school health and sanitation program;
- assimilate PHAST training and program into school health and sanitation programs;

- conduct regular supervision, monitoring, and feedback of school-based PHAST school health and sanitation program;
- conduct regular teacher resource meetings for school health and sanitation program; and
- evaluation and modification.

30. Additional topics may be supplemented into the school health and sanitation curriculum as outlined in below. The Special Topics and Activities on Other Priority Basic Health Problems are:

School Face and Hand Washing Initiative

- develop guidelines to promote face and hand washing with soap among school children. A campaign on proper face and handwashing will also be disseminated to out-of-school children and teenagers;
- after completion of a water supply system for the primary school, teach students about the benefits of washing face and hands with soap, as well as the most important times to do so;
- establish close cooperation with key hand soap production companies and encourage them to become active in social marketing of hand soaps in participating schools and villages; hand soap production companies should be encouraged to contribute radio spots promoting hand washing throughout the project area.

Prevention of Worm Infestation among School Children –

- develop guidelines for school de-worming program, based on the experience of WSSLIC-II;
- conduct rapid assessment of prevalence of parasitic infection in school children;
- train teachers in de-worming activities and project field officers in supervision of de-worming program;
- procure antihelminthics;
- orientation of CIT, community health workers (village midwife and cadre) and community in school de-worming program;
- after completion of the water supply system, and construction of school latrines, implementation of school de-worming program;
- conduct follow-up assessment of prevalence of parasitic infection in school children.

Student Water Quality Monitoring at Village Level –

- develop and field test supplementary school materials;
- train teachers in simple water quality monitoring activities;
- train school teachers to conduct community education;
- implement regular water quality monitoring by students and community and prepare regular monitoring reports;
- evaluation and monitoring.

Garbage and Water Drainage Education –

- develop and field test supplementary school materials;
- train teachers to construct garbage pits at schools;
- train teachers about the need for waste water ditches to take waste water away from hand washing taps at schools, to prevent pools of water and mud developing around tap sites;
- train teachers to raise student awareness on the need for garbage pits and water drains for waste water;
- maintain garbage pits and drains at schools.

“Clean Rivers for All” Campaign – This activity is particularly directed at villages located along the banks of large rivers. The idea behind the “Clean Rivers for All” campaign is (i) to encourage public support of initiatives to build latrines with septic tanks and to stop using the platform latrines out over rivers, where fecal matter drops directly in to the river; and (ii) from an “eco-hygiene” perspective, to clean up the environment around villages and to foster local pride in reducing river pollution near the village and downstream.

- develop and field test supplementary school materials;
- come up with some key messages and phrases that are locally meaningful; make a campaign plan;

- train teachers about cleaning up the river banks and reducing smells and contamination by ridding the river of feces; teach teachers that a real effort should be made to support latrines with septic tanks on land and to stop using the old platforms;
- train teachers in ways to gain student support and for students to push for change in the community.

HYGIENE PROMOTION AT RELIGIOUS FACILITIES

31 Villages will be given the opportunity to improve water supplies and sanitation at local religious sites. Religious leaders will also be provided with training about SHBC and be encouraged to apply this information, as they wish, to their weekly sermons, and in discussion and counseling in their communities. As religious leaders are usually quite influential in supporting and encouraging widespread adoption of new behavioral practices, it is important that these leaders are made full members of the decision-making process, learn about PHAST techniques, and integrate these ideas for maximum benefit to the community.

COMMUNITY HEALTH PROGRAM

32 This subcomponent encompasses a wide range of possible campaigns and activities focusing on particular target groups within the community as a whole. Community facilitators, and local health staff such as sanitation workers, village midwives, and nurses, will receive appropriate PHAST training to identify village-specific target groups and tailor the activities for these groups. Target groups could be mothers of children under the age of five/pregnant mothers, teenage girls, all-women or all-men groups, youth groups, poor and poorly educated women and men, or rich elites. The implementation of activities will be regulatory supervised and monitored for evaluation and potential modification. Attention will be paid to the language and literacy capabilities of the various audiences, and campaign materials should use simple messages and in the main local languages.

Social Marketing/Media Campaigns

33 The Coalition for a Healthy Indonesia (*Indonesia Sehat*) has run various television campaigns promoting the washing of hands before eating. They have also produced other key messages and have run these campaigns for some time now. The Project will establish and maintain links with the Coalition and avail itself of posters, brochures and other materials they might have, including videos/CD's, etc. The Project should coordinate and be an integral part of this national campaign and contribute to it to achieve its target.

34 Similarly, Indonesia now has a National Handwashing Initiative, and the Project should work closely with the consortium of organizations participating in this initiative.

35 On its own, WSSP should:

- develop a strategy and media campaign for health, hygiene and sanitation promotion, at provincial, district and village levels;
- develop media tools and materials (TV and radio spots, "jingles", videos and advertising medium) aimed at reinforcing local messages on hygiene and sanitation;
- develop banners and posters for use at community health centers and clinics (*puskesmas, pusku, polindes, posyandu*) and generally, in the villages;
- field-test media tools at the provincial and district level and modify, as necessary;
- adapt, as necessary, media package for the provinces and districts;
- implement mass media campaign for health, hygiene and sanitation;
- implement provincial and district campaigns and contests to promote health, hygiene and sanitation; and
- evaluate and modify campaign as appropriate.

36 Radio communication will be given priority because of its wide penetration and reach, and because costs of introducing local programming are relatively low and controlled locally (versus national television networks). A series of educational radio spots and jingles will be produced and aired during a period of 24 months and will be spread across the various radio networks operating in each province (public and private stations, AM and FM).

37 Indonesian radio is popular in villages and small towns. Where there are telephone facilities available, radio call-in programs are popular, where listeners can ask questions and interview special guest experts. This type of program is expected to have a high impact and spread the word around about specific aspects of the project, such as new innovations in latrine construction and hygiene behavioral change dialogues.

38 Press advertising will be limited mostly because newspapers and magazine distribution networks are usually limited to urban and small towns and rarely get out into villages. There are a few local, weekly newspapers that are targeted to small towns and villages and these will be provided materials. Also, local reporters will be given the opportunity to prepare "specials", including photographs, as the project proceeds.

39 Banners will be prepared for display in front of community health centers and clinics. Public transportation vehicles can be provided advertising in the form of stickers for display on trucks, buses, motorcycles and becak.

Soap Campaign

40 Several surveys conducted in Indonesia indicate that nearly everyone over the age of five have heard that they are supposed to wash their hands before eating and after defecation. Yet this "rule" is widely ignored to this day. Thus, to give the basic idea a new twist and to hopefully maintain people's attention, the Project is calling this the "soap campaign".

41 The primary target audience for the soap campaign will be young mothers (15-35 years), especially those with only a primary school education, and with children still under the age of five years—perhaps when they attend the monthly village health clinic (*posyandu*); women (typically school teachers themselves, nearby neighbors to schools, and older, widowed, female-heads of household) who prepare and sell snacks, especially those selling directly at primary schools; village traditional midwives (usually poorly educated, traditional, older, widowed women, who may or may not be female heads of household)⁸; primary school children; teenage girls, out of school but not yet married; and children under the age of 14 years who have dropped out of school. Youth and adult males, local opinion leaders, religious leaders, male parents, parliamentarians and politicians may also become secondary target groups.

42 Activities will include:

- develop a soap campaign strategy to promote use of soap for handwashing, bathing and washing of clothes and dishes;
- establish close cooperation with key hand soap production companies and encourage them to become active in social marketing of various types of soap in villages; soap production/marketing/distribution companies should be encouraged to contribute radio spots promoting hand washing throughout the project area;
- encourage the soap companies to develop their own campaigns and cooperate with them by informing them of the areas and approximate implementation schedules so that they can make their own marketing and distribution systems in sync with project implementation. Soap companies will be encouraged to produce a small illustrative flyer (containing the three critical times and three techniques of hand washing) would

⁸ We anticipate that staff from some local community health centers might not take a very favorable stance to inclusion of traditional birth attendants (*dukun*) for special attention in this campaign. But the reality is that there are many remote areas included in this Project and often there are no professionally trained health workers who are resident in the village or in a nearby village. In some areas the majority of births are still assisted by these traditional midwives and they may serve as the primary source of information on treating common infant and childhood diseases when no other source is available. To ignore these midwives would be foolhardy.

be developed and inserted in various soap brand wrappers so that the consumers receive the information while purchasing the soap;

- encourage university students from the provincial schools of public health to conduct handwashing with soap campaigns when they are participating in their nationally required real work experience activities (KKN - *kuliah kerja nyata*);
- encourage women's groups to sell soap (and cooperate with the soap companies) as an income generating activity;
- make the link between handwashing with soap and safeguarding against contracting upper respiratory tract infections and diarrhea;
- make the link between clean hands and clean snacks for children;
- make the link between clean hands (and clean equipment) and safe childbirth;
- make the link between clean hands and safe breastfeeding; and
- make the link between clean hands and healthy infants

43 To remarkably show the benefits of handwashing with soap, techniques such as the Glo-Germ kit⁹ would be demonstrated to show the germs in their hands. This is particularly important as proved by the iodine test kit for the Iodized Salt Social Marketing Campaign (UNICEF). After seeing that packaged iodized salt is better than loose salt, there was a significant shift from loose salt to packaged iodized salt. This would also be the case in the hand washing with soap. People who only use water for washing their hands could shift to washing their hands with soap.

44 For assessing the use of soap, particular attention will be given to retail soap sales; increased hand washing with soap rates through observation; trend of shift from people using only water to hand washing with soap; handwashing behavior of children, women (in different targeted categories) and men; and hand washing behavior at all critical junctures.

Improving KFP of Mothers with Infants and Toddlers

45 The purpose of this is threefold: (i) to train mothers (and other caregivers) to teach young children to use toilets properly; (ii) to give specific information to mothers about infant/toddler care, to reduce diarrheal and respiratory tract infections from mother to child and from child to child; and (iii) to ensure that mothers, as a key target group, get the proper information and enabling setting, to help reduce diarrheal incidence among the high risk group of children under the age of five years.

46 Many small children are already physically big enough to use a toilet but they balk at the idea for a number of reasons. Observations have led to the conclusion that toddlers are often afraid of going into a latrine stall because it is dark, smelly and there are often insects and small animals in them. Convincing a small child to use a toilet is much easier if the site has sufficient light, air, and is clean and free of fearsome critters. Mothers should also make an effort to teach their young children how to use a toilet properly, so that good habits are initiated at an early age, and children grow up thinking using a toilet is normal. This is particularly true of boys who should be taught to make the effort to urinate into a latrine and not wherever the mood strikes them.

47 Several surveys and interviews done for WSSLIC with mothers indicate that mothers have a generally high level of familiarity with the idea of "washing hands before eating", and "washing hands after defecating". The problem is that they interpret this to safeguard themselves from diarrheal infection, but not necessarily their infants and toddlers. Therefore, an awareness campaign for mothers would point out specific behaviors that carry a high level of risk for transmission of diarrhea to their infants. Similarly, there are issues of domestic hygiene concerning the kitchen, yard, etc., where women with small children need to keep vigilant. Practices to be discussed with mothers are the following:

- handwashing of the mother, especially before breastfeeding an infant, before and after feeding an infant, after the mother defecates, after taking/picking up feces from an infant or child, and after wiping feces from an infant's bottom;
- cleaning/disinfecting young children's toys/teething items;

⁹ A special substance is given to people to rub on their hands; under ultraviolet light their hands 'glow' where the substance interacts with bacteria and dirt. The demonstration is to do this with clearly dirty hands, then after with water only, finally after washing with soap; if the hands are really clean, they don't 'glow'.

- risks of diarrheal transmission when a sick infant or child sleeps in the same bed/next to another child;
- boiling or treating drinking water with sodium hypochlorite;
- covering/storing cooked food (flies, cockroaches, rats);
- disposal of baby feces;
- latrine regular maintenance and cleaning;
- disposal of trash;
- disposal of dirty water; and
- flies in the house.

48 Activities could include:

- develop strategy with village midwives and the women's family welfare association, the PKK;
- work closely with the women who participate in the *posyandu* and the PKK. Often they will have already developed a strategy but because the village did not have a good source of water or almost no latrines, the strategy never came to anything. Attempt to support, revive and energize their efforts;
- produce some simple drawings/pictures that shows a typical situation for the issues mentioned above (and others, as are locally identified). Use these drawings during small group discussions and have women discuss how the picture is or is not appropriate for what they themselves do;
- get women to come up with some "key messages" that are locally appropriate and use them in local campaigns; and
- develop an award system for women by giving them special mention or merit points for improving the general cleanliness of their kitchens and home latrines, once they are installed.

Participatory Training Petty Food and Drink Vendors

49 Petty food and drink vendors have been singled out for many years in Indonesia as the source of contamination for school children and others who buy local snacks and drinks. One way to attempt to mitigate against the risk of getting sick from contaminated food and drinks is to bring in the petty food and drink vendors, and use participatory hygiene education techniques to raise their awareness of how they can better cooperate and improve local health. Activities could include:

- inventory the petty food and drink vendors who sell food in and around schools. Often these will be the teachers themselves, or women living nearby;
- bring them all together and using participatory techniques, get them to start thinking about how to provide safe food and drinks to school children. This would include all stages of food preparation, storage, containers, covers, where the food is set/displayed for sale, how food is picked up, washing of bowls, cups, utensils, etc.;
- conduct demonstrations of safe practices among the food and drink vendors;
- if possible, construct some simple tables or benches for vendors and ensure that cooked and open pots and trays of food are not set directly on the ground, or where dust and dirt can easily fall into the food;
- make sure food is not sold or kept near latrines, foul water from open ditches, or other unclean places;
- keep food away from the exhaust fumes of passing vehicles;
- teach people about the hazards of dangerous food dyes;
- recommend better, more nutritious types of snacks and drinks for children;
- produce a "certification" plan for a village, with local standards of excellence; and
- encourage children to wash their hands before purchasing and eating snacks and drinks at school.

Environmental Hygiene: "Clean Rivers for All" Campaign

50 The "Clean Rivers for All" campaign is a general concept that incorporates environmental concerns with environmental hygiene and sanitation messages which are integral to the success of the Project. "Clean Rivers for All", where large numbers of communities reside alongside

riverbanks. Traditionally villagers build wooden platforms into rivers and use these platforms as defecation sites, as well as taking water with buckets dipped into the river, to bathe, wash clothes and get drinking water. In some areas the problem of mass defecation into the river poses a health hazard. A second major issue is that of throwing waste materials directly in to the river. By so doing, shards of glass, rusting metal and all manner of materials are deposited into riverbanks. In some rivers, sites are clogged with refuse.

Appendix C:
Summary Initial Environmental Examination (Overall)

SUMMARY INITIAL ENVIRONMENTAL EXAMINATION (IEE) FOR WSSP (OVERALL)

A. INTRODUCTION

1. The proposed Water Supply and Sanitation Project (the Project) for the provinces of West Java, Banten, North Sumatra and South Sulawesi, Indonesia, has been classified as a Category "B" project in accordance with ADB's environmental assessment requirements. An initial environmental examination (IEE) was undertaken as part of the project preparatory technical assistance to ascertain the Project's impact on the environment and to identify measures to prevent or mitigate any adverse environmental impacts that could arise from its implementation. The examination uses 2005 as the base year for forecasting, with impacts predicted for 2010. This report was prepared during the feasibility studies for the preparation of Sub Project Appraisal Reports (SPAR) for the various project locations. The IEE was prepared based on site visits, meetings held with district-level agencies, reports by relevant government agencies, and is in accordance with ADB's Environment Policy (2002) and applicable environmental legislations and regulations of the Government of Indonesia. This appendix summarizes the main findings of the IEE.

2. In determining environmental impacts of the Project, year 2005 is used as the base year for forecasting, with impacts predicted for 2010. The study has been limited to the project area of water supply system proposed activity in Kabupaten Bandung, Kabupaten Bogor, Kabupaten Serang, Kabupaten Maros, Kabupaten Barru, Kabupaten Jeneponto, Kabupaten Tapanuli Tengah and Kota Palopo.

B. ENVIRONMENTAL ASSESSMENT AND REVIEW PROCEDURES

3. This summary initial environmental examination (SIEE) covers eight representative water supply and sanitation subprojects. The SIEE was prepared in accordance with the ADB Environmental Assessment Guidelines (May 2003). It was based on the initial environmental examination (IEE) reports for individual subprojects, that will share the same (i) description of the environment; (ii) Screening of Potential Environmental Impacts and Mitigation Measures; (iii) Institutional Requirement and Environmental Monitoring Plan; (iv) Findings and Recommendations; (v) conclusion. This projects do not make environmental impact assessment, but only make initial environmental examination for eight subprojects, that it could be use as basic on to do environmental assessment. The procedure to make environmental impact assessment based on Indonesia Presidential Decree No. 27/1999.

C. DESCRIPTION OF THE PROJECT

4. The objective of the Project is to improve the quality, reliability, and sustainability of water supply and sanitation services in Serang, Bandung, Tapanuli Tengah, Maros, Jeneponto, Barru and Bogor Regencies and Palopo City. This objective will be achieved through: (i) the strategic rehabilitation and optimalization of selected facilities; and (ii) the construction of new water supply and sanitation infrastructure. The Project is expected to benefit a total of about 1,250,000 people in eight sub-project locations by 2010.

5. The detailed engineering design and construction of the project components will be performed using experts in all respective fields producing facilities which are properly constructed and operated in an environmentally sensitive manner.

Table 1: Summary of Project Components

Component	Units	Serang	Bandung	Tapa-nuli Tengah	Maros	Jene-ponto	Palopo	Barru	Bogor
Land Acquisition	sq m	5,080	17,000	4,080	8,380	4,000	3,000	4,020	0
Construction of Intake	l/sec	220	600	120	165	100	250	55	300
Construction of Water Treatment Plant	l/sec	200	500	100	150	75	200	50	300
Construction of Service Reservoir	cu m	4,000	9,000	1,000	3,000	500	1,700	650	7,000
Additional House Connections	unit	35,119	32,409	5,995	14,921	13,441	18,899	12,125	124,927
Construction of raw water transmission pipe	km	1.20	5.95	0.20	0.10	5.20	15.10	1.00	17.71
Construction of transmission pipe	km	19.80	58.32	19.75	20.00	5.00	12.40	16.30	6.24
Construction of distribution pipe	km	251.00	360.96	52.85	158.00	115.00	89.34	71.61	280.99
Construction of support buildings	item	1	1	1	1	1	1	1	1
Rehabilitation of water metering	item	1	1	1	1	1	1	1	1
Rehabilitation of unit production	item	1	1				1	1	
Rehabilitation of old distribution pipe	item	1	1	1					1
Rehabilitation of PDAM Office	item					1			
Rehabilitation of main water meter	item		1						
Rehabilitation of old distribution pump	item	1							

6. The scope of the physical investments was determined on the basis of the feasibility studies carried out during the PPTA and further refinements during the Loan Fact Finding mission. The following table summarizes the works to be undertaken under the physical infrastructure component, with the detailed description in Supplementary Appendix B of the SPAR.

7. Alternative technical options were analyzed during Project preparation, and the proposed options are least-cost in economic terms. Concerning water supply production facilities, the existing water treatment plants in Serang, Jenepono, Palopo and Barru will be rehabilitated and new water treatment plants will be developed in all locations to service the demand for drinking water.

8. The feasibility studies have shown that repair and rehabilitation of the existing WSS systems is not practical in Kabupaten Jenepono for technical, economic and financial reasons. The Project will use one WTPs which have capacity 20 lps, and construct new WTPs there, and another existing WTPs, which each capacity 10 lps will not be used because of the lifespan.

9. The detailed engineering design and construction of the project components will be performed using experts in all respective fields producing facilities which are properly constructed and operated in an environmentally sensitive manner.

D. DESCRIPTION OF THE ENVIRONMENT

10. The Project area covers portions of four provinces – Banten, North Sumatera, South Sulawesi and West Java. The population in the eight Regional Governments (RGs) ranges between 150,000 in Kota Palopo to 4,135,000 people in Kabupaten Bandung. Bandung and Bogor are classified as major or metropolitan regional governments, characterized by typical urban environmental problems in Indonesia: (i) lack of reliable water supply; (ii) lack of maintenance of the water supply and sanitation systems; (iii) lack of adequate network for collecting and disposing wastewater; and (iv) widespread water pollution due to solid waste and sewage flow into drains and water courses.

11. The Project's physical infrastructure works involve construction and rehabilitation of water supply and sanitation assets, including intake, water treatment plant, trunk mains, transmission and distribution of water supply networks, communal sanitation centres and simplified community sewerage systems. Metering of water supplies to residential housing, will be included under the Project. Land areas for the proposed water supply facilities have been identified and resettlement is required under current proposals. The land areas have no unusual vegetation cover. Within the boundaries of the eight RGs, there are no significant ecological resources. There are no known sites of historical or cultural significance in the areas that are likely to be affected during project implementation. The economy of the eight regencies is mainly agriculture-driven with cropping of rice, cotton, coconut, fruit, as well as animal husbandry.

12. For the sanitation component there will be no delineation of and acquisition of land identification of and any resettlement impacts until at least the second year of implementation of the loan. The proposed sanitation investments have been very small and their land requirements are in some inner urban locations where it is possible that land acquisition and a small amount of resettlement would be necessary. To address this possibility, ADB policy provides for the preparation of a resettlement framework.

E. SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

13. The longer-term negative environmental impacts of the proposed Project are likely to be insignificant, with impacts resulting directly from preconstruction (land acquisition for production facilities, reservoir and part of transmission line, such as in Bandung) and construction activities only. Environmental impacts during construction depend on (i) contractors' work practices, especially those related to the storage of construction materials and cleanliness of the work sites; (ii) cooperation by local communities in terms of land acquisitions and settlement, labor requirement, use of land and utilities; (iii) enforcement of construction practices and standards through supervision; and (iv) implementation of mitigation measures identified in the IEE and included in bid and contract documents.

1. ENVIRONMENTAL IMPACTS

14. **Improvement in Public Health Conditions.** The Project will increase the reliability of the water supply service to domestic customers, and will significantly improve the quality of water (especially physical and microbiological parameters) supplied to the customers. It will also provide improve sanitation facilities to a limited number of persons. This should lead to a reduction in illness and morbidity from water-borne diseases and a general improvement in public health. This is the most important benefit of the project.

15. **Pollution by construction run-off.** Negative impacts to groundwater and rivers are expected to be temporary and of minor significance. The duration of civil works will be controlled, and weather conditions in the project towns generally will contribute to the limitation of such effects. Additional measures and enforcement of local norms for protection of groundwater will be implemented

16. Inconvenience during construction and rehabilitation works. These impacts will occur during the construction and rehabilitation works on the distribution network. The negative effects include water supply interruption, air quality degraded from construction activities, noise during trench excavation, possible effect of vibration on old buildings, restriction on access to buildings, closure of roads and section of roads causing increased traffic, and movement of construction traffic. Construction camps may have public health impacts; however for this Project these camps will be quite small. There will be a potential for diseases to be transmitted, exacerbated by inadequate health and safety practices. Each contractor will therefore be required to recruit an environmental, health, and safety manager to address such concerns in the camps. Detailed engineering design will develop a detailed phasing-in of the new water supply and sanitation systems and decommissioning of the old water supply and sanitation facilities in the most optimal way, with minimization of water supply interruptions. Coordination procedures for cut-offs will be established; time for replacement operations minimized; and use of nighttime scheduled, if necessary. Appropriate mitigation measures and construction methods will be in place in coordination with relevant local executive authorities. The potential adverse impacts during construction will be avoided by selecting experienced and responsible contractors, and by monitoring and supervision of the works by the trained PMU/PIU staff and the relevant local authorities.

17. Noise and Vibration. Prevention of noise and vibration will be an issue during construction. Machinery operations will be restricted to between 0600 to 2100 hours. In addition, a limit of 70 dBA will be set and strictly followed near the construction site. Controlled blasting using low volume charges will reduce the potential for damage to structures, while owners of houses that will obviously be damaged will be fully compensated in accordance with compensation policy guidelines.

18. Disposal of demolition debris. Demolition debris will be generated during the replacement of distribution pipes, transmission pipes, construction of intake, reservoir and water treatment plant and rehabilitation works on water supply and sanitation facilities. These effects will be localized and temporary, and will be minimized by means of appropriate removal and disposal procedures. Appropriate waste disposal systems suitable for local conditions will be applied.

19. Damage to existing utilities. Old water networks, electricity and telephone lines may be inadvertently damaged during the rehabilitation works. Therefore, the necessary measures will be taken in the construction phase, including coordination and clearance with the appropriate government agencies and municipal enterprises.

20. Safety hazards from construction activities. No major hazards are expected during the construction of the proposed project components, as long as proper construction practices and safety procedures are applied. Major contractors are proposed to be employed using a Design Build Operate form of contract. These contractors will employ safety practices in accordance with National requirements and guidelines.

21. Damage to trees and vegetative resources. The impacts on vegetative cover will be short-term, localized, and associated with construction. They can be mitigated by adopting proper measures and contract provisions with the contractors.

22. Damage to cultural resources. No archeological or cultural resources are expected to be encountered during project implementation.

23. Compensation Plan. The Project will require land acquisition for the intakes, water treatment plants and service reservoirs. Public Consultation with affected people before the projects start has to be approved. Besides, some temporary disturbance is possible due to displacement of roadside stores, setting up of temporary construction camps, and cutting of trees. Public consultations indicate concern for policy guideline on the compensation plan to be disclosed to the local community.

24. Community Impacts. Construction camps may place stresses on nearby communities. The contractors will be required to establish a mechanism by which local people can raise complaints. The use of local labor and the provision of construction support services will be encouraged and

will help alleviate potential conflicts. Village leaders will be consulted during public consultation meetings and requested that local people be involved, where possible, in the new water supply and sanitation systems.

25. Proper Construction Practices. Contractors' conformity with contract procedures and specifications during construction will be carefully monitored. A Quality Assurance Consultant is proposed to act as a monitor on technical construction procedures and quality of work. Public consultations showed that prime contractors tended to use sub contractors without ensuring that they conform to main contract clauses. Such practices reduce the quality of construction and the benefits of the Project. Contractors will be made to follow standard construction practices, monitored and supervised by field team consultants employed under the Project.

26. Operation of Water Supply and Sanitation Facilities. Minor impacts from operation are associated with maintenance (repair and replacement) of water pipelines when there are leaks or breaks in the network. In all eight subprojects, a program will be established to detect leaks and replace any old pipelines to minimize the risk of water supply interruption. With the proper design and construction of the water treatment plant, the drinking water distribution system, leakage rates and risk of contamination during distribution will be decreased substantially, resulting in improved water quality. Likewise, the odor standards will be maintained by careful selection of the sanitation treatment processes.

2. MITIGATION MEASURES

27. Program to Prevent Undue Disruption. There will undoubtedly be some water supply service interruption, inconvenience and also traffic disruption caused by construction vehicles and roadside excavations. To avoid undue inconvenience the construction program will include the following:

- In the detailed engineering design and civil works contracts, specify the work implementation sequence for pipeline replacement and rehabilitation, such that local inconvenience is avoided to the maximum extent feasible.
- Provide for an emergency water supply by PDAM tanker trucks in case of prolonged water supply disruptions to domestic consumers.
- In the civil works contracts, specify the coordination measures for water service interruption, such that cut-off periods are reduced to the minimum possible and customers are advised accordingly.
- In the civil works contracts, specify the method of construction in highly congested areas to minimize access disruption, such as trench-to-truck construction and provision of plates to provide temporary access over trenches. Proper access to daily businesses will be guaranteed to the maximum extent practicable.
- Require the contractors to secure approval of construction staging and temporary usage areas for storage of pipes and excavated materials.
- Require the constructor to use traffic routing for implementation of construction works. Safe traffic and safety signals and lighting should be in accordance with local regulations. Safe detours and walkways for pedestrians will be implemented as necessary.

28. Measures to Minimize Noise and Vibration. During construction, noise can be minimized through scheduling and specific restrictions for particularly noisy activities. To the extent possible, excavation and related works close to and in residential areas should not be undertaken from sundown to sunrise. Routine control on maintenance all equipment used for construction and transportation will be required to ensure reasonable noise levels. In built up areas, excessive vibration from heavy machines during construction will be avoided to the extent possible to reduce any damages to the surrounding areas. Manual excavation will be adopted in certain cases. Local construction standards will be followed if they specify more stringent requirements.

29. Protection of the Air Environment from the Construction Dust and Pollution. The contractor will employ dust suppression measures during the construction process and transportation of materials, such as periodically sprinkling water in certain areas and removal of excess materials from the sites. All street surfaces, sidewalks, and construction sites will be cleaned upon completion of activities. To reduce vehicle emissions the contractor will use traffic routing. Also it will be required to provide routine control on maintenance all equipment used for construction and transportation of materials, and the equipment will be operating only when required.

30. Prevention of Accidents during Construction. The contractors shall take all necessary precautions for the types of civil works involved, especially in residential areas and those with high circulation of persons and vehicles. All construction and rehabilitation works should be carried out in accordance with equipment safety rules, and health and safety regulations. Safety measures will be adopted to protect the personnel involved in the works. Public access to construction sites will be properly restricted. Internationally accepted practices and active regulations should be assisted regarding restoration of construction health and safety.

31. Protection of Vegetative Cover. As a general principle, all vegetation destroyed will have to be replaced. Ornamental trees that need to be cut will be properly replaced.

32. Land Availability (ROW or Municipal land). The Project will install trunk mains and distribution networks, and will require land for a water treatment plants and service reservoirs. Some of the project activities will take place within the existing pipeline alignment or right-of-way and on land owned by the municipal governments. The location and design of works associated with the Project has been carefully considered to avoid land acquisition and resettlement. Based on the survey, discussion with officials and communities in the project areas as well as inventory location for water treatment plant and water distribution systems, there are currently no areas where buildings will be demolished or households resettled. The Project currently defined will require land acquisition but no resettlement. The sanitation facilities are yet to be defined and may require some land acquisition and possibly resettlement. Provision for such an event is made in the Land Acquisition and Resettlement Framework, appended to the Final Report.

33. Additional Measures. All wood used during construction will be procured from authorized sources. Solid waste (other than demolition and excavation debris) such as wood, paper, glass, plastic and trash in general, will be properly collected, separated, stored, and disposed. All construction sites will be kept clean and in good sanitary conditions.

F. INSTITUTIONAL REQUIREMENTS AND ENVIRONMENTAL MONITORING PLAN

34. An environmental management and monitoring plan were prepared to mitigate the potential environmental impacts of the Project. The agencies involved in executing and monitoring the environmental aspects of the Project include PDAM, responsible for managing the social and environmental impacts of water supply projects, and the provincial and local environmental offices, responsible for environmental monitoring under the IEE (refer to Table 2). The required frequency of environmental monitoring is attached as Table 3. The core team of consultants will be responsible for incorporating the environmental management and monitoring plan into engineering design and for environmental monitoring during construction. The field specialists will supervise the monitoring of mitigation measures during construction. In addition, each contractor will be required to nominate an environmental, health, and safety manager responsible for meeting the contractors' environmental and health responsibilities.

35. The following laws and regulations apply to the environmental regulation of the Project. The measures incorporated in the EMP summarize and reflect these regulations:

1. Law No. 23/1997 of the Republic of Indonesia, concerning "Environmental Management"
2. Law No. 22/1999 of the Republic of Indonesia, concerning "Regional Government"

3. Presidential Decree No. 27 / 1999 of the Republic of Indonesia, concerning "Environmental Impact Assessment"

4. Presidential Decree No. 25/2000 of the Republic of Indonesia, concerning: "Government Authority and Provincial Authority as Autonomy Local"

5. Decree of Head of Environmental Impact Management Agency (BAPEDAL), No. 08/2000, concerning: "Public Participation and Information Transparency on Environmental Impact Assessment (EIA) Process"

6. Decree of Head of BAPEDAL, No. 09/2000, concerning: "Technical Guidelines for the Preparation of Environmental Impact Assessment (EIA)"

7. Ministerial Decree No.40/2000, concerning: "Organization Guidance of Appraiser Committee for Environmental Impact Assessment"

8. Ministerial Decree No. 17/2001, concerning: "Type of Business or Activities Subject to EIA"

9. Governor Decree No. 22/2001, of the South Sulawesi Province, concerning: "Establishment of BAPEDALDA of South Sulawesi Province".

10. Governor Decree No. 32/V/2001, of the South Sulawesi Province, concerning: "Establishment of Appraiser Committee of South Sulawesi Province".

36. The provincial and district water supply authorities which have so far played relatively minor roles in planning, designing and implementing water resources development schemes will need to be adequately strengthened for shouldering new responsibilities being devolved to them by the national sectoral agency the DGWR Directorate general of Water Supply (DGWS) of the Ministry of Public Works.

37. Indonesia has an established environmental management system known as the AMDAL process and all works to be carried out would be subject to these procedures. Depending upon which institution carries out the works, either the RG or the PDAM they would be considered the proponent and would be required to comply with AMDAL procedures. As a minimum a minor assessment known as UKL / UPL would be required with the vast majority of projects. These documents also require the use of Standard Operating Procedures (SOP). Works of a more substantial nature (see criteria in Attachment) are subject to full environmental impact Assessment.

38. At the District government level, implementation of the AMDAL process for works of a minor nature has been limited. Furthermore the impact of recent regional autonomy legislation in Indonesia has meant that much of the authority for environmental management and impact analysis has been devolved to the RGs.

39. Consequently the environmental management sub component will seek to (i) improve environmental awareness and management at the PDAM level as part of a bottom up participatory process and recognize environmental agencies as legitimate stakeholders; (ii) support the new administrative arrangements for the AMDAL process, to build the capacity to understand procedures, to allow adequate time and resources to carry out impact analysis and to prepare the necessary documentation; and (iii) support efforts by the RG to review and evaluate and supervise implementation of environmental requirements.

40. The Project will be implemented by the PDAMs and the PIUs in the locations. ~~The PMU~~ located at the Central Government level will provide guidance on environmental issues, and will be responsible for monitoring PIU and contractor compliance with environmental requirements.

Table 2: Environmental Monitoring Plan

Item	Period and Activity	Potential Negative Impacts	Mitigation Measures	Agencies Involved	
				Management	Monitoring
I	Pre-Construction				
a	Land acquisition for transmission line, intake, WTP and reservoir	Social conflict with population in the area	Public consultation among affected community and distribution on compensation	PDAM (PIU Environmental Officer)	BAPEDALDA, RG Land Office, PMU
II	Construction				
a	Site preparations for intake, WTP and service reservoir	During the site clearing for these structures might affect morphology and vegetation	Keep disturbance to vegetation to a minimum and replace damaged areas. Where possible reinstate excavated areas after backfilling.	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, PMU
b	Mobilization of labour, equipment and materials	Mobilization for labour, equipment and material could cause damage to roads. Social conflicts may arise if the project does not give preference to local available and suitably qualified labourers as well as equipment and material suppliers	Maintain roads in clean condition and repair as necessary. Give consideration and preference to locally available resources	Contractor (Environmental Officer) Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, PMU PIU (Environmental Officer), BAPEDALDA, RG Labour Office, PMU
c	Site preparations and set up of base camps	Contamination of water in streams and rivers	Provide suitable sanitation facilities in base camps and take preventative measures to ensure no excessive erosion of soils occurs by quickly reinstating disturbed areas	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, PMU

Item	Period and Activity	Potential Negative Impacts	Mitigation Measures	Agencies Involved	
				Management	Monitoring
d	Intake construction at rivers	Potential for scouring of river banks producing excessive turbidity in water	Work on intakes to commence with construction of temporary coffer dams using sand bags effectively isolating the area of works activity.	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, PMU
		Potential for coffer dams to cause change in flow of rivers due to constriction in flow	Each location to be examined and if necessary construction on this portion of the work deferred to the dry season	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, PMU
e	Pipeline construction for transmission and distribution networks (including excavation, pipe laying, backfill and reinstatement)	Threats exist to public health and safety and to private property if work is not properly managed; possibility for backfill to be washed into water courses during high rainfall	Working arrangements are to be properly managed in accordance with relevant laws and regulations; advance notice of proposed works to be given to affected persons; the length of trench open along pipelines to be limited to ensure prompt reinstatement	Contractor (Environmental Officer)	PIU (Environmental Officer), BAPEDALDA, RG Public Facilities Office, PMU
III	Operation				
a	WTP sludge management	The WTP operation will generate considerable amounts of sludge, which, if not properly managed will cause pollution of water courses	The water treatment plants will be provided with sludge drying beds to de-water sludge and the dried sludge cakes will be passed to landfill disposal sites	PDAM	BAPEDALDA

Table 3: Frequency of Environmental Monitoring

No.	Impact	Location	Method of Monitoring	Frequency of Monitoring
I	Pre-Construction Phase			
	Land acquisition	<ul style="list-style-type: none"> Intake Transmission Line WTPs Reservoirs 	Field and office inspection	Before construction contracts are bid
II	Construction Phase			
	Changes to morphology and the loss of vegetation	<ul style="list-style-type: none"> Intake WTPs Reservoirs 	Field inspection	During construction monthly and more frequently as necessary
	The damaged to roads used for the project	Roads which will be used for the project vehicles routes for mobilising the workers, equipment and material.	Field inspection	During construction monthly and more frequently as necessary
	Social conflict	Surrounding project area	Field inspection	During construction monthly and more frequently as necessary
	Contamination in surrounding area of project facilities location due to construction preparation and construction works.	Surrounding area of project facilities	Field inspection	During construction monthly and more frequently as necessary
	Damage to public facilities	Surrounding project area	Field inspection	During construction monthly and more frequently as necessary
	Noise and Vibration	Surrounding the construction area	Noise and vibration measurements	During construction monthly and more frequently as necessary
III.	Operational Phase			
	Pollution of water and soil surrounding WTP's waste disposal area	WTP's waste disposal area	Water quality analyses on river water samples (for parameters of turbidity, DO, pH, SS, BOD, temperature)	Once every six months during operation

41. The responsibility for construction standards is with the Public Works Department. Their standards together with ADB's environmental requirements will be incorporated into the project design. There are no significant environmental management issues relating to the post construction and operation of the project. All contracts for construction works will include requirements for implementation of the specific measures as per EMP provisions and good construction practices. Control and monitoring of construction works will be part of responsibilities of the PIU. When necessary this will be done on a daily basis.

42. The Project's environmental impacts will be closely monitored. Specifically, the monitoring and evaluation (M&E) activities by the PIUs will include (i) collecting, collating, and analyzing baseline data related to the environmental conditions in the Project towns; (ii) environmental gains as a consequence of project implementation, and (iii) evaluating environmental impacts

within the selected systems. For environmental monitoring, they will collect and analyze information on quality of water supplied, and minimization of construction impact within the towns. The project performance, monitoring, and evaluation will be done in accordance with ADB's guidelines on its project performance management system.

G. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

43. The IEE process will include public participation and consultation to help PDAM achieve public acceptance of the Project. The technical assistance consultant has already involved a wide range of participants representing affected people, community leaders, non government organizations and city governments. The consultations were organized on two occasions during field trips and coordination meetings with stakeholders. The affected people and the local communities expressed support for the Project, perceiving benefits to the community and the region. The main concerns expressed related to the provision of, quality construction, proper engineering practices during construction, and transparency in construction work. Responses to these concerns are incorporated in the Project's design.

44. The IEE report documenting the mitigation measures and consultation process is available for public review. As the public consultation is an ongoing process, additional disclosure and consultation will occur during the construction and operation phases, through dissemination of a project leaflet in Indonesian. The leaflet will explain the affected peoples' entitlements and the procedures for obtaining compensation and recording complaints/grievances and setting up a formal grievance redress committee with representation from the affected people.

H. FINDINGS AND RECOMMENDATIONS

45. The IEE study reveals recommendations to mitigate expected negative impacts from the proposed Project activities. Positive impacts of the Project will be economic gains and better sanitation conditions in project areas. Environmental management and monitoring will be required during preconstruction, construction and operation period.

46. Minor negative impacts are possible during (i) land acquisition (ii) implementation of the civil works in the water resources (iii) construction the transmission and distribution pipes (iv) reservoir and WTP's construction and (v) during operation of the WTP. A special management plan, road sign, information display board, roadside fence, public pre-announcement and employment of special Environmental Officers by both the Contractor and the PIU will mitigate this. The cost of these measures has been included in the project budget.

47. For the subprojects large distribution networks, more than 500 Ha, a full AMDAL is required according to Ministry of Environmental Decree No. 17/2001). This applies also to water abstractions more than 250 liters per second.

Table 4: Screening for AMDAL

Regional Government	Proposed Abstraction (lps)	Distribution Coverage Area, (ha)	Transmission Length (km)	AMDAL Required
Kab. Serang	220	210	20	Not Required
Kab. Bandung	600*	642*	58	Required
Kab. Bogor	300 (each 150) & 70	177	18*	Required
Kab. Tapanuli Tengah	120	200	20	Not Required
Kab. Maros	165	201	20	Not Required
Kab. Barru	55	173	16	Not Required
Kab. Jeneponto	100	3	5	Not Required
Kota Palopo	250	275	15*	Required

I. CONCLUSION

48. The Project will have some minor environmental impacts, some positive and some negative, including (i) changing of land morphology and the reduction of vegetation (during construction) (ii) road/paths damage (during construction) (iii) social conflict due to land acquisition, labor recruitment and using equipment and material from outside the project area (during construction) (iv) possible water body contamination during land development and the operation of base-camps and material storage (during construction) (v) river disturbance (during construction), (vi) public utility damaging (during construction) (vi) disturbance to the public utility's customers (during construction), (vii) improved accessibility to drinking water and sanitation (viii) improvements in public health.

49. Implementation of appropriate mitigation measures during pre construction, construction and operation phases will minimize the negative impacts of the Project to acceptable levels. Both the Contractor and the PIU will be required to appoint Environmental Officers. Environmental monitoring of the Project will be undertaken regularly during construction and operation by local Environmental Impact and Management Agencies (BAPEDALDAs) to ensure that the measures are being implemented properly.

50. In conclusion, the Project will have overall beneficial impacts in increasing the population supplied with drinking water, and improving sanitation conditions through the project area, and will have insignificant negative impacts, which will be carefully monitored and adequately mitigated. For the subprojects which meet the requirements for a full environmental impact assessment (AMDAL) according to Ministry of Environmental Decree No. 17/2001, further environmental study will be done ahead of design and implementation of project works. AMDALs will be prepared for the water supply sub-projects in Kabupaten Bandung, Kabupaten Bogor and Kota Palopo.

Attachment 1

State Minister for Environment Decree Number : Kep. 13/MENLH/3/1995
Concerning : Emissions Standards for Stationary Sources
Emission Standards for Other Types of Activities (Effective in 2000)

Parameter	Maximum Limit (mg/m ³)
1. Ammonia (NH ₃)	0.5
2. Chlorine Gas (Cl ₂)	10
3. Hydrogen Chloride (HCl)	5
4. Hydrogen Fluoride (HF)	10
5. Nitrogen Oxide (NO ₂)	1000
6. Opacity	35%
7. Particulates	350
8. Sulfur Dioxide	800
9. Total Reduced Sulphur (H ₂ S)	35
10. Logam	
10. Mercury (Hg)	5
11. Arsenic (As)	8
12. Antimon (Sb)	8
13. Cadmium (Cd)	8
14. Zinc (Zn)	50
15. Lead (Pb)	12

Note :

- Gas volume is at standard conditions (25 °C and pressure 1 atm)

Attachment 2

Decree of Minister For Environment No. 48/1996, re. Standard Noise Levels

STANDARD NOISE LEVELS

		Designation of Areas/ Environmental activities	Noise Level dB (A)
a.	1.	Housing and Residential Areas	55
	2.	Trade and Services	70
	3.	Offices and Trade	65
	4.	Green Open Space	50
	5.	Industry	70
	6.	Government and Public Facilities	60
	7.	Recreation	70
	8.	Special :	
		- Air Ports*	
		- Railway Stations*	
		- Seaports	70
		- Cultural Reserves	60
b.		Environment of Activities	
	1.	Hospitals or the like	55
	2.	Schools or the like	55
	3.	Places for religious services or the like	55

Description

- : adjusted to the stipulation of the Minister of Communications.

Attachment 3

THE PRESIDENT OF THE REPUBLIC OF INDONESIA
GOVERNMENT REGULATION OF THE REPUBLIC OF INDONESIA
NUMBER 20 OF THE YEAR 1990
CONCERNING
THE CONTROL OF WATER POLLUTION

- (1) The categories of water pursuant to their uses, have been determined as follows:
- Category A: Water that may be used directly as drinking water without any previous treatment;
- Category B: Water that may be used as raw water for drinking water;
- Category C: Water that is may be used for fisheries and for livestock;
- Category D: Water that may be used for agricultural purposes and may also be utilized for small business in cities, industries, and hydro-electric electric generation.

1. CRITERIA OF WATER QUALITY CATEGORY A

No.	Parameter	Unit	Max Concentration	Notes
PHYSICAL				
1.	Odor		Odorless	
2.	Total Dissolved Solid Substances (TDS)	mg/l	1000	
3.	Turbidity	NTU Scale	5	
4.	Taste		Tasteless	
5.	Temperature	o C	Air Temperature +3C	
6.	Colour	TCU Scale	15	
CHEMICAL				
a.	INORGANIC	CHEMICALS		
1.	Mercury	mg/l	0.001	
2.	Aluminium	mg/l	0.2	
3.	Arsenic	mg/l	0.05	
4.	Barium	mg/l	1.0	
5.	Iron	mg/l	0.3	
6.	Fluoride	mg/l	0.5	
7.	Cadmium	mg/l	0.005	
8.	CaCO ₃ Hardness	mg/l	500	
9.	Chloride	mg/l	250	
10.	Chromium (Hexavalent)	mg/l	0.05	
11.	Manganese	mg/l	0.1	
12.	Sodium	mg/l	200	
13.	Nitrate, as N	mg/l	10	
14.	Nitrite, as N	mg/l	1.0	
15.	Silver	mg/l	0.05	
16.	pH		6.5 - 8.5	Minimum and Maximum limits

No.	Parameter	Unit	Max Concentration	Notes
17.	Selenium	mg/l	0.01	
18.	Zinc	mg/l	5	
19.	Cyanide	mg/l	0.1	
20.	Sulphate	mg/l	400	
21.	Sulfide as H ₂ S	mg/l	0.05	
22.	Copper	mg/l	1.0	
23.	Lead	mg/l	0.05	
b.	ORGANIC	CHEMICALS		
1.	Aldrin and Dieldrin	mg/l	0.0007	
2.	Benzene	mg/l	0.01	
3.	Benzo (a) pyrene	mg/l	0.00001	
4.	Chlordane (total isomer)	mg/l	0.00003	
5.	Chloroform	mg/l	0.03	
6.	2, 4 - D	mg/l	0.10	
7.	DDT	mg/l	0.03	
8.	Detergent	mg/l	0.5	
9.	1,2-Dichloroethane	mg/l	0.01	
10.	1,1-Dichloroethane	mg/l	0.0003	
11.	Heptachlor and Hepta chlorepoide	mg/l	0.003	
12.	Hexachlorobenzene	mg/l	0.00001	
13.	Lindane	mg/l	0.004	
14.	Methoxychlor	mg/l	0.03	
15.	Pentachlorophenol	mg/l	0.01	
16.	Total pesticide	mg/l	0.1	
17.	2, 4, 6-Trichlorophenol	mg/l	0.01	
18.	Organic Substances (KMnO ₄)	mg/l	10	
	MICROBIOLOGICAL			
1.	Faecal Coliform Bacteria	Total per 100 ml	0	
2.	Total Coliform Bacteria	Total per 100 ml	3	
	RADIOACTIVITY			
1.	Gross Alpha Activity	Bq/l	0.1	
2.	Gross Beta Activity	Bq/l	0.1	

Particulars:

mg	=	milligram
ml	=	milliliter
l	=	liter
Bq	=	Bequerel
NTU	=	Nephelometric Turbidity Units
TCU	=	True Colour Units

Heavy metals are as dissolved metals

2. CRITERIA OF WATER QUALITY CATEGORY B

No.	Parameter	Unit	Max Concentration	Notes
PHYSICAL				
1.	Temperature	°C	Normal water temperature	
2.	Total Dissolved Solid Substances (TDS)	mg/l	1000	
CHEMICAL				
a. INORGANIC CHEMICALS				
1.	Mercury	mg/l	0.001	
2.	Aluminium	mg/l	0.2	
3.	Arsenic	mg/l	0.05	
4.	Barium	mg/l	1.5	
5.	Iron	mg/l	5	
6.	Fluoride	mg/l	1.5	
7.	Cadmium	mg/l	0.01	
8.	Chloride	mg/l	600	
9.	Chromium (Hexavalent)	mg/l	0.05	
10.	Manganese	mg/l	0.5	
11.	Nitrate, as N	mg/l	10	
12.	Nitrite, as N	mg/l	1.0	
13.	Dissolved Oxygen (DO)	mg/l	*	
Surface water is recommended to be higher than or at least 6				
14.	pH		5.0 - 9.0	
15.	Selenium	mg/l	0.01	
16.	Zinc	mg/l	5	
17.	Cyanide	mg/l	0.1	
18.	Sulphate	mg/l	400	
19.	Sulfide as H ₂ S	mg/l	0.1	
20.	Copper	mg/l	1.0	
21.	Lead	mg/l	0.1	
b. ORGANIC CHEMICALS				
1.	Aldrin and Dieldrin	mg/l	0.017	
2.	Chlordane	mg/l	0.003	
3.	DDT	mg/l	0.042	
4.	Endrin	mg/l	0.001	
5.	Phenol	mg/l	0.002	
6.	Heptachlor and Hepta chlorepoide	mg/l	0.018	
7.	Carbon Chloroform Extract	mg/l	0.5	
8.	Lindane	mg/l	0.056	
9.	Methoxychlor	mg/l	0.035	

No.	Parameter	Unit	Max Concentration	Notes
10.	Oil and grease	mg/l	nil	
11.	Organophosphate & Carbamate	mg/l	0.1	
12.	PCB	mg/l	nil	
13.	Methylene Blue Active Substance (surfactant)	mg/l	0.5	
14.	Toxaphene		0.005	
MICROBIOLOGICAL				
1.	Faecal Coliform Bacteria	Total per 100 ml	2000	
2.	Total Coliform Bacteria	Total per 100 ml	10,000	
RADIOACTIVITY				
1.	Gross Alpha Activity	Bq/l	0.1	
2.	Gross Beta Activity	Bq/l	1.0	

Particulars:

mg	=	milligram
ml	=	milliliter
l	=	liter
Bq	=	Bequerel

Heavy metals are as dissolved metals

III. CRITERIA OF WATER QUALITY CATEGORY C

No.	Parameter	Unit	Max Concentration	Notes
PHYSICAL				
1.	Temperature	°C	Normal water temperature 30	
2.	Total Dissolved Solid Substances (TDS)	mg/l	1000	
CHEMICAL				
a.	INORGANIC	CHEMICALS		
1.	Mercury	mg/l	0.002	
2.	Aluminium	mg/l	0.02	
3.	Arsenic	mg/l	1	
4.	Fluoride	mg/l	1.5	
5.	Cadmium	mg/l	0.01	
6.	Free Chlorine	mg/l	0.003	
7.	Chromium (Hexavalent)	mg/l	0.05	
8.	Nitrite, as N	mg/l	0.06	
9.	Dissolved Oxygen (DO)	mg/l	Higher than 3 is required	
10.	pH		6.0-9.0	
11.	Selenium		0.05	
12.	Zinc		0.02	
13.	Cyanide		0.02	
14.	Sulfide as H ₂ S		0.002	

No.	Parameter	Unit	Max Concentration	Notes
15.	Copper	mg/l	0.02	
16.	Lead	mg/l	0.03	
b.	ORGANIC CHEMICALS			
1.	BHC	Mg/l	0.21	
2.	DDT	mg/l	0.002	
3.	Endrin	mg/l	0.004	
4.	Phenol	mg/l	0.001	
5.	Oil and grease	mg/l	1	
6.	Organophosphate & Carbamate	mg/l	0.1	
7.	Methylene Blue Active Substance (surfactant)	mg/l	0.2	
	RADIOACTIVITY			
1.	Gross Alpha Activity	Bq/l	0.1	
2.	Gross Beta Activity	Bq/l	1.0	

Particulars: mg = milligram
 ml = milliliter
 l = liter
 Bq = Becquerel

Heavy metals are as dissolved metals

IV. CRITERIA OF WATER QUALITY CATEGORY D

No.	Parameter	Unit	Max Concentration	Notes
PHYSICAL				
1.	Electrical Conductivity	Umho/cm (25 °C)	2250	
2.	Temperature	°C	Normal water temperature	
3.	Dissolved Solid Substances	mg/l	2000	
CHEMICAL				
a.	INORGANIC CHEMICALS			
1.	Mercury	mg/l	0.005	
2.	Arsenic	mg/l	1	
3.	Boron	mg/l	1	
4.	Cadmium	mg/l	0.01	
5.	Cobalt	mg/l	0.2	
6.	Chromium (hexavalent)	mg/l	1	
7.	Manganese	mg/l	2	
8.	Na (alkali salt)	mg/l	60	
9.	Nickel	mg/l	0.5	
10.	pH	mg/l	5.0 - 9.0	
11.	Selenium	mg/l	0.05	
12.	Zinc	mg/l	2	
13.	Sodium Absorption Ratio (SAR)	mg/l	18	Depending on species of

				vegetation. Maximum capacity is for tolerant species.
14.	Copper	mg/l	0.2	
15.	Lead	mg/l	1	
16.	Residual Sodium Carbonate (RSC)	mg/l	1.25 – 2.50	Maximum 1.25 for Carbonate (RSC) sensitive species; Maximum 2.50 for less Sensitive species
RADIOACTIVITY				
1.	Gross Alpha Activity	Bq/l	0.1	
2.	Gross Beta Activity	Bq/l	1.0	

Particulars:

mg = miligram ; ml = milliliter
l = liter ; Bq = Becquerel
umho = micromhos
Heavy metal is dissolved metal

Attachment 4

Relevant Criteria

The relevant criteria for this project are as follows:

KEPMEN Number 17 Year 2001 entitled " Proposed Use or Activity which requires an ANDAL or full EIA"

For Water Supply projects

- a. Construction of Distribution Network Area =>500 Ha
- b. Construction of Transmission Network Length =>10 km
- c. Water intake Capacity =>250 lps

For Sanitation Projects

- a. Construction of Waste Water Treatment Plants Area => 3 Ha
- b. Construction of Wastewater piping system Area => 500 Ha

These Criteria should be used as one limiting criterion if preparation of a full EIA under Indonesian regulations is a constraint due to the time required for preparation as part of the feasibility study.

Implementation Procedure of EIA

1. Terms of Reference of EIA (ToR of EIA)

ToR of EIA to be prepared by Proponent

ToR of EIA style to follow guidance that's have been decided by concerned agency, i.e: Head of BAPEDAL (No.09/2000)

Proponent submit the ToR of EIA to the concerned agency:

At National Level : To Head of BAPPEDAL through Appraiser

Committee of EIA
At Province Level : To Governor through Provincial Appraiser
Committee of EIA
At Kabupaten Level : To Bupati through Kabupaten Appraiser
Committee of EIA
ToR of EIA to be evaluated by Appraiser Committee together with Proponent to decide the scope of study of EIA that will be conducted

Environmental Impact Assessment (EIA), Environmental Management Plan (RKL) and Environmental Monitoring Plan (RPL)

EIA, RKL and RPL prepared by Proponent based on ToR of EIA have been decided by concerned agency

Study of EIA, RKL and RPL documents refer to implementation guidance have been issued by Head of BAPEDAL (No.09/2000)

Documents / Reports of EIA, RKL and RPL to be submitted by Proponent to:

At National Level : To Head of BAPEDAL through Appraiser
Committee of EIA
At Province Level : To Governor through Provincial Appraiser
Committee of EIA
At Kabupaten Level : To Bupati through Kabupaten Appraiser
Committee of EIA

Documents / Reports of EIA, RKL and RPL to be evaluated by Appraiser Committee. In case the project activities within one (1) Kabupaten, the roles of evaluation will be handled by Kabupaten Appraiser Committee of EIA.

Figure 1. to show institution responsible and implementation procedure for EIA

Public Participation and Information Transparency on EIA Process

The "bottom up" approach is relatively new in Indonesia, and is aimed at empowering the community in the project identification and implementation. This approach is being implemented nation wide, also for environmental management studies.

To accommodate the public aspiration and to create public participation and information transparency on EIA process, recently Head of BAPEDAL was issued the decree regarding mentioned above (Decree No. 08/2000). Steps and its procedure as follows:

Project Plan (activities plan) should be announced to the public (community) before project implementation

Announcement to be done by Local Government and Proponent

During 30 days since project plan announced, related community can express their suggestions, opinions and responds regarding project plan that will be implemented

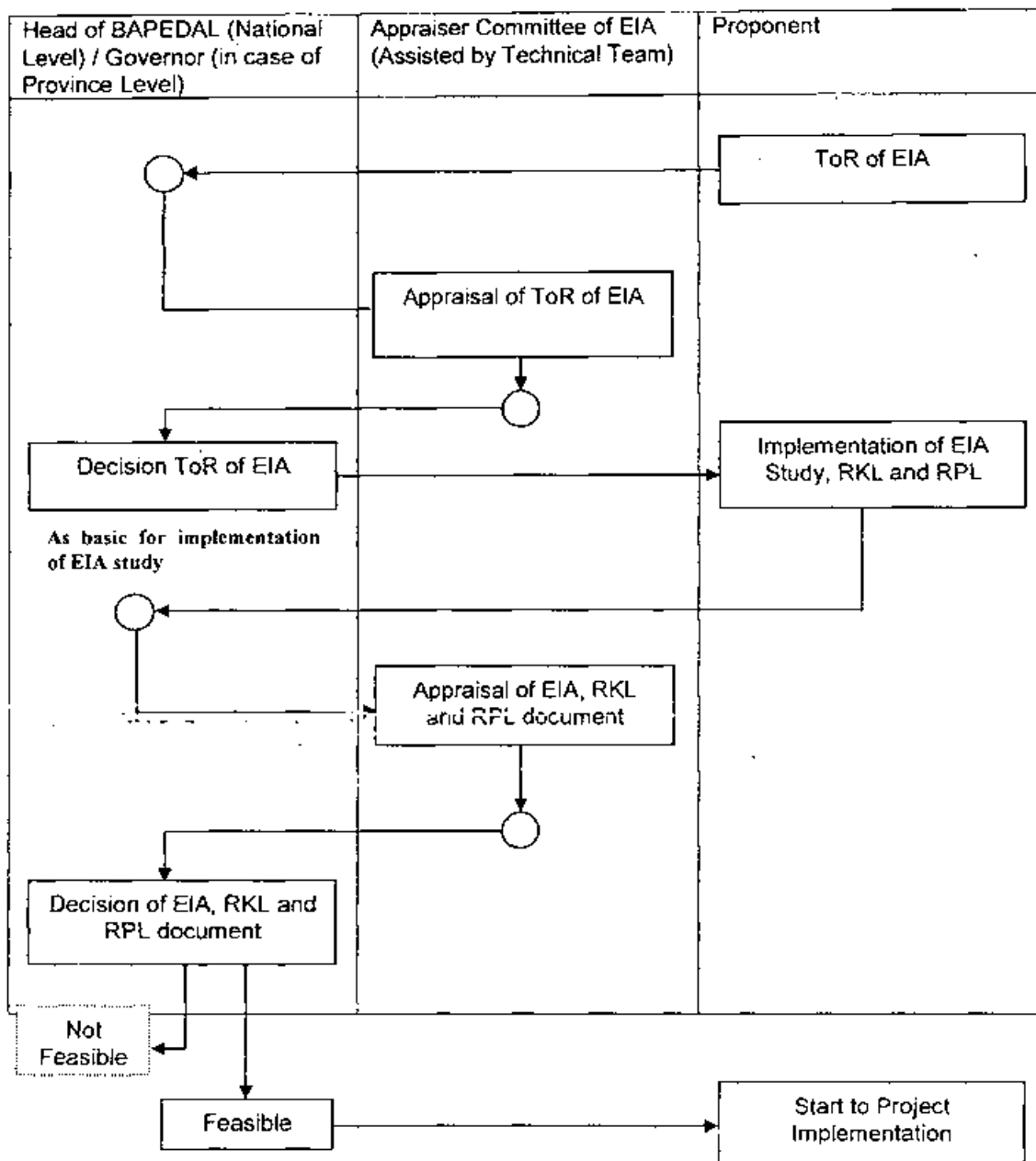
Suggestions, opinions, and responds to be expressed by official letter to the concerned agency

Suggestions, opinions and responds from community must be considered and studied in EIA

Public community that concerned, must be involved on EIA process from the beginning (preparation of ToR of EIA) until appraisal of EIA, RKL and RPL document by concerned agency

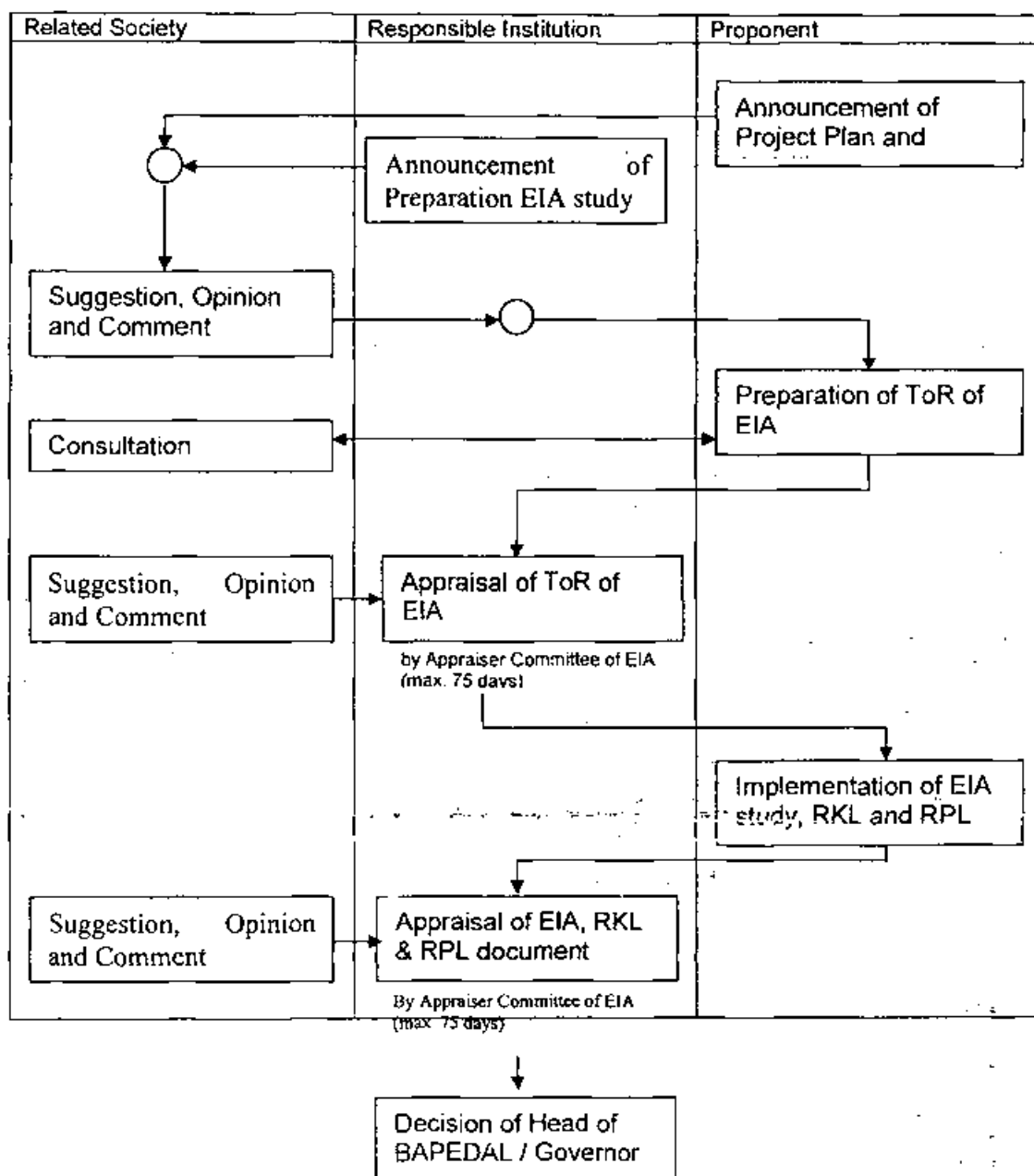
Figure 2. to show public participation and information transparency on EIA process

Figure 1. Institution Responsible and Implementation Procedure for Environmental Impact Assessment (EIA)
(Reference: Presidential Decree No: 27/1999 and Presidential Decree No. 25/2000)



BAPEDAL (Badan Pengendalian Dampak Lingkungan = Environmental Impact Management Agency)
RKL (Rencana Pengelolaan Lingkungan = Environmental Management Plan)
RPL (Rencana Pemantauan Lingkungan = Environmental Monitoring Plan)

Figure 2. Public Participation and Information Transparency on EIA Process (Reference: Decree of Head of Environmental Impact Management Agency (BAPEDAL) No: 08/2000)



Note:

- EIA = Environmental Impact Assessment
- RKL = Rencana Pengelolaan Lingkungan / Environmental Management Plan
- RPL = Rencana Pemantauan Lingkungan / Environmental Monitoring Plan

Appendix D:

- Part 1: Land Acquisition and Resettlement Policy Framework
- Part 2: Compensation Policy Framework and Procedural Guidelines
- Part 3: WSSP Socio-economic Survey Questionnaire

Appendix D
Part 1

Land Acquisition and Resettlement Policy Framework

Appendix D – Part 2
LAND ACQUISITION AND RESETTLEMENT POLICY FRAMEWORK

I. Project Characteristics

1. WSSP will support a number of medium to large subproject investments in 6 Provinces of Indonesia which will rehabilitate and upgrade existing water supply and sanitation infrastructure. None of these types of activities is expected to have any large scale, significant or irreversible environmental impacts. None of the sub-projects is expected have a significant impact due to land acquisition and/or resettlement. The scope of the proposed investments includes:

- New water intakes from some rivers
- New and rehabilitated water treatment plants
- New and rehabilitated water reservoirs
- New and rehabilitated pipelines
- New and rehabilitated reticulation systems
- New simplified community sewerage systems
- New MCK's
- New Septage Treatment Plant
- Local household level improvements to bathrooms kitchens, drainage.

The largest area in total required for acquisition for any project in the 14 towns was 1.5 Ha.

2. ADB Bank Policy regarding land acquisition applies and would be applicable to water supply components but no resettlement will be necessary. All participating governments are providing evidence that they either already own land required or have agreed to acquisition with landowners. This is considered a requirement for participation in the project and each local government has been issued with comprehensive checklists and question sheets regarding proposed land acquisition and resettlement impacts.

3. For sanitation improvements, it is possible that some land acquisition and small amounts of resettlement may be necessary. Consequently, this appendix outlines a framework which would become part of the project implementation manual which would be agreed to by all parties interested in obtaining assistance from the WSSP project so as to ensure that the relevant ADB environmental requirements are followed.

4. WSSP is a community-based demand-driven project. Sub-projects for sanitation will not be identified in advance. A sanitation strategy will be prepared in the first year of implementation of the loan. The identification of the number of sub-project affected persons can thus only be defined once sub-project proposals are prepared by the Community Group or Association or the relevant District Government Department and evaluated by a Sanitation Stakeholder Committee (SSC).

5. Since participatory planning and decision making form the basis for the project, the entire project approach should guarantee that the sub-project affected persons will be involved in the decision making process.

6. Should any sub-project involve any land acquisition or resettlement, this Policy Framework provides procedures and guidelines for agreeing on compensation for those persons who are affected by the sub-project in order to ensure that they are not unfairly treated by being given low compensation, or benefit unfairly by being given compensation that is significantly higher per square meter than other owners who sell similar nearby land on the free market.

II. Definitions

7. The definitions used in this Policy Framework are:

a) "Census" means the head count of those persons under a proposed Sub project that qualify as Displaced or Affected Persons.. The date of the Census is the latest cut-off point

to record the persons in the Sub-project area that will receive compensation, resettlement and/or removal and rehabilitation assistance.

b) "Compensation" means the compensation at replacement cost as determined in Section V of this Framework given in exchange for the taking of land and building, in whole or in part, and all fixed assets on the land and buildings and crops and trees.

c) "Land acquisition" means an activity that requires obtaining land, buildings or other assets from Affected Persons for purposes of the sub-project against provision of compensation and assistance.

d) "Affected Persons" means persons who, on account of the involuntary taking of land and other assets as part of the execution of the Sub-project resulting in a direct economic and social adverse impact, whether or not said Affected Persons must physically relocate, had or would have their: (i) standard of living adversely affected, whether or not the Affected Person must move to another location; (ii) right, title, interest in any house, land (including premises, agricultural and grazing land) or any other physical asset acquired or possessed, temporarily or permanently, adversely affected; (iii) access to productive assets adversely affected, temporarily or permanently; or (iv) business, occupation, work or place of residence or habitat adversely affected; and "Affected Persons" means any of the Affected Persons;

e) "Physically Displaced Persons" means persons who are forced to move from their previous location because (i) all or a significant portion (50% or more) of their land or buildings are affected by the sub-project; or (ii) less than 50% of their land or buildings are affected by the sub-project if the remaining portion is not economically viable or habitable.

f) "Rehabilitation Assistance" means the provision of cash or assets or other forms of support to enable Affected Persons with or without legal rights to the assets taken by the Project to at least equal or improve their standard of living, income levels and production capacity to the level prior to the project.

g) "Resettlement" means an effort /activity to relocate the Physically Displaced Persons into a good new settlement so that they can develop a better life.

h) "Involuntary Displacement" means direct economic and social impacts caused by: (a) the involuntary taking of land resulting in: (i) relocation or loss of shelter; (ii) lost assets or access to assets; or (iii) loss of income sources or means of livelihood, whether or not the Affected Person must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced.

(i) "Sub-project" means a specific water or sanitation infrastructure investment project carried out with assistance from the WSSP project.

(j) "Proponent" means the party responsible for preparation and design of the sub-project and could be either a Community Group, A Local Association or a District Government Agency.

(k) "Stakeholder Committee" is the body which would evaluate the sub-project proposals and make recommendations concerning funding to the District Government (Head) Bupati and District Government Council (DPR).

III. Basic Principles

8. Involuntary resettlement may cause severe long-term hardship, impoverishment, and environmental damage unless appropriate measures are carefully planned and carried out. For these reasons, the overall principles for this Framework are the following:

a) Sub-project proposals should minimize land and asset acquisition and involuntary displacement. Groups proposing sub-projects should have explored viable alternative designs to minimize displacement.

b) The group proposing the sub-project will use a transparent and participatory process to ensure that all sub-project affected persons agree on any proposed sub-project that involves land acquisition or resettlement

c) The group or agency proposing the sub-project will have to agree to incorporate the costs for land acquisition and/or any involuntary resettlement in their sub-project proposals as part of sub-project costs. The compensation costs will be covered through the communities' own funds or government funds (ADB Bank Loan proceeds shall not be used to finance compensation).

d) In accordance with traditional practice, community members may elect to voluntarily contribute land or assets and/or relocate temporarily or permanently from their land without compensation. Voluntary, in this context will mean the donation or granting of the land and other assets with the full knowledge of the purposes for which the assets is being made available and the economic, social and legal consequences that such act would have on the person providing the asset and which act is exercised freely and voluntarily, without any type of coercion.

e) Affected persons should be assisted in their efforts to improve their livelihoods and standards of the living or at least to restore them, in real terms, to pre-displacement levels or to the levels prevailing prior to the beginning of the project implementation, whichever is higher.

IV. Framework

9. In the event that a sub-project proposal requires any land acquisition, buildings, crops, trees, and/or resettlement, the subproject proposals have to indicate the need for land acquisition, the number and names of persons affected, and the estimated budget required for compensation.

10. Proposals that would affect 200 persons or more would normally entail long lead times, and are expected to be beyond the scope of the project. In the highly unlikely event that more than 200 persons will be affected and require compensation, the Project Supervising Consultant will ensure that the proposal is complemented with a full Land Acquisition and Resettlement Action Plan (LARAP). The LARAP will include i) a survey to identify the socio-economic characteristics of the Affected Persons; ii) a comprehensive plan for the acquisition of land and/or resettlement; and iii) a compensation package in accordance with the compensation guidelines set out in Section V and acceptable to the Physically Displaced Persons and the groups proposing the sub-project (this would be the Community Group and/or a District level local government agency). The sub-project proposal will also indicate the budget source for the required compensation (Bank funds cannot be used for compensation). The Project Supervising Consultant shall seek the Bank's approval of the LARAP and budget, and seek modifications in case the Bank finds they are needed.

11. For any sub-project that requires resettlement of less than 200 persons, the proponent (i.e. either the community group or the relevant District Government Agency, supported by the Project Supervising Consultant staff assisting with proposal preparation and the SSC, will ensure that the following steps are followed:

a) The Affected Persons agree on the sub-project proposal, and have negotiated agreement on either voluntary or compensated contribution with the group proposing the sub-project in the form of a short resettlement plan.

b) The Plan and any resulting agreements is made through a participatory and transparent process

c) Affected Persons are made aware that they have the right to compensation and/or other assistance according to the compensation guidelines provided in Section V

d) In cases where voluntary contributions of land or assets are indicated, these are clearly agreed with all Displaced Persons; the name(s) of the contributor(s) and details of the contribution(s) are included in the agreement; and these are verified by the Supervising Consultants.

e) A Short Resettlement Plan with a simple format on the agreement is incorporated in the sub-project proposal. This agreement should clearly indicate individual land plots needed for land acquisition and/or resettlement, the number and names of the affected persons, scheme of compensation and/or resettlement, and estimated cost for land acquisition and/or resettlement compensation, and in the case of voluntary contribution the rationale for it and the fact that the person had the choice of not providing the asset, and in the case of involuntary contribution the manner followed for valuation of the assets which must be in compliance with Section V below. (A short resettlement plan covers the same issues as that of a full resettlement plan, as relevant, but in less detail. However, the short resettlement plan must ensure that adequate compensation, rehabilitation, and relocation arrangements are planned and budgeted and should be no more than 2 pages)

f) The Short Resettlement Plan should indicate that any compensation will come from the community's or government's contribution to the sub-project. ADB Loan proceeds cannot be used for land and asset compensation. It would be possible to use ADB Loan proceeds to construct small works and initiate employment opportunities for the group members who are to be resettled. This has to be agreed by the group proposing the sub-project and put in the agreement (see assistance guidelines in Section V).

g) The details of the Plan will be verified by the Supervising Consultant in charge of the affected communities prior to consideration by the Selection Sub Committee of the SSC for financing. In the event that no consensus has been reached on the form and amount of compensation, the sub-project will not be considered for financing.

h) No Affected Persons shall have their land or other assets taken before they have received the compensation and the resettlement site, if that is the case, as agreed upon and detailed in the sub-project proposal

i) Payment of compensation, displacement of people, or preparation of a resettlement site as agreed upon should be completed before the construction of the respective sub-project is started.

j) A monitoring and evaluation system for compensation will be introduced to ensure that Affected Persons have received their compensation as agreed upon. The monitoring will be undertaken by the Supervising Consultant or an Independent Consultant and will be a full survey or sample survey depending on the number of households affected. A report on the results and recommendations will be published by the supervising consultant and disseminated to the community and the District Government and SSC.

V. Guidelines for Compensation, Resettlement and Other Assistance

12. Based on the agreement reached at the negotiation and discussed in the Plan, the Affected Persons can choose to receive cash compensation, resettlement, or other options. Other options include serviced sites, land [swap] of equal size or equal productive capacity, low cost housing, apartments, real-estate housing with credit facilities, or other schemes. Among those options, Affected Persons will be provided the opportunity of having a resettlement site where they do not have to pay more than their present routine expenditure.

a. Compensation

13. Affected Persons have the right to receive real replacement cost compensation. Real replacement cost means:

a) for land in rural and urban areas, the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes;

b) for agricultural land, the pre-subproject or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of land preparation to levels similar to those of affected land, plus the cost of any registration and transfer taxes;

and

c) for houses and other structures, the market cost of the materials to build a replacement structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees, plus the cost of any registration and transfer taxes. In determining the replacement cost, depreciation of the asset and the value of salvage materials are not taken into account, nor the value of benefits to be derived from the sub-project deducted from the valuation of an affected asset. Compensation for trees, crops and other assets will be based on the replacement value using existing market prices per tree prepared by relevant agencies.

14. The extent of the compensation will depend on the tenure situation of the Project Affected Person as set out in Section VI.

15. Affected Persons whose: (i) remaining land and building cannot be used for housing or workplace; or (ii) whose remaining land is less than 60 sq meters; or (iii) whose remaining agricultural land is less than 50% of its initial size or is not economically viable; or (iv) whose remaining building is less than 21 sq meters; have the option of being included as Physically Displaced Persons and compensated for the taking of the affected asset. Affected Persons whose remaining land is less than 60 sq meters and remaining building is less than 21 sq meters, will have an option to move to a new lot of 60 sq meters and building of 21 sq meters. They will be provided with compensation for the difference in area between what they lost and what is being provided to them.

b. Resettlement Sites

16. The resettlement site provided for the Affected Persons will include infrastructure and public facilities so that it is good for living and enables the development of a good social and economic life, including: (a) road or footpath as necessary; (b) drainage system; (c) water supply (if a piped water distribution network is not available, there should be shallow wells that comply with health standards); (d) electricity; (e) health facility, education, work places, religious services, and sport facilities, in accordance with the size of the new community; and (f) public transport facility to perform a good life.

17. The Physically Displaced Persons will move to the new site after the infrastructure and facilities at the resettlement site are completed and feasible to live in as confirmed by the Supervising Consultant. The Physically Displaced Persons will be informed of the completion of the resettlement site at least one month before displacement, and they will be invited to survey the new site. The resettlement site would be available prior to the start-up of works under the relevant Project component.

18. The location reserved for resettlement will be widely publicized so that the general public will be informed.

c. Other Assistance

19. Affected Persons whose job, income, or living is disturbed by the Project or are physically displaced will receive assistance to restore it. The types of assistance will be defined by the Community Group and/or the District government and confirmed by the Supervising Consultant and the SCC.

20. Training and assistance that can be provided include: motivation development; skill and vocational training ; assistance to start and develop small businesses; small scale credit; marketing development; assistance during transition period; and strengthening of community based organization and services.

21. In implementing the assistance, care should be taken to harmonize the newly resettled people and the host community in the resettlement area through assistance and integration efforts.

22. The assistance can be linked to existing programs and resources.

VI. Grouping of Affected Persons

23. Affected Persons can be grouped into those who: i) have legal land certificate, girik, or adat title; ii) occupy land in a residential, commercial, or industrial zone in the Project area, or, occupy land on the infrastructure or public facility sites such as rivers, roads, parks, or other public facilities in the Project area, but do not hold a certificate or legal title; and iii) are renters. Compensation will differ according to these groupings.

a) Persons with Land Certificate, Girik or Adat Title

- Affected Persons who have land certificate, girik, or adat title will receive compensation for the land, building, and fixed assets.
- The Affected Persons who are physically displaced by the Project can choose to receive cash compensation or the other options as described in paragraph 12
- The lots at the resettlement site will have land title of the same level or higher than they previously had, and the certificate will be issued within 1 year after displacement of the Affected Persons.
- The Affected Persons will receive transport allowance to move their belongings.
- The Affected Persons will also receive assistance and training as provided in paragraph 20

b) Persons who occupy land in a residential, commercial or industrial zone in the project area but do not hold a Land Certificate or legal documents, as well as those who occupy publicly owned land and publicly owned facility sites at the time of the Census:

- Affected Persons who at the time of the census undertaken or at the time of pre-feasibility study of the Subproject occupy land in a residential, commercial, or industrial zone in the Project area, but do not hold a land certificate, girik, or hak adat, will receive rehabilitation assistance in any of the forms provided for in paragraph 12 instead of compensation for the land occupied in an amount sufficient to achieve the objectives of this Framework, and compensation at real replacement cost for the building, and fixed asset as well as for crops and trees at market value.
- Affected Persons can choose to receive cash compensation or the other options as described in paragraph 12
- The lots at the new site will have Hak Pakai or a higher land title, and the certificate will be issued within 1 year after the displacement.
- The Affected Persons will receive transport allowance to move their belongings.
- The Affected Persons will also receive assistance and training as provided in paragraph 20

c) Persons who are renters

- Affected Persons who are renters will be assisted with an allowance of six months rent calculated on the basis of average rent levels for similar houses or agricultural land within the same area.

- Affected Persons who are renters will also receive assistance and training and transport allowance to move their belongings

VII. Consultation and Complaint Resolution

24. This general framework will be included in the Project manuals and guidelines, and Supervising Consultant staff and facilitators trained in its implementation. The overall project approach in enabling transparency and consultation should allow solutions to local problems locally, quickly, and effectively. If any Affected Persons, or other community members have a complaint regarding the framework or its application in practice, the project has an established system of complaint handling at the Desa, Kelurahan, Kecamatan and Kabupaten as well as Provincial and National levels with dedicated staff in charge of handling and following up on complaints. Complaints which cannot be solved locally through the SCC, the District Government complaint system will be referred to the Supervising Consultant, and, if necessary to the Central PMU. However, in the event that the deliberations have been repeatedly conducted over a long period of time, but not exceeding one year, to reach a consensus but no consensus has been reached on the form and amount of compensation, dispute resolution will follow the previous Presidential Decree 55, 1993.

25. This Decree stipulated that after failure to reach agreement with Sub-project group, the owner has the right to object to the Governor (see clause 20(1)), who may conduct further negotiations (see clause 20(2)). If the owner is still not satisfied, the Governor must refer the case to the Minister of Home Affairs and Minister of Justice (see clause 21 (1) and (2)), for consideration and referral to the President of the Republic of Indonesia for a final decision (see clause 21 (3) and (4)).

26. This process may not follow the new Presidential Decree No 36, 2005 as it gives authority for the project to be implemented whilst negotiations continue between stakeholders. This system applies to what the new decree defines as a public project that will lead to public benefits. If community groups are acting as proponents would these groups be considered as implementing a "Public project".

27. The progress of implementation of any required land acquisition, resettlement, and assistance will be reported to the Bank regularly by the Supervising Consultant and Central PMU. If required, an independent reviewer may be retained to carry out external monitoring and evaluation of the implementation of specific short LARAPs. Such an agency or agencies will have qualified and experienced staff and terms of reference acceptable to the Bank.

15 Dec – 14 Jan

15 Jan – 14 Feb

15 Feb – 14 Mar

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Appendix D
Part 2

Compensation Policy Framework and Procedural Guidelines
Indonesia: Water Supply and Sanitation Project

Appendix D-2

**COMPENSATION POLICY FRAMEWORK AND PROCEDURAL GUIDELINES
INDONESIA: Water and Sanitation (WSSP) Project**

1.0 INTRODUCTION

1. This Compensation Policy Framework and Procedural Guidelines (CPFPG) for the Water and Sanitation Project (WSSP) were prepared by the Directorate for Human Settlements (Cipta Karya) of the Indonesian Ministry of Public Works and the Participating District Governments in the WSSP project. The Indonesian Government and each of the local governments will approve this document as a condition for effectiveness. The objective of the CPFPG is to establish a process to ensure that all stakeholders in the development process become beneficiaries of the project and that no affected person would be made worse off as a result of the Project. The framework would also adhere to the requirements of local Indonesian but ADB policy would prevail in the unlikely event of a policy conflict. The CPFPG would become part of the project implementation manual agreed to by all parties interested in obtaining assistance from the WSSP project so as to ensure that the relevant ADB social and environmental safeguards requirements for any required land acquisition or resettlement are followed. This document first discusses the background of the Project and then steps through the various aspects of the framework which include:

- (i) a legal background and description of the project description, with the likely scope, extent, and magnitude of the resettlement effects;
- (ii) resettlement policy principles and eligibility criteria that are consistent with the policy and cover all investments, subprojects, and components under the loan;
- (iii) resettlement entitlements;
- (iv) resettlement design criteria; and
- (v) administrative, resourcing, and financing arrangements for preparation, approval, implementation, monitoring, and evaluation of full or short resettlement plans.

2.0 LEGAL BACKGROUND**2.1 Indonesia's LAR Law and Regulation**

2. The key legal document for LAR in Indonesia is Presidential Decree No.36 of 2005 (which recently replaced Decree No. 55 of 1993), on Land Acquisition for the Development of the Public Interest. The Decree defines "public interest" for development purposes; separates private projects, which should use regular land purchase arrangements; defines community consultation tasks and their function to reach agreement with people affected on the form and the amount of compensation; specifies grievance procedures and describes GOI compensation mechanisms.

3. The Regulation of the State Minister of Agrarian Affairs and National Land Agency No. 1 of 1994 on Operational Directive of the Decree 55/93 on the Acquisition of Land for the Construction in the Public Interest is still the enabling regulation for implementing the Decree. This specifies that each Provincial or District Governor establish a Land Acquisition Committee (the so-called committee of 9) in each *kabupaten* (regency) and *kotamadya* (municipality) to be chaired by the *Bupati* or *Walikota*. The Committee also includes representatives of the District Government Land Office, Tax Office, buildings office, agriculture office, the heads of the district and village, and two other non-members. The Governor will establish a Provincial

Land Acquisition Committee if the development covers more than one District Government territory. Governors can also issue project-specific decrees with guidelines on specific procedures and entitlements for compensation and rehabilitation for people affected, as a basis for planning, implementing and monitoring resettlement. The Committees have the mandate to make inventories of land and other assets, investigate the legal status of the land; inform and negotiate with the Affected People (AP) and with the agency acquiring the land; estimate compensation; and document/ witness the compensation payments.

2.2 ADB'S Involuntary Resettlement Policy

4. The ADB on Involuntary Resettlement establishes the following principles:

- Involuntary resettlement is to be avoided or at least minimized.
- Compensation will have to ensure the maintenance of the APs pre-project standards of living.
- The APs should be fully informed and consulted on LAR compensation options.
- The APs social and cultural institutions should be supported and used as much as possible;
- The APs should be integrated economically and socially into host communities.
- Compensation activities will be carried out with equal consideration of women and men;
- Lack of formal legal land title should not be a bar to fair compensation.
- Particular attention should be paid to households headed by women and other vulnerable groups, such as indigenous peoples and ethnic minorities, and appropriate assistance provided to help them improve their status.
- LAR should be conceived and executed as a part of the project and the full costs of compensation should be included in project costs and benefits.
- Compensation and resettlement subsidies will be fully provided prior to the commencement of construction activities.

2.3 Comparison of Indonesian Law and ADB Policy

5. In general terms, Indonesian Law and ADB Policy are consistent with each other except for a few basic provisions. These are:

- (i) Indonesian law now mentions both the tax value (N.J.O.P.) and replacement value as the basic parameters for land valuation but still relies on negotiation with the AP to define actual compensation rates, the ADB policy requires that APs are offered immediately replacement rates (with negotiation as a secondary instrument for minor adjustments).
- (ii) Whereas based on Indonesian law informal settlers are ineligible to compensation or rehabilitation, the ADB policy requires the rehabilitation of these latter.
- (iii) Whereas Indonesian practice tends to apply depreciation discounts to house compensation rates, ADB policy require full compensation at replacement cost;

- (iv) Whereas Indonesian law does not compensate business or severe losses, the ADB policy provides for compensation of business losses and special allowances to severely affected APs; and
- (v) Whereas Indonesian law does not provide for relocation subsidies, ADB policy requires that APs are indemnified for their transfer costs.
- (vi) There is a new provision where there may be an extended negotiation concerning land required for a public purpose (eg. For water supply and sanitation projects like WSSP). The provision allows a "public" project to proceed to implementation even if private landowners in the dispute have not reached agreement about land value. The provision cannot be enacted until various statutory time limits have been exceeded for coming to agreement. These provisions have been enacted in order to overcome project delays that have occurred in public projects due to extended land acquisition negotiations and subsequent legal proceedings. This new provision is at odds with ADB policy which requires all compensation to be agreed and paid before construction of a project commences.

3.0 PROJECT DESCRIPTION

7. WSSP will support a number of medium to large subproject investments in 6 Provinces of Indonesia which will rehabilitate and upgrade existing water supply and sanitation infrastructure. None of these types of activities is expected to have any large scale, significant or irreversible environmental impacts. None of the sub-projects is expected have a significant impact due to land acquisition and/or resettlement. The scope of the proposed investments include:

- New water intakes from some rivers
- New and rehabilitated water treatment plants
- New and rehabilitated water reservoirs (large tank storage only not small dams)
- New and rehabilitated pipelines
- New and rehabilitated reticulation systems
- New and rehabilitated communal septic tanks
- New MCK's
- New Septage Treatment Plants
- Local household level improvements to bathrooms kitchens, drainage.

8. For the water supply component of the project, one of the participating local governments - Kabupaten Bogor , there is no land acquisition or resettlement required. As at 24 October 2005 the total land acquisition for the WSSP Project required for 8 other sites in the project is 4.556 Ha. The total number of owners affected for the eight sites is nine only. Also, the total land area temporarily affected for construction of pipeline corridors (ROW) is 2.590 Ha. This land will not be permanently acquired and is only required for the construction period which is anticipated to take 4-6 months.

9. There is no existing population living on any of the sites and there is only one site where there is a potential livelihood issue. (ie. Kabupaten Bandung) This is due to the proposed location being a rice padi and there is no alternative location for the treatment plant due to technical reasons. Only two landowners are involved in this case. All other towns do not require any relocation of affected people and all the facilities are to be located on non-productive empty land or have already been acquired for previous projects. The nine land owners affected by the project have been informed of their rights to fair compensation and both Indonesian legislation and

the ADB policy on Involuntary Resettlement. Compensation for the land to be acquired by the project would be paid in accordance with the provisions of the ADB policy.

10. For sanitation improvements, it is possible that some land acquisition and small amounts of resettlement possibly involving relocation may be necessary. However, it is not known at this stage how much land will be required in each location but it is anticipated to be of the same order of magnitude of the water supply component. A typical MCK building requires approximately 200 m² of land, a communal septic tank requires an area of up to 600-800m² which could be built below other land use such as a public road. A new septage plant which treats the solid waste pumped from domestic and communal septic tanks would be of the order of 5000 m². The most likely locations where involuntary resettlement may prove to be necessary would be in densely populated inner city/town locations where finding small pieces of land in close enough proximity may prove difficult. Swapping and exchange of small pieces of land between owners may be possible to accommodate small sanitation infrastructure.

11. WSSP is a community-based demand-driven project. Sub-projects for sanitation will not be identified in advance. A sanitation strategy will be prepared in the first year of implementation of the loan. The identification of the number of sub-project affected persons can thus only be defined once sub-project proposals are prepared by the Community Group or Association or the relevant District Government Department and evaluated by a Sanitation Stakeholder Committee. (SSC).

12. Since participatory planning and decision making form the basis for the project, the entire project approach should guarantee that the sub project affected persons will be involved in the decision making process.

13. Should any sub-project involve any land acquisition or resettlement, this Policy Framework provides procedures and guidelines for agreeing on compensation for those persons who are affected by the sub-project in order to ensure that they are not unfairly treated by being given low compensation, or benefit unfairly by being given compensation that is significantly higher per square meter than other owners who sell similar nearby land on the free market.

4.0 DEFINITIONS

14. The definitions used in this Policy Framework are:

a) "Census" means the head count of those persons under a proposed Sub project that qualify as Displaced or Affected Persons. The date of the Census is the latest cut-off point to record the persons in the Sub-project area that will receive compensation, resettlement and/or removal and rehabilitation assistance.

b) "Compensation" means the compensation at replacement cost as determined in Section VI of this Framework given in exchange for the taking of land and building, in whole or in part, and all fixed assets on the land and buildings and crops and trees.

c) "Land acquisition" means an activity that requires obtaining land, buildings or other assets from Affected Persons for purposes of the sub-project against provision of compensation and assistance.

d) "Affected Persons" means persons who, on account of the involuntary taking of land and other assets as part of the execution of the Sub-project resulting in a direct

economic and social adverse impact, whether or not said Affected Persons must physically relocate, had or would have their: (i) standard of living adversely affected, whether or not the Affected Person must move to another location; (ii) right, title, interest in any house, land (including premises, agricultural and grazing land) or any other physical asset acquired or possessed, temporarily or permanently, adversely affected; (iii) access to productive assets adversely affected, temporarily or permanently; or (iv) business, occupation, work or place of residence or habitat adversely affected; and "Affected Persons" means any of the Affected Persons;

e) "Physically Displaced Persons" means persons who are forced to move from their previous location because (i) all or a significant portion (50% or more) of their land or buildings are affected by the sub-project; or (ii) less than 50% of their land or buildings are affected by the sub-project if the remaining portion is not economically viable or habitable.

f) "Rehabilitation Assistance" means the provision of cash or assets or other forms of support to enable Affected Persons with or without legal rights to the assets taken by the Project to at least equal or improve their standard of living, income levels and production capacity to the level prior to the project.

g) "Resettlement" means an effort /activity to relocate the Physically Displaced Persons into a good new settlement so that they can develop a better life.

h) "Involuntary Displacement" means direct economic and social impacts caused by: (a) the involuntary taking of land resulting in: (i) relocation or loss of shelter; (ii) lost assets or access to assets; or (iii) loss of income sources or means of livelihood, whether or not the Affected Person must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced.

(i) "Sub-project" means a specific water or sanitation infrastructure investment project carried out with assistance from the WSSP project.

(j) "Proponent" means the party responsible for preparation and design of the sub-project and could be either a Community Group, A Local Association or a District Government Agency.

(k) "Stakeholder Committee" is the body which would evaluate the sub - project proposals and make recommendations concerning funding to the District Government (Head) Bupati and District Government Council (DPR).

5.0 BASIC PRINCIPLES

15. Involuntary resettlement may cause severe long-term hardship, impoverishment, and environmental damage unless appropriate measures are carefully planned and carried out. For these reasons, the overall principles for this Framework are the following:

a) Sub-project proposals should minimize land and asset acquisition and involuntary displacement. Groups proposing sub-projects should have explored viable alternative designs to minimize displacement.

b) The group proposing the sub-project will use a transparent and participatory process to ensure that all sub-project affected persons agree on any proposed sub-project that involves land acquisition or resettlement

c) The group or agency proposing the sub-project will have to agree to incorporate the costs for land acquisition and/or any involuntary resettlement in their sub-project proposals as part of sub-project costs. The compensation costs will be covered through the communities' own funds or government funds (ADB Bank Loan proceeds shall not be used to finance compensation).

d) In accordance with traditional practice, community members may elect to voluntarily contribute land or assets and/or relocate temporarily or permanently from their land without compensation. Voluntary, in this context will mean the donation or granting of the land and other assets with the full knowledge of the purposes for which the assets is being made available and the economic, social and legal consequences that such act would have on the person providing the asset and which act is exercised freely and voluntarily, without any type of coercion.

e) Affected persons should be assisted in their efforts to improve their livelihoods and standards of the living or at least to restore them, in real terms, to pre-displacement levels or to the levels prevailing prior to the beginning of the project implementation, whichever is higher.

6.0 FRAMEWORK

16. In the event that a sub-project proposal requires any land acquisition, buildings, crops, trees, and/or resettlement, the subproject proposals have to indicate the need for land acquisition, the number and names of persons affected, and the estimated budget required for compensation.

17. Proposals that would affect 200 persons or more would normally entail long lead times, and are expected to be beyond the scope of the project. In the highly unlikely event that more than 200 persons would be affected and require compensation, the Project Supervising Consultant will ensure that a full Land Acquisition and Resettlement Action Plan (LARAP) be prepared. The LARAP will include i) a survey to identify the socio-economic characteristics of the Affected Persons; ii) a comprehensive plan for the acquisition of land and/or resettlement; and iii) a compensation package in accordance with the compensation guidelines set out in Section VII and acceptable to the Physically Displaced Persons and the groups proposing the sub-project (this would be the Community Group and/or a District level local government agency). The sub-project proposal will also indicate the budget source for the required compensation (Bank funds cannot be used for compensation). The Project Supervising Consultant shall seek the Bank's approval of the LARAP and budget, and seek modifications in case the Bank finds they are needed.

18. For any sub-project that requires resettlement of less than 200 persons, the proponent (i.e. either the community group or the relevant District Government Agency, supported by the Project Supervising Consultant staff assisting with proposal preparation and the SSC, will ensure that the following steps are followed:

a) The Affected Persons agree on the sub-project proposal, and have negotiated agreement on either voluntary or compensated contribution with the group proposing the sub-project in the form of a short resettlement plan.

b) The Plan and any resulting agreements is made through a participatory and transparent process

c) Affected Persons are made aware that they have the right to compensation and/or other assistance according to the compensation guidelines provided in Section VII

d) In cases where voluntary contributions of land or assets are indicated, these are clearly agreed with all Displaced Persons; the name(s) of the contributor(s) and details of the contribution(s) are included in the agreement; and these are verified by the Supervising Consultants.

e) A Short Resettlement Plan with a simple format on the agreement is incorporated in the sub-project proposal. This agreement should clearly indicate individual land plots needed for land acquisition and/or resettlement, the number and names of the affected persons, scheme of compensation and/or resettlement, and estimated cost for land acquisition and/or resettlement compensation, and in the case of voluntary contribution the rationale for it and the fact that the person had the choice of not providing the asset, and in the case of involuntary contribution the manner followed for valuation of the assets which must be in compliance with Section VII below. A short resettlement plan covers the same issues as that of a full resettlement plan, as relevant, but in less detail. However, the short resettlement plan must ensure that adequate compensation, rehabilitation, and relocation arrangements are planned and budgeted and should be no more than 2 pages)

f) The Short Resettlement Plan should indicate that any compensation will come from the community's or government's contribution to the sub-project. ADB Loan proceeds cannot be used for land and asset compensation. It would be possible to use ADB Loan proceeds to construct small works and initiate employment opportunities for the group members who are to be resettled. This has to be agreed by the group proposing the sub-project and put in the agreement (see assistance guidelines in Section VII).

g) The details of the Plan will be verified by the Supervising Consultant in charge of the affected communities prior to consideration by the Selection Sub Committee of the SSC for financing. In the event that no consensus has been reached on the form and amount of compensation, the sub-project will not be considered for financing.

h) No Affected Persons shall have their land or other assets taken before they have received the compensation and the resettlement site, if that is the case, as agreed upon and detailed in the sub-project proposal

i) Payment of compensation, displacement of people, or preparation of a resettlement site as agreed upon should be completed before the construction of the respective sub-project is started.

j) A monitoring and evaluation system for compensation will be introduced to ensure that Affected Persons have received their compensation as agreed upon. The monitoring will be undertaken by the Supervising Consultant or an Independent Consultant and will be a full survey or sample survey depending on the number of households affected. A report on the results and recommendations will be published by the supervising consultant and disseminated to the community and the District Government and SSC.

Guidelines for Compensation, Resettlement and Other Assistance

7.0. COMPENSATION ELIGIBILITY AND ENTITLEMENTS

19. LAR tasks under the project will be implemented according to a compensation eligibility and entitlements framework fitting both Indonesian law/regulation and ADB Policy. A summary entitlements matrix is included on page 11.

7.1 Eligibility

20. Affected People (AP) entitled to compensation or at least rehabilitation are:

- APs losing land under *Hak Milik* (title right), *Guna Usaha* (usufruct right), *Ulayat* (traditional rights) or *Waqf* (Religious endowment land);
- Informal settlers with no legal status on the affected land;
- Tenants and Wage laborers;
- Owners of buildings, plants, or other objects attached to the land; and
- APs losing business income.

7.2 Eligibility Cut-off date

22. Eligibility to compensation will be limited by a cut-off date to be set for each subproject on the day corresponding to the beginning of the impacts assessment. APs who settle in the affected areas after the cut-off date will not be eligible to compensation.

7.3 Compensation Entitlements

23. Entitlement provisions for APs losing land, houses and income losses and rehabilitation subsidies will include provisions for: *Permanent and temporary land losses, house and buildings losses, Crops and trees losses, a Relocation subsidy* and a *Business losses allowance* based on tax declarations and/or lump sums. These entitlements are detailed below:

- (i) **Permanent Agricultural Land** will be compensated at replacement cost at pre-project or post-project rates, whichever is higher, or productivity without deductions for transition costs either in: (i) cash at market rates (if in project areas there are active land markets); (ii) cash based on the reproduction cost of the affected plot based on productivity (when in project areas there are no active land markets); or (iii) through the provision of replacement land equal to the pre-project value/productivity of the plot lost. All replacement land will be provided with secured tenure status. Eventual taxes and fees will be paid or waived. When more than 10% of an AP agricultural land is affected s/he will receive an additional allowance corresponding to a year produce of the land lost.
- (ii) **Temporary Agricultural Land** will be compensated with 1 year allowance corresponding to the produce of the affected land.
- (iii) **Residential land** will be compensated at replacement cost at pre-project market rates.

- (iv) **Houses, Buildings and Structures** will be compensated in cash or kind at replacement cost free of deductions for depreciation and transaction costs.
- (v) **Crops.** Cash compensation at market rates to be paid to landowners and tenants based on their specific sharecropping agreements.
- (vi) **Trees.** Cash compensation at replacement cost reflecting type, age and productivity.
- (vii) **Businesses.** If the business is lost permanently it will be compensated in cash equal to 1 year income based on tax declaration or, if this is unavailable, 1 year income based on local minimum salary; temporary business losses will be compensated in cash for the business interruption period based on tax declaration or, when this is not available, local minimum salary.
- (viii) **Agricultural land tenants, sharecroppers and workers.** Affected tenants or sharecroppers will receive cash compensation equal to 1 full year of income from the lost land. Agricultural workers whose contract will be interrupted will receive an indemnity corresponding to 3 months of income.
- (ix) **Relocation Subsidy.** APs forced to relocation will receive a relocation subsidy sufficient to cover transport costs and living expenses for one month.
- (x) **House renters.** House renters who have leased a house for residential purposes will be provided with a cash grant of three months rental fee at the prevailing market rate in the area, and will be assisted in identifying alternative accommodation.

7.4 Redistribution and Donations of Land

24. In the case of community driven subprojects where LAR is directly linked to the provision of immediate benefits to the APs, land may be redistributed within the community or procured through voluntary donations as long as the following conditions are observed:

- (i) The APs have decided to swap, reorganize for free or donate their land based on an informed consent, that is: prior to this decision they have been (a) informed of their compensation entitlement at market rates; and (b) actually offered the relative compensation amounts;
- (ii) Land redistribution or donations do not affect the donor's livelihood;
- (iii) Land redistribution or donations will be based on a land titling system, be as it may formal or informal, accepted by the beneficiary communities; and
- (iv) The voluntary aspect of land redistributions or donations is documented by a documents signed by the donor that s/he is aware of the above conditions. The inclusion of the document in the LARAP will base for its approval by ADB.

Table 1: Entitlements Matrix

Asset	Impact Category	Affected People	Compensation Entitlement
Arable Land	More than 10% of land loss	Farmer/titleholder	Replacement value at pre- or post-project rates (whichever the higher) in cash or in kind, free of taxes or transfer costs.
	More than 10% of land loss	Farmer/titleholder	1 year gross harvest of land in addition to crops compensation.
		Tenant/leaseholder/ informal settlers	1 year gross harvest of land in addition to crops compensation.
	Temporary losses		1 year gross harvest of land in addition to crops compensation
Residential/ Commercial Land		Titleholder	Replacement value at pre- or post- project rates (whichever the higher) in cash or in kind free of taxes, registration, or transfer costs.
		Tenant/leaseholder	3 month rental allowance
		Informal settlers	A plot on a resettlement site or a self-relocation allowance.
Houses, structures, facilities		Owners including informal settlers	Cash at replacement cost or kind of affected items. For partial impacts: restoration in cash of the structure's affected section.
		Renters	Cash equivalent to three months rent at prevailing prices
Crops	Crops affected by LAR	All AP including informal settlers	Cash at full market value.
Trees	Trees affected by LAR	All AP including informal settlers	Cash based on type, age and productive value of trees.
Business/ employment	Temporary/permanent loss of business, or employment	All APs including informal settlers	Cash equal to 1 year income. If the loss is permanent. Cash for the time of business interruption, if the loss is temporary
Relocation	Transport/livelihood costs	All APs affected by relocation	Sufficient cash to cover transport costs and livelihood expenses for 1 month

8.0 LAR PLANNING AND IMPLEMENTATION ORGANIZATION

8.1 Government Functions and Activities

25. Based on Decree 36 of 2005 the Bupati of each District will establish a District Land Acquisition Committee (DLAC) with overall supervision on policy, valuation compensation and financial aspects of the LAR program for the Project.

26. Dependent on the amount of land acquisition required it may not be necessary to establish a Land Acquisition and Resettlement Unit (LARU). There is discretion in the legislation to allow the Project Manager for the Local Government to deal directly with the affected people if the amount of land is small.¹ Either the Pimpro, or the LARU will report directly to the Bupati/Walikota who, is responsible for the distribution and control of LAR funds.

27. Kecamatan and Kelurahan governments will support LAR activities as required.

8.2 Civil Society Organizations

28. Civil society organizations or informal institutions may be "proponents" for some small sanitation projects and would need to assist the local governments in LARAP planning and implementation tasks. Beside representing the APs, when feasible and needed they may also assume administration roles for some LAR or community planning task, under the supervision of the local governments.

¹ Authority for the establishment of the LARU is provided in Government legislation: Peraturan Pemerintah R.I., No 84/2000 Tentang Pedoman Organisasi Perangkat Daerah.

8.3 Supervising Consultants Role

28. Among other tasks, the Project supervising consultants will plan the LAR and community development aspects of each subproject and if required will prepare LARAP acceptable to the government and ADB. The Project consultants will also engage in standard project administration tasks which include the implementation of LARAPs.

29. Based on the agreement reached at the negotiation and discussed in the Plan, the Affected Persons can choose to receive cash compensation, resettlement, or other options. Other options include serviced sites, land [swap] of equal size or equal productive capacity, low cost housing, apartments, real-estate housing with credit facilities, or other schemes. Among those options, Affected Persons will be provided the opportunity of having a resettlement site where they do not have to pay more than their present routine expenditure.

9.0 ADDITIONAL COMPENSATION DETAIL

30. Affected Persons have the right to receive real replacement cost compensation. Real replacement cost means:

a) for land in rural and urban areas, the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes;

b) for agricultural land, the pre-subproject or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of land preparation to levels similar to those of affected land, plus the cost of any registration and transfer taxes;

and

c) for houses and other structures, the market cost of the materials to build a replacement structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees, plus the cost of any registration and transfer taxes. In determining the replacement cost, depreciation of the asset and the value of salvage materials are not taken into account, nor the value of benefits to be derived from the sub-project deducted from the valuation of an affected asset. Compensation for trees, crops and other assets will be based on the replacement value using existing market prices per tree prepared by relevant agencies.

30.. The extent of the compensation will depend on the tenure situation of the Project Affected Person as set out in Section VI and the Entitlements Matrix.

31. Affected Persons whose: (i) remaining land and building cannot be used for housing or workplace; or (ii) whose remaining land is less than 60 sq meters; or (iii) whose remaining agricultural land is less than 50% of its initial size or is not economically viable; or (iv) whose remaining building is less than 21 sq meters; have the option of being included as Physically Displaced Persons and compensated for

the taking of the affected asset. Affected Persons whose remaining land is less than 60 sq meters and remaining building is less than 21 sq meters, will have an option to move to a new lot of 60 sq meters and building of 21 sq meters. They will be provided with compensation for the difference in area between what they lost and what is being provided to them.

9.1 Resettlement Sites

32. The resettlement site provided for the Affected Persons will include infrastructure and public facilities so that it is good for living and enables the development of a good social and economic life, including: (a) road or footpath as necessary; (b) drainage system; (c) water supply (if a piped water distribution network is not available, there should be shallow wells that comply with health standards); (d) electricity; (e) health facility, education, work places, religious services, and sport facilities, in accordance with the size of the new community; and (f) public transport facility to perform a good life.

33. The Physically Displaced Persons will move to the new site after the infrastructure and facilities at the resettlement site are completed and feasible to live in as confirmed by the Supervising Consultant. The Physically Displaced Persons will be informed of the completion of the resettlement site at least one month before displacement, and they will be invited to survey the new site. The resettlement site would be available prior to the start-up of works under the relevant Project component.

34. The location reserved for resettlement will be widely publicized so that the general public will be informed.

9.2 Other Assistance

35. Affected Persons whose job, income, or living is disturbed by the Project or are physically displaced will receive assistance to restore it. The types of assistance will be defined by the Community Group and/or the District government and confirmed by the Supervising Consultant and the SCC.

36. Training and assistance that can be provided include: motivation development; skill and vocational training; assistance to start and develop small businesses; small scale credit; marketing development; assistance during transition period; and strengthening of community based organization and services.

37. In implementing the assistance, care should be taken to harmonize the newly resettled people and the host community in the resettlement area through assistance and integration efforts.

38. The assistance can be linked to existing programs and resources.

9.3 Grouping of Affected Persons

39. Affected Persons can be grouped into those who: i) have legal land certificate, girik, or adat title; ii) occupy land in a residential, commercial, or industrial zone in the Project area, or, occupy land on the infrastructure or public facility sites such as rivers, roads, parks, or other public facilities in the Project area, but do not hold a certificate or legal title; and iii) are renters. Compensation will differ according to these groupings.

a) Persons with Land Certificate, Girik or Adat Title

- Affected Persons who have land certificate, girik, or adat title will receive compensation for the land, building, and fixed assets.
- The Affected Persons who are physically displaced by the Project can choose to receive cash compensation or the other options as described in Table 1
- The lots at the resettlement site will have land title of the same level or higher than they previously had, and the certificate will be issued within 1 year after displacement of the Affected Persons.
- The Affected Persons will receive transport allowance to move their belongings.
- The Affected Persons will also receive assistance and training as provided in Table 1

b) Persons who occupy land in a residential, commercial or industrial zone in the project area but do not hold a Land Certificate or legal documents, as well as those who occupy publicly owned land and publicly owned facility sites at the time of the Census:

- Affected Persons who at the time of the census undertaken or at the time of pre-feasibility study of the Subproject occupy land in a residential, commercial, or industrial zone in the Project area, but do not hold a land certificate, girik, or hak adat, will receive rehabilitation assistance in any of the forms provided for Table 1 instead of compensation for the land occupied in an amount sufficient to achieve the objectives of this Framework, and compensation at real replacement cost for the building, and fixed asset as well as for crops and trees at market value.
- Affected Persons can choose to receive cash compensation or the other options as described in Table 1
- The lots at the new site will have Hak Pakai or a higher land title, and the certificate will be issued within 1 year after the displacement.
- The Affected Persons will receive transport allowance to move their belongings.
- The Affected Persons will also receive assistance and training as provided in Table 1.

c) Persons who are renters

- Affected Persons who are renters will be assisted with an allowance of six months rent calculated on the basis of average rent levels for similar houses or agricultural land within the same area.
- Affected Persons who are renters will also receive assistance and training and transport allowance to move their belongings

10.0 CONSULTATION AND COMPLAINT RESOLUTION

40. This general framework will be included in the Project manuals and guidelines, and Supervising Consultant staff and facilitators trained in its implementation. The overall project approach in enabling transparency and consultation should allow solutions to local problems locally, quickly, and effectively. If any Affected Persons, or other community members have a complaint regarding the framework or its application in practice, the project has an established system of complaint handling at the Desa, Kelurahan, Kecamatan and Kabupaten as well as Provincial and National levels with dedicated staff in charge of handling and following up on complaints.

Complaints which cannot be solved locally through the SCC, the District Government complaint system will be referred to the Supervising Consultant, and, if necessary to the Central PMU. However, in the event that the deliberations have been repeatedly conducted over a long period of time, but not exceeding one year, to reach a consensus but no consensus has been reached on the form and amount of compensation, dispute resolution will follow the previous Presidential Decree 55, 1993.

41. This Decree stipulated that after failure to reach agreement with Sub-project group, the owner has the right to object to the Governor (see clause 20(1)), who may conduct further negotiations (see clause 20(2)). If the owner is still not satisfied, the Governor must refer the case to the Minister of Home Affairs and Minister of Justice (see clause 21 (1) and (2)), for consideration and referral to the President of the Republic of Indonesia for a final decision (see clause 21 (3) and (4)).

42. This process may not follow the new Presidential Decree No 36, 2005 as it gives authority for the project to be implemented whilst negotiations continue between stakeholders. This system applies to what the new decree defines as a public project that will lead to public benefits. If community groups are acting as proponents would these groups be considered as implementing a "Public project".

43. The progress of implementation of any required land acquisition, resettlement, and assistance will be reported to the Bank regularly by the Supervising Consultant and Central PMU. If required, an independent reviewer may be retained to carry out external monitoring and evaluation of the implementation of specific short LARAPs. Such an agency or agencies will have qualified and experienced staff and terms of reference acceptable to the Bank.

11.0 MONITORING AND EVALUATION

44. Internal Monitoring Tasks will be carried out routinely by the Pimpro on behalf of the District Government. Their results will be communicated to ADB through a regular project implementation report. External Monitoring tasks will be carried out twice a year and the results communicated to the PMU and ADB through a semi-annual report. Subprojects whose implementation time-frame will be under the six months period will be monitored only once.

45. In addition to monitoring LAR implementation the EMA(s) will be assigned with evaluation tasks. Following the conclusion of LAR for a subproject the IMA will prepare an evaluation report for each subproject and at the end of the Project will prepare a comprehensive evaluation covering LAR implementation for the project in general.

12.0 RESETTLEMENT BUDGET AND FINANCING

6.1 Finances

46. All costs for Land acquisition and disbursement of compensation/allowances in cash will be provided by the government. The cost of consulting services, special surveys, or special LARU personnel and external monitoring will also be financed under the loan. All LAR preparation and implementation costs including cost of land compensation and LAR administration will be an integral part of Project costs.

All Long or Short LARAPs will include a budget section indicating : (i) unit compensation rates for all affected items and allowances; (ii) methodology followed for the computation of unit compensation rates,(iii) a census of affected persons and losses (iv)assistance and program for livelihood restoration as applicable (v) a cost table for all LAR expenses including administrative costs and contingencies. (vi) implementation schedule tied to civil works activities.

SURVEI SOSIAL EKONOMI KELUARGA KABUPATEN/ KOTA *) 2005

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PENGENALAN TEMPAT										
1. Nama Responden										
2. Alamat										
3. Telp		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>								
4. RT/RW		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> <table border="1" style="display: inline-table; border-collapse: collapse; margin-left: 10px;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>								
5. Kelurahan/Desa		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>								
6. Kota/Kabupaten		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>								

KLARIFIKASI RESPONDEN					
1. Jenis Respoonden	Pelanggan PDAM; Sambungan Rumah -1 Pelanggan PDAM; Kran Umum -2 Non Pelanggan PDAM -3 <i>(lanjut ke pertanyaan no.3)</i>	<input style="width: 30px; height: 20px;" type="checkbox"/>			
2. Klasifikasi pelanggan PDAM:	Golongan Pendapatan rendah -1 Golongan pendapatan menengah – atas -2	<input style="width: 30px; height: 20px;" type="checkbox"/>			
3. Kondisi rumah responden:	Permanen -1 Semi Permanen -2 Non – Permanen -3	<input style="width: 30px; height: 20px;" type="checkbox"/>			
4. Nomor urut responden	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>				

KETERANGAN PETUGAS				
	SURVEYOR	SUPERVISOR	EDITOR	DATA ENTRY
1. Nama Petugas				
2. Pelaksanaan Tugas				
3. Paraf				

*) Kode Kabupaten/Kota:

01 = Serang
02 = Bogor
03 = Banjar
04 = Pematang
05 = Semarang

06 = Maros
07 = Jeneponto
08 = Enrekang
09 = Gowa
10 = Pinrang

11 = Pangkal Pinang
12 = Simalungun
13 = Tapanuli Utara
14 = Sibolga
15 = Tapanuli Tengah

A. JENIS SUMBER AIR YANG TERSEDIA

1. a. Jenis sumber air yang digunakan oleh rumah tangga ini

Jenis Sumber Air	Ya Tidak	-1 -2	Penggunaan	Jarak dari rumah (meter)
(1)	(2)	(3)	(4)	(5)
a. Air Dalam kemasan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
b. Leding (PDAM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
c. Pompa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
d. Sumur terlindung	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
e. Sumur tak terlindung	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
f. Mata air terlindung	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
g. Mata air tak terlindung	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
h. Air Sungai	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
i. Air Hujan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
j. Lainnya	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Kode kolom (3) : (1 : minum; 2: masak; 3 : cuci; 4: mandi; 5 : lainnya, sebutkan)

b. Jenis sumber air utama yang digunakan oleh rumah tangga untuk minum dan lainnya?

Jenis Sumber Air	Minum *)	Lainnya *)	Jarak dari rumah (meter)
(1)	(2)	(3)	(4)
a. Air Dalam kemasan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
b. Penjual air	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
c. Sambungan rumah PDAM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
d. Air berasal dari tetangga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
e. Kran Umum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
f. Pompa tangan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
g. Sumur Pompa Listrik	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
h. Sumur Dangkal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
i. Air Sungai	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
j. Air Hujan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
k. Lainnya	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Keterangan *) : Beri salah satu tanda check (✓)

2. a (Terisi jika pertanyaan 1. b rincian b ada tanda check (✓)) Jika Anda membeli air dari tukang air			
a. Berapa banyak isi 1 jiregen	(dalam liter)		<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
b. Berapa jiregen	(dalam jiregen)		<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
c. Berapa harga yang Anda bayar setiap jiregen	(dalam rupiah)		<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
b (Terisi jika pertanyaan 1. d rincian b, ada tanda check (✓)) Bila Anda beli air tetangga, berapa yang Anda bayar setiap minggu			
<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>			
c (Terisi jika pertanyaan 1. d rincian b, ada tanda check (✓)) Bila Anda menggunakan timba untuk mengambil air dari sumur, berapa kira-kira kedalaman permukaan air			
a. pada musim kemarau	(dalam meter)		<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
b. Pada musim penghujan	(dalam meter)		<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
3. Apakah Anda pelanggan PDAM yang menggunakan sambungan rumah (SR) atau Kran Umum			
Ya : pelanggan sambungan rumah	-1	(lanjut ke pertanyaan selanjutnya)	<input type="checkbox"/>
Ya : pelanggan kran umum	-2	(lanjut ke pertanyaan ke 13)	
Tidak	-3	(lanjut ke pertanyaan ke 18)	
B. LANGGANAN PDAM SAMBUNGAN RUMAH			
4. Apa yang merupakan pertimbangan Anda untuk mula-mula memutuskan menjadi pelanggan PDAM (Beri angka 1 untuk alasan yang paling utama; 2 = alasan utama; 3 = sedang; 4 = sedikit dan angka 5 untuk alasan yang paling sedikit)			
a. Air lebih higienis (bersih dan sehat)			<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
b. Lebih mudah untuk mendapatkan air			<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
c. Mutu air tanah tidak begitu baik			<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
d. Kapasitas air tanah tidak cukup			<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
e. Lainnya, sebutkan			<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
5. Berapa banyak keluarga yang menggunakan sambungan rumah (SR)			
Keluarga			<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Jumlah orang			<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
6. Apakah Anda mempunyai masalah dengan pelayanan air PDAM selama 12 bulan terakhir ini			
Ya	-1		<input type="checkbox"/>
Tidak	-2	(jika jawaban tidak (berkode (2)) langsung ke pertanyaan 8)	
7. Kapan saja hal tersebut terjadi			
Setiap hari	-1	Dua kali per bulan	<input type="checkbox"/>
-5			
Tidak tiap hari tetapi lebih dari sekali dalam seminggu	-2	Setiap beberapa kali sebulan	
-6			
Sekali per minggu	-3	Hanya sekali per tahun	-7
Sekali per bulan	-4		

8. Bagaimana jumlah pemakaian air untuk kebutuhan rumah tangga per hari dari masing-masing sumber

JUMLAH AIR	SUMBER AIR				JUMLAH
	PAM	SUMUR GALI	SUMUR POMPA	LAINNYA	
(1)	(2)	(3)	(4)	(5)	(6)
Musim kemarau	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Musim penghujan	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Rata-rata	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

*) Lainnya, jelaskan

9. Berikan pendapat Anda tentang kualitas dan kuantitas air PDAM

a. Kualitas (pada skala dari 1 sampai 5; dimana 1 : sangat jelek, 2 : jelek, 3 : cukup, 4 : baik, 5 : sangat baik)

	Sangat jelek	Jelek	Cukup	Baik	Sangat baik	Tidak tahu
1. Rasa	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2. Bau	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3. Warna	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

b. Kuantitas

Banyak
Cukup -2 } (langsung ke pertanyaan 10)
Tidak Cukup -3

c. Bila tidak cukup, berapa banyak lagi air yang benar-benar Anda butuhkan (dalam persen)

10. Silahkan isi dua periode tagihan air dari PDAM

Tagihan air PDAM	Bulan terakhir	Bulan lalu
(1)	(2)	(3)
Besarnya tagihan (rupiah)	<input type="text"/>	<input type="text"/>
Besarnya pemakaian (m ³)	<input type="text"/>	<input type="text"/>

11. Apakah sebagai pelanggan PDAM uang langganan Anda punya nilai yang berharga?

Ya -1
Tidak -2

12. Bila tarif yang sekarang dinaikkan dua kali lipat, apa Anda akan?

Mengurangi kebutuhan Anda -1
Mengurangi konsumsi -2
Melanjutkan seperti sediakala -4
Lainnya : sebutkan -8

C. KONSUMEN KRAN UMUM (KU)

013. Bila Anda pengguna Hidra Umum (HU) / kran umum (KU), menurut Anda berapa jumlah keluarga yang mengambil air dari HU / KU yang sama setiap hari?
Keluarga.

14. Siapa yang bertanggungjawab untuk mengambil air dalam keluarga Anda?	
Anggota Keluarga (1)	Persentasi (%) (2)
a. Laki-laki dewasa	<input type="text"/> <input type="text"/> <input type="text"/>
b. Wanita dewasa	<input type="text"/> <input type="text"/> <input type="text"/>
c. Anak laki-laki	<input type="text"/> <input type="text"/> <input type="text"/>
d. Anak perempuan	<input type="text"/> <input type="text"/> <input type="text"/>
Jumlah	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0

15. Berapa jauh (dalam ukuran meter) HU / KU dari rumah Anda

16. Berapa lama Anda menunggu giliran setiap saat mengambil air?

1. 15 menit 1
2. 30 menit 2
3. 45 menit 3
4. 1 jam 4
5. Lainnya, sebutkan..... 5

17. Berapa banyak jumlah air yang diambil dari HU / KU untuk kebutuhan rumah tangga Anda, dan berapa banyak Anda harus bayar:

a. Berapa besar ukuran tangki yang biasa dipakai untuk mengambil air dari HU/KU (liter)

b. Berapa tangki jiregen yang Anda membeli per minggu (tangki)

c. Berapa harga yang harus Anda bayar per jiregen (ru)

| **D. LANGGANAN NON PDAM** | |

18. Apa alasan anda tidak menggunakan pelayanan air dari PDAM ?

Biaya sambangun terlalu mahal	1	<input type="checkbox"/>
Biaya bulanan terlalu mahal	2	
Tidak ada sambungan	4	
Sumber air yang tersedia telah mencukupi kebutuhan	8	
Masuk dalam daftar tunggu	16	
Kualitas air tidak bagus atau jelek	32	

19. Bagaimana kondisi kualitas sumber air saat ini?

Anta	1	Tidak anta	4	<input type="checkbox"/>
Bau	2	Tidak bau	5	
Berwarna	3	Tidak berwarna ...	6	

20. a. Bagaimana kondisi kuantitas sumber air saat ini ?

Banyak	1	} (langsung ke pertanyaan)	<input type="checkbox"/>
Cukup	2		
Tidak cukup	3		

b. Bila tidak cukup, berapa liter Anda sebenarnya membutuhkan?

21. a. (Terisi jika pertanyaan no. 19 berkode 1, 2, dan 3)

Apa Anda mau / ingin berlangganan PDAM bila biaya sambungan adalah:

Besarnya Biaya Sambungan	Tunai		2 tahun cicilan / kredit	
	Ya - 1	Tidak - 0	Ya - 1	Tidak - 0
(1)	(2)		(3)	
a. Rp. 250.000,-		<input type="checkbox"/>		<input type="checkbox"/>
b. Rp. 500.000,-		<input type="checkbox"/>		<input type="checkbox"/>
c. Rp. 1.000.000,-		<input type="checkbox"/>		<input type="checkbox"/>

a. (Terisi jika pertanyaan no. 19 berkode 4, 5, atau 6)

Apa Anda mau / ingin berlangganan PDAM bila biaya sambungan adalah:

Besarnya Biaya Sambungan	Tunai		2 tahun cicilan / kredit	
	Ya - 1	Tidak - 0	Ya - 1	Tidak - 0
(1)	(2)		(3)	
a. Rp. 1.000.000,-		<input type="checkbox"/>		<input type="checkbox"/>
b. Rp. 500.000,-		<input type="checkbox"/>		<input type="checkbox"/>
c. Rp. 250.000,-		<input type="checkbox"/>		<input type="checkbox"/>

22. Berapa kesediaan Anda untuk membayar pelayanan air bersih per bulan?

- a. Kurang dari Rp. 10,000 1
- b. Rp. 10,000- Rp. 20,000 2
- c. Rp. 21,000- Rp. 35,000 3
- d. Rp. 36,000- Rp. 50,000 4
- e. Rp. 51,000- Rp. 75,000, 5

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E. PELAYANAN SANITASI UNTUK SELURUH KELOMPOK

23. Jenis sarana sanitasi yang bagaimana yang Anda miliki di rumah rumah tangga ?

WC pribadi dan kamar mandi 1 (langsung ke pertanyaan no.25)

Kamar mandi di rumah tapi tidak ada WC ... 2 (lanjutkan ke pertanyaan 24 c)

Tidak ada kamar mandi dan tidak ada WC .. 3 (lanjutkan ke pertanyaan 24 a - c)

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24. Bila jawaban Anda 2 atau 3 (untuk pertanyaan 23) di mana Anda melakukan aktivitas dibawah ini ?

- a. Mandi
 - Fasilitas tetangga 1
 - Fasilitas umum 2
 - MCK 3
- b. Mencuci
 - MCK 1
 - Sungai 2
 - Irigasi 3
 - Lainnya, sebutkan 4
- c. WC
 - MCK 1
 - Langsung ke sungai atau kanal 2
 - Lainnya, sebutkan 3

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25. (Terisi bila pertanyaan no. 23 berkode 1 atau pertanyaan 24.c berkode 1) Tolong sebutkan jenis fasilitas limbah buangan dari WC:	
Septic tank	1
Cubluk	2
Dari kamar kecil ke pembuangan	3
Dari kamar kecil ke sungai	4
Dari kamar kecil ke kolam/tegalan	5
26. Tolong sebutkan jenis limbah buangan dari dapur, kamar mandi, dan cucian.	
Septic tank	1
Dari dapur ke pembuangan umum (saluran)	2
Dari dapur ke sungai	3
Dari dapur ke kolam/tegalan	4
(Bila jawaban no. 25 dan atau 26 bukan septic tank (bukan berkode 1) teruskan ke pertanyaan 30)	
27. Jika anda telah mempunyai septiktank, apakah Anda pernah menggunakan jasa pengisapan kotoran (truk tinja)?	
Ya	1
Tidak (lanjutkan ke pertanyaan no 29)	2
28. Bila ya, seberapa sering Anda menggunakannya?	
Setiap tahun	1
Setiap 2 tahun	2
Setiap 3 tahun	3
Setiap 4 tahun	4
Setiap 5 tahun	5
Lainnya, sebutkan	6
29. Bila tidak, apa alasan Anda?	
Biaya pelayanan terlalu mahal	1
Tidak perlu	2
Tempat septiktank terlalu jauh	3
Lainnya, sebutkan	4
30. Apakah Anda puas dengan situasi sanitasi rumah tangga Anda saat ini?	
Ya	1
Tidak, silahkan beri alasan	2
31. Bila Anda tidak punya septic tank, apa Anda bersedia membayar biaya pembuatannya?	
Ya	- 1
Tidak, silahkan beri alasan	- 2 (langsung ke pertanyaan no. 33)
32. Bagaimana sistim pembayaran yang cocok untuk Anda?	
Cash/kontan/tunai	- 1
Dengan cicilan untuk 1-2 tahun	- 2
F. KESADARAN MASYARAKAT DAN PELATIHAN	
33. Apakah Anda pernah menerima informasi sebelumnya tentang kesehatan (dalam kaitannya dengan minum, kualitas air dan sanitasi)?	
Ya	- 1
Tidak	- 2 (langsung ke pertanyaan no. 36)

34.	Jika ya, darimana Anda menerima informasi tersebut?	
	Pemda/PDAM dari kampanye langsung atau melalui slide, film dsb.	- 1
	Kelurahan/KK, melalui slide, film, dsb	- 2
	TV, film dokumentasi	- 4
	Radio	- 8
	Koran, sebagai komentar/berita	- 16
	RT/ RW, sebagai informasi	- 32
35.	Dari jawaban di atas, yang mana yang paling efektif bagi Anda?	(kode jawaban pertanyaan no. 34)
36.	Apakah Anda bersedia menghadiri bila diundang oleh PEMDA/PDAM untuk mendiskusikan bagaimana meningkatkan pelayanan air minum dan sanitasi ?	
	Ya	- 1
	Tidak	- 2
37.	Jika ada penawaran pelatihan untuk peningkatan partisipasi masyarakat dalam pemeliharaan dan pelayanan air minum dan sanitasi, apakah Anda akan menghadiri pelatihan dan menjadi bagian dari kader tim pengembangan untuk jangka panjang?	
	Ya	- 1
	Tidak	- 2
		(langsung ke pertanyaan no. 39)
38.	Berapa banyak waktu yang Anda siapkan untuk mengikuti pelatihan?	
	1 (satu) hari per bulan (sepanjang 1 (satu) tahun)	- 1
	2 (dua) hari per bulan (sepanjang 1 (satu) tahun)	- 2
	3 (tiga) hari per bulan (sepanjang 1 (satu) tahun)	- 3
	4 (empat) hari per bulan (sepanjang 1 (satu) tahun)	- 4
	Lebih dari 4 (empat) hari per bulan (sepanjang 1 (satu) tahun)	- 5

G. SITUASI RUMAH TANGGA		
39.	Jenis kelamin responden	
	Laki-laki	- 1
	Perempuan	- 2
40.	Usia responden tahun	
41.	Status dalam keluarga	
	Kepala Keluarga	- 1
	Istri	- 2
	Lainnya; sebutkan	- 3

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42.	Apakah pendidikan tertinggi yang Anda miliki?	
	SD / SR - 1	M. Ahyah - 8
	M. Ibtidaiyah - 2	SAI Kejuruan - 9
	Paket A / setara - 3	Diploma I - 10
	SLTP umum/kejuruan - 4	Diploma III - 11
	M. Tsanawiyah - 5	Diploma IV S-1 - 12
	Paket B / setara - 6	S-2 - 13
	SMA / SMU - 7	S-3 - 14
43.	Status kepemilikan rumah	
	Milik Sendiri - 1	
	Kontrak / sewa - 2	
	Lainnya; sebutkan - 3	
44.	Kondisi rumah	
	Permanen - 1	
	Semi-permanen - 2	
	Tidak permanent - 3	
45.	Berapa jumlah keseluruhan orang yang tinggal di rumah Anda?	
	a. Dewasa (≥ 16 tahun) orang	
	b. Anak-anak (< 16 tahun) orang	
	c. Jumlah orang	

46.	Berapa pengeluaran selama sebulan yang lalu, yang dibelanjakan untuk hal-hal berikut :	
	Makan	<input type="text"/>
	Perumahan dan fasilitas rumah tangga	<input type="text"/>
	Biaya Pendidikan	<input type="text"/>
	Biaya Kesehatan	<input type="text"/>
	Sandang / Pakaian	<input type="text"/>
	Barang tahan lama	<input type="text"/>
	Pajak dan Asuransi	<input type="text"/>
	Transportasi dan aneka barang - jasa	<input type="text"/>
	Sub Total	<input type="text"/>
	Listrik	<input type="text"/>
	Air Minum	<input type="text"/>
	Sanitasi	<input type="text"/>
	Sub Total	<input type="text"/>
	TOTAL	<input type="text"/>
47.	Jumlah orang yang berpenghasilan di keluarga Anda orang	<input type="text"/>
48.	Berapa pendapatan selama sebulan yang lalu di rumah tangga Anda?	
	Kurang dari Rp 100,000 - 1	<input type="text"/>

Rp 101,000 s/d Rp 200,000	- 2
Rp 201,000 s/d Rp 500,000	- 3
Rp 501,000 s/d Rp 1,000,000	- 4
Lebih dari Rp 1,000,000	- 5

IN WITNESS WHEREOF, the Parties, intending to be legally bound, have caused the Agreement to be executed by their duly authorized representatives.

SUMITOMO CORPORATION

By: _____

Name: _____

Title: _____

Date: _____

BLACK & VEATCH CORPORATION

By: _____

Name: _____

Title: _____

Date: _____

APPENDIX G

INSURANCE REQUIREMENTS

1. Without in any manner limiting the generality of any other provision of this Contract or in any way limiting the liability of Contractor under the Contract or otherwise, Contractor shall procure at its own expense and maintain in full force and effect from commencement of Work under the Contract until (unless specified otherwise below) expiration of the warranty period of the Contract, the following insurance coverages with carriers reasonably acceptable to Developer:

(a) Workers' Compensation Insurance in accordance with applicable regional and/or national law, extended by the Broad Form all States Endorsement, United States Longshoremen and Harborworkers' Coverage Endorsement and Voluntary Compensation Coverage Endorsement.

(b) Employer's Liability Insurance with a policy limit of US\$25,000,000 per occurrence and in the aggregate.

(c) Commercial General Liability Insurance covering all premises and operations including independent contractors, products and completed operations (products and completed operations to be maintained for a period commensurate with the warranty period), Blanket contractual liability, XCU Hazards, Broad Form Property Damage, and Independent Contractors endorsements, covering personal injury, bodily injury and property damage with limits of liability of US\$25,000,000 each occurrence and in the aggregate. Coverage shall include legal liability of Contractor for personal and bodily injuries and property damage arising out of the performance of the Work by or on behalf of Contractor under the Contract subject to the policy terms and conditions and shall be extended by an endorsement stipulating that the limits of liability shall include punitive or exemplary damages awarded against an Insured in all jurisdictions where such damage awards are not contrary to established law.

(d) Comprehensive Automobile Liability Insurance applicable to all owned, Hired, leased and non-owned vehicles, subject to a combined single limit for bodily injury and property damage equal to US\$25,000,000.

(e) If applicable, Aircraft Liability Insurance (including helicopters), with a combined single limit of US\$25,000,000 per occurrence and in the aggregate for bodily injury (including passengers) and property damage, covering owned and non-owned aircraft used in the performance of the Works.

(f) The above required US\$25,000,000 limits of liability can be maintained through any combination of primary and excess policies as Contractor may deem appropriate.

(g) Construction All Risks insurance covering physical loss or damage to the Project, including all activities by Contractor, Developer, Owner, Customer or Owner's, Customer's and Developer's other contractors, for the benefit of the Owner, Developer, Contractor, each as insureds, and, to the extent required by contract, their respective subcontractors and vendors

performing work. Coverage shall be written on an all risks, replacement cost basis for the total constructed value of the Project, including work outside the scope of Contractor's Work that is undertaken by or for Developer. Deductibles shall be up to the discretion of Contractor, however, Developer will be responsible for any portion of the deductible to the extent the loss is not attributable to the negligence or willful misconduct of Contractor or anyone for whom Contractor is liable.

(h) [REDACTED] shall be the sole party responsible for the application of the deductible to the Contractor's Work.

2. [REDACTED] shall be the party responsible for the application of the deductible to the Contractor's Work.

3. Endorsements and Other Requirements. The insurance carried in accordance with paragraph 1 of this Appendix G, [REDACTED] shall conform to the endorsements and/or requirements as specified below:

(a) Notice of Cancellation: With the exception of the Construction All Risks policy which shall be non-cancelable except for non-payment of premium, all policies required in [REDACTED] shall provide sixty (60) days written notice by the insurance carrier to Contractor, Developer in the event of cancellation, material change, or non-renewal, with the exception of nonpayment of premium, in which case no less than ten (10) days written notice shall be provided.

(b) Additional Insured: Developer, Owner, Customer, Supplier and Developer's, Owner's, or Customer's other contractors and their respective officers, directors, agents and employees, as well as Developer's parents and their officers, directors, agents and employees, shall be additional insureds with respect to the insurances required in this Appendix G, paragraph 1 (c), (d) and (f) to the extent of Contractor's indemnity obligations to Developer for third party bodily injury and property damage.

Contractor, and its affiliated companies and their subcontractors, at any tier, and vendors, officers, directors, agents and employees shall be additional insureds with respect to the insurances required in [REDACTED] to the extent of Developer's indemnity obligations to Contractor for third party bodily injury and property damage.

(c) Waiver of Subrogation: (1) Insurers, as respects part 1 of this Appendix G, excluding (e) Aircraft Liability, shall waive all rights of subrogation against Developer, Owner, Customer, Supplier and Developer's Owner's, or Customer's other contractors and their officers, directors, agents and employees, as well as Developer's parents and their officers, directors, agents and employees, and, where required by contract, any other party as requested by Developer. In addition, Insurers shall waive any right of set off and counterclaim and any other right to deduction whether by attachment or otherwise. However, insurers' waiver of subrogation shall not apply to warranty obligations of any insured. (2) Insurers, as respects [REDACTED], shall waive all rights of subrogation against Contractor, subcontractors at any tier and vendors performing work at the [REDACTED] Site. In addition, insurers shall waive any right of set off

and counterclaim and any other right to deduction whether by attachment or otherwise. However, insurers' waiver of subrogation shall not apply to warranty obligations of any insured.

(d) Severability of Interest: All insurances required in accordance with Appendices G and H shall include a requirement to the effect that:

"each of the several insureds or named insureds covered by this policy shall have the same protection he would have had, had this policy been issued individually to each of them; provided, however, that the inclusion hereunder of more than one insured shall not operate to increase the total liability of the insurer beyond the limit of liability stated in the policy.

The respective rights, interests and protection provided for each of the several insureds covered under this policy shall not be compromised or invalidated, either directly or indirectly, as a result the deliberate act(s) of any other insured acting autonomously without the knowledge of another insured.

For the purpose of this insurance, a deliberate act(s) shall mean any intentional act, and/or neglect and/or error and/or omission; failure to disclose any material fact, circumstance or occurrence; misrepresentation; and/or breach of any duty or condition, which may result in a reduction in, or declination of, coverage and/or insurance proceeds that would have otherwise been provided under this policy had the deliberate act(s) not occurred."

(e) Security: All insurances ~~insurances of recognized responsibility mutually acceptable to Developer and Contractor~~ shall be maintained with insurers of recognized responsibility mutually acceptable to Developer and Contractor. In addition, all insurances shall strictly comply with all applicable laws, rules and regulations governing the placement and maintenance of insurance in the U.S., Japan or in the country where the work is being performed.

(f) Non-Limitation of Liability: Nothing contained in these provisions relating to coverage and amounts of insurance required hereunder shall operate as a limitation of Contractor's liability in tort or contract under this Contract. In calculating the unexpended amounts of Contractor's limits of liability, any insurance proceeds actually received by Contractor (whether or not paid directly to Contractor or paid to Contractor through Developer) under insurance coverage obtained by Developer or its designee will not operate to reduce the unexpended limits of liability. Any insurance deductibles paid by Contractor shall operate to reduce such limits of liability.

(g) Evidence of Insurance/Rights to Inspect and Review: Prior to the commencement of any Work, Contractor shall provide Developer with certificates of insurance, executed by an authorized representative of Contractor's insurance carrier or broker, evidencing the coverages obtained by Contractor as required in this Appendix G. Developer shall have the right but not the duty to inspect and review any policies provided pursuant to part 1 of this Appendix G. Prior to the commencement of any Work, Developer shall provide Contractor with certificates of

insurance, executed by an authorized representative of Developer's or its designee's insurance carrier or broker, evidencing the coverages obtained by Developer ~~as required in Appendix F~~. Contractor shall have the right but not the duty to inspect and review any policies provided pursuant to ~~Appendix F~~. Developer shall provide Contractor with a true and complete copy of the insurance policies procured by Developer or ~~Customer~~ pursuant to ~~Appendix F~~, upon Developer's or ~~Customer~~ receipt of such policy (ies). Following review of the insurances by the Parties, Contractor may request modifications to the policy and shall bear all costs associated with such modifications.

(h) Failure to Comply: If Contractor fails to comply with its obligations as specified in this Appendix G, Developer shall have the right, but not the duty, to furnish or arrange, at its own expense, all or any part of the insurance required of Contractor and recover all associated costs from sums due or which may become due to Contractor pursuant to this Contract.

If Developer ~~or Customer~~ fail to comply with ~~their~~ obligations as specified in ~~Appendices G and H~~, Contractor shall have the right, but not the duty, to furnish or arrange, at its own expense, all or any part of the insurance cover required of Developer ~~or Customer~~ and recover all associated costs from sums due or which may become due to Developer, pursuant to this Contract.

(i) Assistance with Claims: Contractor shall, at its own cost, give all such reasonable assistance to Developer as may be appropriate in connection with any claims that may be made under the policies of insurance effected pursuant to Appendices G and H and Developer shall give to Contractor all such reasonable assistance as may be required by Contractor.

(j) Material Alteration of Insurance: Neither Developer nor Contractor shall make any material alteration to the terms of any insurance without the other's prior written approval.

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APPENDIX H

DEVELOPER AND CUSTOMERS INSURANCE REQUIREMENTS

Without in any manner limiting the generality of any other provision of this Contract or in any way limiting the liability of Developer under the Contract or otherwise, Developer or Customers shall procure at its own expense and maintain in full force and effect from commencement of Work under the Contract until (unless specified otherwise herein below) the expiration of the warranty period of the Project, at least the following minimum insurance coverages with carriers reasonably acceptable to Contractor:

The insurances obtained and maintained by Developer or Customers are as follows:

(a) Commercial General Liability Insurance covering legal liability of Customer for personal and bodily injuries and property damage arising out of the performance of Customer with limits of US\$25,000,000.

(b) Comprehensive Automobile Liability Insurance applicable to all owned, hired, leased and non-owned vehicles of Customer, subject to a combined single limit for bodily injury and property damage equal to US\$25,000,000.

(c) Workers Compensation Insurance applicable to all employees, workers and labor in accordance with applicable regional or national law.

(d) Employers Liability Insurance with policy limit of US\$25,000,000.

(e) Property Insurance applicable to all Owner-owned property (under confirmation).

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Appendix E:
Financial Statements

PDAM KABUPATEN BOGOR

TABLE B4 - PROFIT AND LOSS ACCOUNT

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual							
Number of Service Connections - 000	78.9	78.9	85.4	89.9	97.3	109.9	125.6	148.6	169.9	182.0	185.1
Average Consumption - m ³ /conn/month	28.8	30.7	27.7	27.5	25.4	24.1	20.1	18.1	17.3	17.3	17.7
Volume Sold - 000m ³	28,196	29,087	28,409	29,645	29,819	31,847	30,342	32,384	35,230	37,772	39,380
% Unaccounted-for Water	42%	37%	41%	40%	40%	38%	28%	23%	19%	16%	15%
Water Produced - 000m ³	45,369	46,537	48,091	49,056	49,014	49,652	50,040	52,685	56,085	59,115	61,288
Average Tariff - Current Rp/m ³	1,082	1,302	1,582	1,620	1,950	2,244	2,824	3,140	3,515	3,684	4,223
Tariff Revenues	28,338	37,857	44,933	48,034	57,758	71,474	79,608	101,630	123,828	138,405	168,311
Net Connection Fees	2,841	2,530	5,349	7,170	8,314	15,017	20,011	31,498	31,138	18,617	5,017
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	5,172	8,022	10,415	11,344	10,307	11,639	13,298	15,738	17,992	19,268	19,594
Total Operating Revenues	36,351	48,409	60,697	66,548	76,379	98,130	112,917	148,864	172,959	176,291	190,921
Personnel	10,766	14,282	18,480	19,805	20,700	28,047	32,507	41,590	51,049	57,583	61,675
Power	4,927	6,868	7,837	8,933	8,411	9,125	9,840	11,085	12,822	14,041	15,358
Chemical	1,898	1,797	2,212	2,402	2,428	2,834	2,841	3,200	3,644	4,054	4,434
Maintenance Material	2,329	4,131	4,022	3,958	5,124	5,951	7,020	11,558	14,772	17,601	18,784
Administration - General	2,633	3,164	5,529	6,013	6,513	8,044	9,891	12,486	15,184	16,495	17,884
Bad Debts & Write Off	132	83	429	295	301	365	451	502	641	770	861
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0
Raw Water Retribution	470	348	643	687	490	497	500	527	581	618	613
Total Operating Expenses	23,155	31,471	39,152	42,103	43,987	52,662	63,050	80,948	98,473	111,372	119,388
Income (Loss) before Depreciation	13,196	16,938	21,545	24,445	32,411	45,468	49,867	67,916	74,486	84,919	71,533
Depreciation 7.5% unrevalued assets	9,264	10,980	14,349	18,375	18,128	18,295	19,080	24,496	32,303	37,661	41,803
Operating Income (Loss)	3,932	5,959	7,196	6,070	14,283	27,172	30,807	43,423	42,183	27,058	29,730
Operational Interest	2,348	2,585	2,416	2,111	2,058	1,862	1,668	1,470	1,274	1,078	20,529
Net Operating Income (Loss)	1,584	3,374	4,780	3,959	12,225	25,310	29,141	41,953	40,909	25,980	9,201
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	1,435	2,073	745	1,538	0	1,346	4,188	5,282	8,222	11,908	15,409
Before Tax Income	3,019	5,447	5,526	5,497	12,225	26,656	33,309	47,235	49,130	37,886	24,611
Taxable Income After Losses Carried Forward (5 Years)	3,019	5,447	5,526	5,497	12,225	26,656	33,309	47,235	49,130	37,886	24,611
Income Tax	594	1,311	1,739	1,806	3,659	7,988	9,984	14,182	14,730	11,357	7,374
Net Income (Loss)	2,425	4,137	3,787	3,691	8,566	18,668	23,325	33,053	34,400	26,529	17,236
Staff Funds Share of Net Income	0	0	0	0	369	857	1,867	2,333	3,307	3,440	2,853
Kotamadya Share of Net Income	0	0	0	0	2,030	4,712	10,268	12,829	18,190	18,920	14,591
Payment to Staff Funds	0	0	0	0	332	771	1,680	2,089	2,977	3,096	2,388
Payment to Kotamadya	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:											
Ave. Expenses per M3 Sold (Rp)	884	1,082	1,378	1,420	1,484	1,854	2,078	2,501	2,795	2,949	3,032
Operating Ratio	89%	88%	88%	91%	81%	72%	73%	71%	76%	85%	84%
Before Tax Income/Sales	11%	14%	12%	11%	21%	37%	42%	46%	40%	27%	15%
Increases in Weighted Average Tariffs		20%	22%	2%	20%	15%	17%	20%	12%	4%	15%
Average Asset's Rate Base (Non Rp M)	73,248	75,901	90,600	114,541	117,406	101,473	93,046	144,098	220,309	259,704	272,690
Assets/Average Sales	2.58	2.00	2.02	2.38	2.03	1.42	1.17	1.42	1.78	1.88	1.84
Operating Income/Assets	2.2%	4.4%	5.3%	3.5%	10.4%	24.9%	31.3%	29.1%	18.6%	10.0%	3.4%
Before Tax Income/Assets	4.1%	7.2%	6.1%	4.8%	10.4%	26.3%	35.8%	32.8%	22.3%	14.6%	9.0%

PDAM KABUPATEN BOGOR

TABLE B4 - PROFIT AND LOS: (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Number of Service Connections - '000	186.8	187.4	188.0	188.7	189.3	189.9	190.5	191.2	191.8	192.4	193.1	193.7	194.4	195.0
Average Consumption - m3/conn/month	17.6	17.8	17.6	17.8	17.8	17.7	17.7	17.7	17.7	17.7	17.7	17.6	17.6	17.6
Volume Sold - '000m3	39,363	39,605	39,784	39,948	40,087	40,234	40,378	40,517	40,649	40,776	40,897	41,015	41,128	41,238
% Unaccounted-for Water	16%	16%	16%	16%	16%	16%	16%	16%	17%	17%	17%	17%	17%	17%
Water Produced - '000m3	61,128	61,472	61,769	62,040	62,274	62,519	62,760	62,992	63,214	63,428	63,634	63,834	64,027	64,214
Average Tariff - Current Rp/M3	4,430	4,521	4,922	5,183	5,452	5,739	6,045	6,375	6,727	7,104	7,507	7,938	8,399	8,891
Tariff Revenues	178,345	185,787	195,830	207,047	218,568	230,602	244,105	258,277	273,446	289,673	307,029	325,589	345,433	366,045
Net Connection Fees	3,040	1,112	1,178	1,245	1,321	1,401	1,487	1,578	1,674	1,777	1,886	2,002	2,124	2,255
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	18,780	19,845	19,910	19,875	20,041	20,107	20,173	20,240	20,307	20,375	20,443	20,511	20,580	20,649
Total Operating Revenues	198,165	206,724	216,915	228,267	239,929	252,410	265,765	280,094	295,427	311,824	329,357	348,102	368,137	389,548
Personnel	85,821	89,432	73,485	77,733	82,249	87,028	92,088	97,441	103,107	109,103	115,449	122,184	129,272	136,764
Power	18,160	17,145	18,175	19,259	20,395	21,601	22,877	24,225	25,647	27,149	28,735	30,411	32,181	34,050
Chemical	4,655	4,950	5,247	5,560	5,888	6,236	6,604	6,993	7,404	7,838	8,296	8,779	9,290	9,830
Maintenance Material	19,817	20,907	22,057	23,270	24,550	25,900	27,325	28,828	30,413	32,086	33,851	35,713	37,677	39,749
Administration - General	18,795	19,858	21,041	22,264	23,557	24,928	26,375	27,909	29,531	31,249	33,068	34,980	37,025	39,180
Bad Debts & Write Off	1,035	1,097	1,158	1,218	1,288	1,360	1,436	1,518	1,607	1,701	1,802	1,910	2,025	2,149
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Raw Water Reimbursement	611	815	618	1,122	1,189	1,259	1,333	1,412	1,495	1,582	1,675	1,772	1,875	1,984
Total Operating Expenses	126,704	134,031	141,758	150,428	159,118	168,312	178,039	188,326	199,204	210,707	222,873	235,739	249,346	263,736
Income (Loss) before Depreciation	72,461	72,693	75,158	77,841	80,813	84,088	87,726	91,769	96,223	101,117	106,484	112,363	118,792	125,813
Depreciation	44,887	48,376	52,070	56,001	60,229	64,776	69,664	74,921	80,574	86,653	93,189	100,217	107,775	115,901
Operating Income (Loss)	27,574	24,317	23,087	21,840	20,584	19,322	18,062	16,847	15,649	14,464	13,295	12,145	11,017	9,912
Operational Interest	20,342	19,175	18,023	16,871	15,719	14,566	13,414	12,263	11,285	10,228	9,171	8,113	7,056	5,998
Net Operating Income (Loss)	7,232	5,142	5,064	4,969	4,865	4,756	4,647	4,584	4,363	4,236	4,124	4,032	3,961	3,914
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	15,568	15,815	16,021	16,251	16,498	16,752	17,012	17,314	17,618	17,916	18,204	18,481	18,744	18,990
Before Tax Income	22,820	20,957	21,085	21,220	21,361	21,508	21,660	21,818	21,981	22,152	22,329	22,513	22,705	22,904
Taxable Income After Losses Carried For	22,820	20,957	21,085	21,220	21,361	21,508	21,660	21,818	21,981	22,152	22,329	22,513	22,705	22,904
Income Tax	6,837	6,278	6,317	6,357	6,400	6,444	6,489	6,537	6,586	6,637	6,690	6,745	6,803	6,862
Net Income (Loss)	15,983	14,678	14,768	14,863	14,962	15,064	15,171	15,281	15,396	15,515	15,638	15,768	15,902	16,042
Staff Funds Share of Net Income	1,724	1,588	1,468	1,477	1,486	1,496	1,506	1,517	1,528	1,540	1,551	1,564	1,577	1,590
Kotamadya Share of Net Income	9,480	8,791	8,073	8,123	8,175	8,229	8,285	8,344	8,405	8,468	8,533	8,601	8,672	8,746
Payment to Staff Funds	1,551	1,438	1,321	1,329	1,338	1,347	1,358	1,365	1,375	1,388	1,396	1,408	1,419	1,431
Payment to Kotamadya	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:														
Ave Expenses per M3 Sold (Rp)	3,219	3,384	3,563	3,766	3,909	4,183	4,409	4,648	4,901	5,167	5,450	5,748	6,063	6,395
Operating Ratio	86%	88%	89%	90%	91%	92%	93%	94%	95%	95%	96%	97%	97%	97%
Before Tax Income/Sales	13%	11%	11%	10%	10%	9%	9%	8%	8%	8%	7%	7%	7%	6%
Increases in Weighted Average Tariffs	6%	5%	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	6%	6%
Average Asset's Rate Base (Nom. Rp M)	270,409	270,813	270,078	268,725	267,260	265,877	263,864	262,112	260,110	257,946	255,606	253,078	250,345	247,392
Assets/Water Sales	1.53	1.46	1.38	1.30	1.22	1.15	1.08	1.01	0.95	0.89	0.83	0.78	0.72	0.67
Operating Income/Assets	2.7%	1.9%	1.9%	1.8%	1.8%	1.8%	1.7%	1.7%	1.7%	1.6%	1.6%	1.6%	1.6%	1.6%
Before Tax Income/Assets	8.4%	7.7%	7.8%	7.9%	8.0%	8.1%	8.2%	8.3%	8.5%	8.6%	8.7%	8.9%	9.1%	9.3%

PDAM KABUPATEN BOGOR

TABLE B5 - SOURCES AND APPLICATION OF FUNDS

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual							
SOURCES OF FUNDS:											
Income before Depreciation and Interest	13,196	16,839	21,545	24,445	32,411	45,468	49,868	67,918	74,485	84,919	71,533
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	1,435	2,073	745	1,538	0	1,348	4,168	5,282	8,222	11,908	15,409
Gross Internal Cash Generation	14,631	19,012	22,291	25,983	32,411	46,814	54,036	73,201	82,707	96,827	86,942
GOI Construction Grant	0	808	1,083	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)	0	0	0	0	0	1,128	345	1,758	1,831	0	0
Other RG Equity/Advance	0	0	0	0	0	0	0	0	0	0	0
Reinvestment by Kotamadya	0	0	0	0	2,030	4,712	10,268	12,829	18,190	18,920	14,591
Total Equity	0	814	1,083	0	2,030	5,840	10,613	14,584	19,821	18,920	14,591
Borrowing :											
Proposed Loan	0	0	0	0	0	3,415	81,945	42,434	33,129	5,040	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	23,838	0	(2,276)	(1,092)	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	3,055	5,297	11,168	15,279	18,221	0
Total Borrowing	23,838	0	(2,276)	(1,092)	0	6,470	87,242	53,602	48,408	23,261	0
TOTAL SOURCES OF FUNDS	38,467	19,818	21,098	24,891	34,441	58,123	151,890	141,387	150,937	119,006	101,533
APPLICATIONS OF FUNDS:											
Proposed WSSP Projects	0	0	0	0	0	4,879	117,065	60,620	47,328	7,199	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	16,582	37,192	42,137	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	0	0	0	0	4,481	8,087	7,280	7,792	6,786	10,842	45,845
Master Plan	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	3,055	5,297	11,168	15,279	18,221	0
Total Capital Expenditures	0	16,582	37,192	42,137	4,481	18,020	129,641	79,580	69,373	36,283	45,845
Amortization of L/T Debt	1,705	1,705	2,072	2,840	1,984	1,984	1,984	1,984	1,984	1,984	12,260
Operational Interest of L/T Debt	2,348	2,585	2,418	2,111	2,058	1,862	1,868	1,470	1,274	1,078	20,529
Total Debt Service of L/T Debt	4,053	4,290	4,488	4,751	4,022	3,828	3,830	3,434	3,238	3,042	32,809
Working Capital Needs	0	1,285	(6,502)	4,071	1,531	(4,955)	(6,395)	(6,575)	(5,158)	(1,202)	6,489
Other Assets/Liabil. Changes	0	5,393	(12,393)	(4,271)	3,041	(514)	(570)	(580)	(638)	(622)	(239)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	0	0	0	0	332	771	1,880	2,098	2,977	3,096	2,388
Income Tax	0	594	1,311	1,739	1,806	3,859	7,988	9,984	14,182	14,730	11,357
TOTAL APPLICATIONS OF FUNDS	4,053	28,145	24,098	48,427	15,213	18,806	135,975	87,943	83,952	55,308	98,648
CASH INCREASE (DECREASE)	34,414	(8,527)	(2,998)	(23,536)	19,229	40,317	15,915	53,444	66,985	63,698	2,884
Cash Balance, Beginning	(17,221)	17,193	8,668	5,668	3,902	23,131	63,448	79,383	132,807	199,792	263,490
Cash Balance, Ending	17,193	8,668	5,668	3,902	23,131	63,448	79,383	132,807	199,792	263,490	266,374
Minimum Cash Requirement	2,267	2,980	3,637	3,904	3,999	4,707	5,557	7,032	8,476	9,535	12,683
DSCR (SLAP, Cash balance less minimum cash)	4.68	2.33	1.45	1.00	5.78	16.35	21.33	37.63	60.08	84.48	8.73
DSCR (ADB and Perpamsi, Net revenues)	3.81	4.43	4.97	5.47	8.06	12.24	14.89	21.32	25.54	25.25	2.85
DSCR (Cashflow)	3.61	4.43	4.97	5.47	8.84	10.12	12.86	19.05	23.45	21.69	1.25
DSCR (BPKP, Net Income)	0.80	0.98	0.84	0.78	2.13	4.88	6.43	8.63	10.62	8.72	0.53
Contribution to Investment	na	45%	95%	47%	529%	304%	45%	98%	124%	212%	106%
Contr. to Investment, 3 Yr Average			107%	56%	685%	271%	47%	93%	116%	195%	130%

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TABLE B5 - SOURCES AND AI (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SOURCES OF FUNDS:														
Income before Depreciation and Interest	72,461	72,693	75,156	77,841	80,813	84,088	87,726	91,769	96,223	101,117	106,484	112,393	118,792	125,813
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	15,568	15,815	16,021	16,251	16,496	16,752	17,012	17,314	17,618	17,916	18,204	18,491	18,744	16,990
Gross Internal Cash Generation	88,029	88,508	91,178	94,092	97,309	100,850	104,738	109,082	113,842	119,033	124,689	130,884	137,535	144,803
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	9,480	8,791	8,073	8,123	8,175	8,229	8,285	8,344	8,405	8,468	8,533	8,601	8,672	8,746
Total Equity	9,480	8,791	8,073	8,123	8,175	8,229	8,285	8,344	8,405	8,468	8,533	8,601	8,672	8,746
Borrowing:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SOURCES OF FUNDS	97,509	97,299	99,251	102,215	105,483	109,078	113,024	117,428	122,246	127,501	133,222	139,485	146,207	153,549
APPLICATIONS OF FUNDS:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	48,207	50,769	54,594	58,708	63,130	67,885	72,997	78,494	84,404	90,759	97,591	104,936	112,834	121,325
Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	48,207	50,769	54,594	58,708	63,130	67,885	72,997	78,494	84,404	90,759	97,591	104,936	112,834	121,325
Amortization of L/T Debt	12,117	11,964	11,964	11,964	11,964	11,964	11,209	11,081	11,081	11,081	11,081	11,081	11,081	11,081
Operational Interest of L/T Debt	20,342	19,175	18,023	16,871	15,719	14,565	13,414	12,343	11,286	10,228	9,171	8,113	7,056	5,998
Total Debt Service of L/T Debt	32,459	31,139	29,987	28,835	27,683	26,531	24,623	23,425	22,367	21,310	20,252	19,194	18,137	17,079
Working Capital Needs	3,576	3,510	3,020	2,714	2,453	2,319	2,255	2,252	2,288	2,358	2,457	2,583	2,730	2,898
Other Assets/Liabli. Changes	(155)	(144)	(132)	(133)	(134)	(135)	(136)	(137)	(138)	(139)	(140)	(141)	(142)	(143)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	1,551	1,438	1,321	1,329	1,338	1,347	1,356	1,365	1,375	1,386	1,396	1,408	1,419	1,431
Income Tax	7,374	6,837	6,278	6,317	6,357	6,400	6,444	6,489	6,537	6,586	6,637	6,690	6,745	6,803
TOTAL APPLICATIONS OF FUNDS	93,012	93,550	95,989	97,770	100,827	104,346	107,539	111,888	116,833	122,259	128,194	134,670	141,723	149,393
CASH INCREASE (DECREASE)	4,497	3,748	4,162	4,445	4,657	4,732	5,484	5,537	5,413	5,242	5,028	4,775	4,484	4,156
Cash Balance, Beginning	266,374	270,871	274,619	278,801	283,246	287,903	292,635	298,120	303,657	309,070	314,312	319,340	324,115	328,599
Cash Balance, Ending	270,871	274,619	278,801	283,246	287,903	292,635	298,120	303,657	309,070	314,312	319,340	324,115	328,599	332,755
Minimum Cash Requirement	13,264	13,784	14,312	14,938	15,567	16,237	16,888	17,646	18,484	19,335	20,260	21,244	22,290	23,401
OSCR (SLAP, Cash balance less minimum)	8.94	9.38	9.82	10.30	10.84	11.42	12.42	13.21	13.99	14.84	15.77	16.78	17.89	19.11
OSCR (ADB and Perpamsi, Net revenue)	2.71	2.84	3.04	3.26	3.52	3.80	4.25	4.66	5.09	5.59	6.16	6.82	7.58	8.48
OSCR (Cashflow)	1.23	1.21	1.22	1.23	1.23	1.24	1.29	1.31	1.32	1.33	1.34	1.35	1.36	1.37
OSCR (SPKP, Net Income)	0.49	0.47	0.49	0.52	0.54	0.57	0.62	0.65	0.69	0.73	0.77	0.82	0.88	0.94
Contribution to Investment	109%	107%	108%	108%	107%	107%	108%	107%	108%	106%	105%	105%	104%	103%
Contr. to Investment, 3 Yr Average	108%	109%	108%	88%	89%	89%	89%	89%	89%	88%	88%	87%	87%	87%

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TABLE B6 - BALANCE SHEET No Asset Revaluation (CURRENT RP MILLION)			2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
			Audited	Audited	Audited	Actual							
Assets in Operation	reval after	2004	144,533	161,008	189,820	242,830	324,321	247,387	283,407	383,048	472,828	542,000	578,264
Accumulated Depreciation			71,285	82,454	97,171	118,307	134,525	152,821	171,881	188,377	228,880	268,541	308,344
Net Fixed Assets			73,248	78,552	102,649	128,432	189,796	94,566	91,525	194,671	243,948	273,459	269,920
Work In Progress			2,461	2,570	849	78	4,481	18,020	128,641	78,580	69,373	36,283	45,845
Cash + Deposits			17,193	8,666	5,688	3,802	23,131	83,448	79,383	132,807	199,792	263,490	266,374
Accounts Receivable - Water	64	60 days=target	4,855	8,474	7,707	8,088	10,155	12,403	13,633	17,171	20,839	22,752	27,339
Reserve of Bad Depts Provision, Water			(447)	(87)	(170)	(435)	(50)	(80)	(74)	(83)	(105)	(127)	(142)
Past Connection Fees Put To Balance Sheet			216	158	1,193	843	843	843	843	843	843	843	843
Receivable - Credited New Connections							9	21	32	51	59	50	31
Inventories	77	30 days=target	1,111	1,454	947	1,283	1,581	1,590	1,574	1,979	2,000	1,789	1,929
Other Receivable	Putang (Usaha) non-Air, Pluang Lain Lain, Uang		1,951	1,712	2,487	2,907	3,113	3,331	3,584	3,814	4,023	4,245	4,478
Total Current Assets			24,879	20,375	17,812	18,588	38,793	81,576	98,938	156,583	227,251	293,052	300,853
Installation Inventory	117	70 days=target	3,778	3,952	5,281	5,921	5,448	5,009	4,807	4,237	3,897	3,584	3,584
Other Assets			4,504	7,493	6,348	1,408	4,980	4,980	4,960	4,960	4,960	4,980	4,980
TOTAL ASSETS			108,958	112,942	133,019	150,424	162,060	202,131	329,670	442,031	549,429	613,319	625,182
Accounts Payable	65	30 days=target	530	1,783	6,801	3,982	1,888	2,158	2,473	3,183	3,845	4,357	4,673
Other Payable			1,603	2,289	3,900	3,389	3,829	3,883	4,155	4,446	4,691	4,949	5,221
Other Current Liabilities (Cust Deposit)			1,199	1,199	1,184	1,184	1,293	1,480	1,889	1,975	2,258	2,418	2,458
Tax Payable	4	4 Turn Ov =Targ	918	1,737	2,021	1,831	5,032	11,782	18,808	28,288	35,930	38,304	36,103
Current Matur, Long-Term Debt			1,705	1,825	2,072	2,640	1,984	1,984	1,984	1,984	1,984	12,280	12,117
Total Current Liabilities			5,955	8,813	15,987	13,037	13,807	21,228	28,087	39,844	48,687	62,308	60,572
Deferred Income			0	0	0	0	0	0	0	0	0	0	0
Meior Reserve Fund			0	0			5	5	5	5	5	5	5
Other Liabilities			2,936	3,939	4,188	3,498	3,530	3,607	3,775	3,985	4,282	4,592	4,831
Long Term-Debt - Net			22,131	20,801	18,280	18,820	15,332	19,838	105,118	158,754	203,198	214,179	202,061
Total Liabilities			31,022	33,555	38,445	33,153	32,673	44,677	137,982	200,588	256,173	281,084	267,469
Assets Revaluation Surplus	10	average age initial revaluation					0	0	0	0	0	0	0
Reserves + "Net" Retained Earnings			2,425	4,127	3,787	3,691	13,777	36,004	59,645	84,797	128,789	148,848	157,714
Local Gov't Equity			38,295	37,428	51,881	71,261	73,280	79,130	89,743	104,327	124,148	143,068	157,659
Central Gov't Equity (Inc'l Not Yet Handed Over)			37,216	37,823	38,908	42,319	42,319	42,319	42,319	42,319	42,319	42,319	42,319
Total Equity			77,936	79,387	94,574	117,271	129,387	157,453	191,707	241,443	293,256	332,236	357,693
TOTAL EQUITY AND LIABILITIES			108,958	112,942	133,019	150,424	162,060	202,131	329,670	442,031	549,429	613,319	625,182
Current Ratio			4.2	2.3	1.1	1.3	2.8	3.8	3.4	3.9	4.7	4.7	5.0
Working Capital, exclud cash			3,435	4,721	(1,781)	2,289	3,820	(1,135)	(7,530)	(14,105)	(19,264)	(20,485)	(13,977)
Debt Equity Ratio (70/30 = 233%)			31%	29%	22%	16%	13%	14%	58%	88%	70%	68%	60%
Total Assets/Total Debt			4.1	4.3	5.4	8.6	7.8	8.0	3.0	2.7	2.8	2.7	2.9
# Days Accounts Receivable			83	102	63	62	65	84	83	62	61	60	60
% Debt/(Net Fixed Assets + WIP)			0	23%	20%	15%	15%	20%	48%	57%	85%	73%	68%
Cash = # Month Operating Expenses			8.9	3.3	1.7	1.1	8.3	14.5	15.1	19.7	24.3	28.4	28.8

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TABLE B5 - BALANCE SHEET (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets in Operation	624,109	672,315	723,084	777,579	836,386	899,518	967,401	1,040,388	1,118,893	1,203,297	1,294,058	1,391,746	1,496,583	1,609,416
Accumulated Depreciation	353,210	401,587	453,656	509,658	569,887	634,682	704,327	779,248	859,822	946,475	1,039,665	1,139,382	1,247,857	1,363,558
Net Fixed Assets	270,898	270,728	269,428	268,021	266,499	264,836	263,074	261,150	259,070	256,822	254,393	251,364	248,726	245,858
Work In Progress	48,207	50,789	54,594	58,708	63,130	67,885	72,997	78,494	84,404	90,759	97,591	104,936	112,834	121,325
Cash + Deposits	270,871	274,619	278,801	283,248	287,903	292,635	298,120	303,857	309,070	314,312	319,340	324,115	328,599	332,755
Accounts Receivable - Water	28,888	30,537	32,191	34,035	35,929	37,956	40,127	42,458	44,950	47,617	50,470	53,521	56,783	60,270
Reserve of Bad Debts Provision, Water	(170)	(180)	(190)	(200)	(212)	(223)	(236)	(250)	(264)	(280)	(296)	(314)	(333)	(353)
Past Connection Fees Put To Balance Sheet	843	843	843	843	843	843	843	843	843	843	843	843	843	843
Receivable - Credited New Connections	19	10	7	5	4	3	3	3	4	4	4	4	4	5
Inventories	2,034	2,148	2,268	2,395	2,529	2,670	2,819	2,976	3,142	3,317	3,502	3,696	3,902	4,119
Other Receivable	4,724	4,984	5,258	5,548	5,853	6,175	6,514	6,873	7,251	7,649	8,070	8,514	8,982	9,476
Total Current Assets	307,310	312,983	319,179	325,872	332,849	340,060	348,190	356,559	364,995	373,463	381,933	390,381	398,782	407,116
Installation Inventory	3,584	3,584	3,584	3,584	3,584	3,584	3,584	3,584	3,584	3,584	3,584	3,584	3,584	3,584
Other Assets	4,960	4,960	4,960	4,960	4,960	4,960	4,960	4,960	4,960	4,960	4,960	4,960	4,960	4,960
TOTAL ASSETS	634,959	643,004	651,746	661,145	671,023	681,343	692,806	704,748	717,014	729,588	742,459	755,625	769,086	782,844
Accounts Payable	4,936	5,218	5,518	5,875	6,212	6,569	6,948	7,345	7,766	8,211	8,681	9,178	9,703	10,257
Other Payable	5,508	5,811	6,130	6,468	6,823	7,199	7,594	8,012	8,453	8,918	9,408	9,926	10,472	11,048
Other Current Liabilities (Cust. Deposit)	2,482	2,490	2,488	2,508	2,515	2,523	2,531	2,540	2,548	2,556	2,565	2,574	2,582	2,591
Tax Payable	33,814	31,714	30,102	28,934	28,100	27,519	27,128	26,893	26,748	26,698	26,713	26,760	26,888	27,028
Current Matur. Long-Term Debt	11,984	11,984	11,984	11,984	11,984	11,209	11,081	11,081	11,081	11,081	11,081	11,081	11,081	11,081
Total Current Liabilities	58,804	57,198	56,213	55,747	55,614	55,018	55,281	55,881	56,596	57,464	58,449	59,538	60,725	62,005
Deferred Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meter Reserve Fund	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Other Liabilities	4,988	5,130	5,262	5,395	5,529	5,683	5,799	5,935	6,073	6,211	6,351	6,492	6,634	6,777
Long Term Debt - Net	190,097	178,133	168,169	154,204	142,240	131,032	119,950	108,869	97,788	86,707	75,626	64,545	53,463	42,382
Total Liabilities	253,892	240,466	227,849	215,351	203,388	191,717	181,036	170,670	160,482	150,388	140,431	130,580	120,827	111,169
Assets Revaluation Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reserves + "Net" Retained Earnings	171,608	184,289	197,775	211,350	225,016	238,777	252,837	266,601	280,670	294,851	309,146	323,562	338,102	352,772
Local Gov't Equity	167,139	175,930	184,003	192,125	200,300	208,529	216,814	225,158	233,562	242,030	250,563	259,165	267,837	276,583
Central Gov't Equity (incl Not Yet Hande	42,319	42,319	42,319	42,319	42,319	42,319	42,319	42,319	42,319	42,319	42,319	42,319	42,319	42,319
Total Equity	381,067	402,538	424,097	445,794	467,635	489,625	511,771	534,078	556,552	579,200	602,028	625,046	648,258	671,675
TOTAL EQUITY AND LIABILITIES	634,959	643,004	651,746	661,145	671,023	681,343	692,806	704,748	717,014	729,588	742,459	755,625	769,086	782,844
Current Ratio	5.2	5.5	5.7	5.8	6.0	6.2	6.3	6.4	6.4	6.5	6.5	6.6	6.6	6.6
Working Capital, exclud. cash	(10,401)	(8,891)	(3,871)	(1,157)	1,296	3,615	5,871	8,123	10,410	12,768	15,226	17,808	20,539	23,437
Debt Equity Ratio (70/30 = 233%)	53%	47%	42%	37%	33%	29%	26%	22%	20%	17%	14%	12%	10%	8%
Total Assets/Total Debt	3.1	3.3	3.6	3.9	4.2	4.6	5.1	5.6	6.2	7.0	8.0	9.2	10.8	13.0
# Days Accounts Receivable	80	60	60	60	60	60	60	60	60	60	60	60	60	60
% Debt/(Net Fixed Assets + WIP)	63%	59%	55%	51%	47%	43%	39%	35%	32%	28%	25%	21%	18%	15%
Cash = # Month Operating Expenses	25.7	24.6	23.6	22.6	21.7	20.9	20.1	19.3	18.6	17.9	17.2	16.5	15.8	15.1

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TABLE B7 - FINANCING PLAN		1996 - 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	% CAP. EXP	TOTAL	Audited	Audited	Audited	Actual							
Income before Depreciation	91.5%	302,858	13,196	18,939	21,545	24,445	32,411	45,468	49,888	67,918	74,485	84,919	71,533
Non-Operating Income (Loss) - Net	9.3%	30,924	1,435	2,073	745	1,538	0	1,346	4,188	5,282	8,222	11,906	15,409
Gross Internal Cash Generation	100.8%	333,582	14,631	19,012	22,291	25,983	32,411	46,814	54,036	73,201	82,707	96,825	86,942
Minus:													
Loan Amortization	3.0%	9,820	1,705	1,705	2,072	2,840	1,964	1,964	1,964	1,964	1,964	1,964	12,280
Operational Interest	2.2%	7,350	2,348	2,585	2,416	2,111	2,058	1,862	1,685	1,470	1,274	1,078	20,529
Total Debt Service	5.2%	17,170	4,053	4,290	4,488	4,751	4,022	3,826	3,630	3,434	3,238	3,042	32,809
Working Capital Needs	-7.3%	(24,285)	0	1,285	(6,502)	4,071	1,531	(4,955)	(6,395)	(6,575)	(5,159)	(1,202)	6,489
Other Assets/Liabil. Changes	-0.9%	(2,924)	0	5,793	(12,393)	(4,271)	3,041	(514)	(570)	(580)	(838)	(822)	(239)
Kotamadya Share of Net Income	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	3.2%	10,823	0	0	0	0	332	771	1,680	2,099	2,977	3,098	2,388
Income Tax	15.3%	50,523	0	534	1,311	1,738	1,806	3,659	7,988	9,984	14,162	14,730	11,357
Net Internal Cash Generation	85.4%	282,475	10,578	7,449	35,387	19,894	21,678	44,027	47,702	64,837	68,127	57,780	34,138
Cash Increase (Decrease)	72.0%	240,359	34,414	(8,527)	(2,998)	(23,536)	19,229	40,317	15,918	53,444	66,985	63,698	2,884
Investments:													
Proposed WSSP Projects	71.7%	237,090	0	0	0	0	0	4,879	117,065	60,820	47,328	7,199	0
Committed/Other Projects	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0.0%	0	0	18,582	37,192	42,137	0	0	0	0	0	0	0
PDAM Replacement/Connection Programs	12.3%	40,767	0	0	0	0	4,481	8,087	7,280	7,792	6,766	10,842	45,845
Interest Accumulated	16.0%	53,020	0	0	0	0	0	3,055	5,297	11,168	15,279	18,221	0
Total Capital Expenditures	100.0%	330,877	0	18,582	37,192	42,137	4,481	16,020	129,841	79,580	69,373	38,283	45,845
NET TO BE FINANCED:	87.3%	288,761	23,836	606	(1,192)	(1,082)	2,030	12,309	97,855	68,188	66,230	42,181	14,591
FINANCED BY:													
Proposed Loan	50.2%	165,983	0	0	0	0	0	3,415	81,945	42,434	33,129	5,040	0
Committed Loan	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0.0%	0	23,838	0	(2,276)	(1,092)	0	0	0	0	0	0	0
Interest Accumulated	16.0%	53,020	0	0	0	0	0	3,055	5,297	11,168	15,279	18,221	0
Total Borrowing	66.2%	218,983	23,838	0	(2,276)	(1,082)	0	6,470	87,242	53,602	48,408	23,261	0
GOI Construction Grant	0.0%	0	0	0	1,083	0	0	0	0	0	0	0	0
Feasibility Study Grant	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	82.2%	272,003	0	606	1,083	0	0	0	0	0	0	0	0
RG Equity (Land)	1.5%	4,880	0	0	0	0	0	1,128	345	1,756	1,631	0	0
Other RG Equity/Advance	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Reinvestment by Kotamadya	19.6%	64,918	0	0	0	0	2,030	4,712	10,268	12,829	18,190	18,920	14,591
Total Equity	21.1%	69,778	0	0	0	0	2,030	5,840	10,613	14,584	19,821	18,920	14,591
TOTAL EXTERNAL FINANCE	87.3%	288,761	23,838	606	(1,192)	(1,082)	2,030	12,309	97,855	68,188	66,230	42,181	14,591

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TABLE B7 - FINANCING PLAN (CURRENT RP. MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Income before Depreciation	72,461	72,893	75,156	77,841	80,813	84,088	87,728	91,769	96,223	101,117	106,484	112,363	118,792	125,813
Non-Operating Income (Loss) - Net	15,568	15,815	16,021	16,251	16,496	16,752	17,012	17,314	17,618	17,916	18,204	18,481	18,744	18,990
Gross Internal Cash Generation	88,029	88,508	91,178	94,092	97,309	100,850	104,738	109,082	113,842	119,033	124,689	130,844	137,535	144,803
Minus :														
Loan Amortization	12,117	11,964	11,964	11,964	11,984	11,984	11,209	11,081	11,081	11,081	11,081	11,081	11,081	11,081
Operational Interest	20,342	19,175	18,023	16,871	15,719	14,586	13,414	12,343	11,286	10,228	9,171	8,113	7,056	5,998
Total Debt Service	32,459	31,139	29,987	28,835	27,683	26,531	24,623	23,425	22,367	21,310	20,252	19,194	18,137	17,079
Working Capital Needs	3,576	3,510	3,020	2,714	2,453	2,319	2,255	2,252	2,268	2,358	2,457	2,593	2,730	2,898
Other Assets/Liabil. Changes	(155)	(144)	(132)	(133)	(134)	(135)	(136)	(137)	(138)	(139)	(140)	(141)	(142)	(143)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	1,551	1,438	1,321	1,329	1,338	1,347	1,356	1,365	1,375	1,386	1,396	1,408	1,419	1,431
Income Tax	7,374	6,837	6,278	6,317	6,357	6,400	6,444	6,489	6,537	6,586	6,637	6,690	6,745	6,803
Net Internal Cash Generation	43,223	45,727	50,703	55,030	59,612	64,386	70,107	75,668	81,413	87,533	94,086	101,110	108,646	116,735
Cash Increase (Decrease)	4,497	3,748	4,182	4,445	4,657	4,732	5,484	5,537	5,413	5,242	5,028	4,775	4,484	4,156
Investments:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	48,207	50,769	54,594	58,708	63,130	67,885	72,997	78,494	84,404	90,759	97,591	104,936	112,834	121,325
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	48,207	50,769	54,594	58,708	63,130	67,885	72,997	78,494	84,404	90,759	97,591	104,936	112,834	121,325
NET TO BE FINANCED:	9,480	8,791	8,073	8,123	8,175	8,229	8,285	8,344	8,405	8,468	8,533	8,601	8,672	8,746
FINANCED BY:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	9,480	8,791	8,073	8,123	8,175	8,229	8,285	8,344	8,405	8,468	8,533	8,601	8,672	8,746
Total Equity	9,480	8,791	8,073	8,123	8,175	8,229	8,285	8,344	8,405	8,468	8,533	8,601	8,672	8,746
TOTAL EXTERNAL FINANCE	9,480	8,791	8,073	8,123	8,175	8,229	8,285	8,344	8,405	8,468	8,533	8,601	8,672	8,746

PDAM KABUPATEN BOGOR

TABLE B8 - MONITORING INDICATORS

	Audited	Audited	Audited	Actual								
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
SUPPLY AND DEMAND												
Maximum Cash and PFC												
Population - 000	1,729	1,880	1,958	2,038	2,058	2,079	2,100	2,121	2,142	2,163	2,185	
% Population Served	24%	23%	24%	24%	27%	30%	34%	38%	44%	47%	47%	
Number of Connections - 000	75.9	78.9	85.4	88.9	97.3	109.9	125.8	148.6	169.9	182.0	185.1	
Increase in Connections - 000		3.1	6.5	4.5	7.5	12.6	15.7	23.0	21.3	12.1	3.1	
Consumption M3/Month/Connec	28.8	30.7	27.7	27.5	25.4	24.1	20.1	18.1	17.3	17.3	17.7	
Forecast Volume Sold - 000 M3	28,198	29,087	28,409	29,845	29,619	31,847	30,342	32,364	35,230	37,772	39,380	
% Unaccounted-for Water	42%	37%	41%	40%	40%	38%	29%	23%	19%	16%	15%	
PDAM Production- 000 M3	45,369	46,537	48,091	49,056	49,014	49,852	50,040	52,685	56,065	59,115	61,286	
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	
MANAGEMENT												
# Days Accounts Receivable	63	82	83	62	65	64	83	62	61	80	60	
Number of Employees	617	617	604	621	677	795	927	1,109	1,272	1,360	1,360	
Employees Per 1000 Connections	8	8	7	7	7	7	7	7	7	7	7	
% Increase # of employees		0%	-2%	3%	9%	17%	17%	20%	15%	7%	2%	
PROJECT DEVELOPMENT												
Cumulative Project Cost (Rp Million)	0	0	0	0	0	4,879	121,943	182,583	229,691	237,090	237,090	
Cumulative Project Cost (US \$000)	0	0	0	0	0	0	12	17	22	22	22	
Cumulative Project Loan (US \$000)	0	0	0	0	0	343	8,210	12,120	15,092	15,531	15,531	
Disbursement Profile	0%	0%	0%	0%	0%	2%	53%	78%	97%	100%	100%	
FINANCIAL												
Average tariff (current Rp/M3)	1,082	1,302	1,582	1,620	1,950	2,244	2,624	3,140	3,515	3,664	4,223	
Average nominal tariff increase		20%	22%	2%	20%	15%	17%	20%	12%	4%	15%	
Cash Balance to Min. Cash Requirement	8	3	2	1	8	13	14	19	24	28	21	
Contribution to investment - Ave of 3 years		0%	107%	56%	685%	271%	47%	93%	116%	195%	130%	
R o R on Revalued Assets excl. Int	2%	4%	5%	3%	10%	25%	31%	29%	19%	10%	3%	
% Debt on Debt plus Equity	31%	29%	22%	16%	13%	14%	56%	66%	70%	68%	60%	
CONSTANT PRICE ANALYSIS: 2004 base year												
Tariff (2005 Rp/M3)	1,496	1,556	1,790	1,724	1,950	2,095	2,290	2,581	2,879	2,647	2,892	
Annual Real Tariff Increase		3%	0	-4%	13%	7%	9%	12%	0	-1%	9%	
Real Tariff Increase From Base Year	-16%	-11%	0	-4%	9%	17%	28%	43%	0	48%	62%	
Salary (2005 Rp 000)/employee/month	2,011	2,330	2,885	2,828	2,550	2,550	2,550	2,550	2,550	2,550	2,550	
Operating Costs (2005Rp/M3 Sold)	1,223	1,318	1,559	1,511	1,484	1,544	1,813	2,040	2,130	2,130	2,070	
CRITICAL FINANCIAL INDICATORS 1995 - 2005												
	2005 - 2015								2005 - 2015			
	MINIMUM	MAXIMUM	AVERAGE					VARIABLE OR INDICATOR	MINIMUM	MAXIMUM	AVERAGE	
Cash	23,131	283,240	104,177					DSCR (ADB and Perpamsl, Net revenues)	2.6	25.5	11.1	
Cash = # Month Operating Expenses	6	28	21					Contr to invest. - Ave 3 Years	47%	685%	176%	
Tariff Increase, constant prices	-1%	13%	5%					Days Accounts Receivable	60	65	61	
R o R on Revalued Assets excl. Int	2%	31%	12%					Debt/(debt + equity)	13%	70%	48%	

PDAM KABUPATEN BOGOR

TABLE B8 - MONITORING IND

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUPPLY AND DEMAND														
Population - 000	2,207	2,228	2,251	2,274	2,298	2,319	2,343	2,368	2,390	2,414	2,438	2,462	2,487	2,512
% Population Served	47%	47%	46%	46%	46%	46%	45%	45%	45%	44%	44%	44%	43%	43%
Number of Connections - 000	186.8	187.4	188.0	188.7	189.3	189.8	190.5	191.2	191.8	192.4	193.1	193.7	194.4	195.0
Increase in Connections - 000	1.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7
Consumption M3/Month/Connec.	17.6	17.8	17.5	17.8	17.8	17.7	17.7	17.7	17.7	17.7	17.7	17.6	17.6	17.6
Forecast Volume Sold - 000 M3	39,383	39,605	39,784	39,948	40,087	40,234	40,378	40,517	40,649	40,776	40,897	41,015	41,128	41,238
% Unaccounted-for Water	16%	16%	16%	16%	16%	16%	16%	16%	17%	17%	17%	17%	17%	17%
PDAM Production- 000 M3	61,129	61,472	61,769	62,040	62,274	62,519	62,780	62,992	63,214	63,428	63,634	63,834	64,027	64,214
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MANAGEMENT:														
# Days Accounts Receivable	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Number of Employees	1,392	1,396	1,400	1,404	1,409	1,413	1,417	1,421	1,425	1,430	1,434	1,438	1,443	1,447
Employees Per 1000 Connections	7	7	7	7	7	7	7	7	7	7	7	7	7	7
% Increase # of employees	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PROJECT DEVELOPMENT														
Cumulative Project Cost (Rp Million)	237,090	237,090	237,090	237,090	237,090	237,090	237,090	237,090	237,090	237,090	237,090	237,090	237,090	237,090
Cumulative Project Cost (US \$000)	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Cumulative Project Loss (US \$000)	15,531	15,531	15,531	15,531	15,531	15,531	15,531	15,531	15,531	15,531	15,531	15,531	15,531	15,531
Disbursement Profile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
FINANCIAL														
Average tariff (current Rp/M3)	4,480	4,691	4,922	5,183	5,452	5,739	6,045	6,375	6,727	7,104	7,507	7,938	8,399	8,891
Average nominal tariff increase	6%	5%	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	6%	6%
Cash Balance to Min. Cash Requirement	20	20	19	19	18	18	18	17	17	16	16	15	15	14
Contribution to Investment - Ave of 3 year	108%	109%	108%	69%	69%	69%	69%	69%	69%	68%	68%	67%	67%	67%
R o R on Revalued Assets excl. Int	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
% Debt on Debt plus Equity	53%	47%	42%	37%	33%	29%	26%	22%	20%	17%	14%	12%	10%	8%
CONSTANT PRICE ANALYSIS:														
Tariff (2005 Rp/M3)	2,908	2,886	2,871	2,865	2,857	2,850	2,846	2,844	2,845	2,848	2,853	2,859	2,867	2,877
Annual Real Tariff Increase	1%	-1%	-1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Real Tariff Increase From Base Year	62%	61%	60%	60%	60%	59%	59%	59%	59%	59%	59%	60%	60%	61%
Salary (2005 Rp 000)/employee/month	2,550	2,550	2,550	2,550	2,550	2,550	2,550	2,550	2,550	2,550	2,550	2,550	2,550	2,550
Operating Costs (2005Rp/M3 Sold)	2,089	2,082	2,078	2,081	2,080	2,078	2,076	2,074	2,073	2,072	2,071	2,070	2,070	2,070
CRITICAL FINANCIAL INDICATORS 19														
Cash														
Cash = # Month Operating Expenses														
Tariff Increase, constant prices														
R o R on Revalued Assets excl. Int														

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TABLE B4 - PROFIT AND LOSS ACCOUNT

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual							
Number of Service Connections - '000	1.7	1.7	1.8	1.8	1.8	1.8	1.8	4.1	8.5	7.0	7.8
Average Consumption - m3/connection/month	27.2	25.4	23.3	27.2	23.0	18.2	17.1	11.8	13.0	14.2	14.2
Volume Sold - '000m3	581	522	500	588	499	389	377	575	1,012	1,201	1,300
% Unaccounted-for Water	50%	52%	55%	47%	47%	47%	47%	45%	42%	40%	39%
Water Produced - '000m3	1,118	1,118	1,118	1,116	948	757	716	1,048	1,755	2,018	2,127
Average Tariff - Current Rp/M3	268	281	336	320	1,100	1,607	2,292	2,452	3,598	3,939	6,760
Tariff Revenues	150	149	188	189	549	641	864	1,410	3,741	4,730	8,788
Net Connection Fees	28	22	18	16	2	4	4	890	964	249	263
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	96	96	168	168	136	137	137	310	484	527	569
Total Operating Revenues	274	267	354	373	687	781	1,006	2,609	5,189	5,506	9,620
Personnel	19	19	19	19	15	15	14	29	47	53	60
Power	0	0	0	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0	0	0	0
Maintenance Material	2	2	2	2	29	59	137	833	1,386	1,694	1,803
Administration - General	110	110	110	110	88	85	84	172	273	307	350
Bad Debts & Write Off	0	0	0	0	0	0	0	0	0	0	0
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0
Raw Water Retribution	5	5	5	5	9	8	7	10	18	28	21
Total Operating Expenses	138	135	138	138	141	188	242	1,044	1,724	2,082	2,235
Income (Loss) before Depreciation	138	131	218	237	546	615	764	1,565	3,465	3,424	7,385
Depreciation 5.2% unrevalued assets	158	158	158	158	277	277	329	875	2,031	2,748	3,121
Operating Income (Loss)	(20)	(27)	60	79	269	338	435	590	1,434	676	463
Operational Interest	0	0	0	0	0	0	0	0	0	0	3,801
Net Operating Income (Loss)	(20)	(27)	60	79	269	338	435	590	1,434	676	463
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	0	0	0	0	0	0	57	41	14	100	369
Before Tax Income	(20)	(27)	60	79	269	338	492	831	1,448	776	832
Taxable Income After Losses Carried Forward (5 Years)	(20)	(47)	14	79	269	338	492	831	1,448	776	832
Income Tax	0	0	0	0	72	93	139	180	428	224	241
Net Income (Loss)	(20)	(27)	60	79	197	245	353	450	1,022	552	591
Staff Funds Share of Net Income 10.0% of net income	0	0	0	0	8	20	25	35	45	102	55
Kotamadya Share of Net Income 55.0% idito	0	0	0	0	43	108	135	194	248	582	303
Payment to Staff Funds 90.0% of share	0	0	0	0	7	18	22	32	41	92	50
Payment to Kotamadya 0.0% of share	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:											
Ave Expenses per M3 Sold (Rp)	243	238	273	231	283	417	642	1,817	1,704	1,733	1,719
Operating Ratio	107%	111%	83%	79%	61%	57%	57%	77%	72%	88%	56%
Before Tax Income/Sales	-13%	-18%	38%	42%	49%	53%	57%	45%	38%	16%	9%
Increases in Weighted Average Tariffs					243%	46%	43%	7%	51%	7%	72%
Average Asset's Rate Base (Nom. Rp M.)	658	1,021	1,680	2,713	3,311	3,037	3,735	15,401	34,060	45,347	49,527
Assets/Water Sales	4.38	6.84	10.00	14.38	6.03	4.74	4.32	10.92	9.10	9.59	5.84
Operating Income/Assets	-3.0%	-2.6%	3.6%	2.9%	8.1%	11.1%	11.6%	3.8%	4.2%	1.5%	0.9%
Before Tax Income/Assets	-3.0%	-2.6%	3.8%	2.9%	8.1%	11.1%	13.2%	4.1%	4.3%	1.7%	1.7%

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TABLE B4 - PROFIT AND LOS (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Number of Service Connections - '000	8.2	8.7	9.3	9.9	10.5	11.0	11.6	12.2	12.7	13.3	13.9	14.5	14.5	14.5
Average Consumption - m3/conn/month	13.0	13.0	13.2	13.2	13.5	13.8	14.1	14.4	14.7	15.0	15.2	15.5	16.1	16.3
Volume Sold - '000m3	1,275	1,362	1,477	1,563	1,691	1,823	1,960	2,100	2,244	2,389	2,538	2,688	2,788	2,833
% Unaccounted for Water	37%	38%	34%	28%	27%	27%	26%	26%	26%	26%	26%	26%	25%	25%
Water Produced - '000m3	2,033	2,117	2,241	2,158	2,323	2,484	2,671	2,852	3,037	3,225	3,416	3,609	3,740	3,802
Average Tariff - Current Rp/M3	7,383	7,568	7,854	7,270	6,806	6,568	6,271	6,017	5,801	5,818	5,465	5,339	5,238	5,321
Tariff Revenues	9,284	9,624	11,308	11,364	11,678	11,971	12,282	12,839	13,015	13,423	13,867	14,350	14,598	15,077
Net Connection Fees	277	293	309	326	344	363	383	404	426	449	474	500	511	521
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	612	655	688	740	783	828	869	911	954	997	1,040	1,082	1,083	1,084
Total Operating Revenues	10,173	10,571	12,314	12,430	12,804	13,159	13,543	13,954	14,394	14,869	15,381	15,933	16,603	16,173
Personnel	68	77	86	97	108	120	133	147	163	180	198	217	229	242
Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maintenance Material	1,903	2,007	2,118	2,234	2,357	2,487	2,623	2,768	2,920	3,081	3,250	3,429	3,617	3,816
Administration - General	397	448	504	564	629	700	777	860	950	1,047	1,152	1,266	1,335	1,411
Bad Debts & Write Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Raw Water Reimbursement	20	21	22	39	44	50	57	64	72	80	90	100	110	117
Total Operating Expenses	2,388	2,554	2,730	2,934	3,139	3,357	3,581	3,839	4,105	4,388	4,690	5,012	5,292	5,587
Income (Loss) before Depreciation	7,785	8,017	9,584	9,496	9,666	9,802	9,953	10,114	10,290	10,481	10,691	10,921	10,400	10,586
Depreciation	3,338	3,540	3,754	3,980	4,221	4,475	4,745	5,031	5,333	5,654	5,994	6,354	6,735	7,114
Operating Income (Loss)	4,447	4,478	5,830	5,516	5,445	5,327	5,208	5,084	4,956	4,827	4,697	4,567	3,665	3,472
Operational Interest	3,793	3,591	3,388	3,188	2,984	2,781	2,579	2,377	2,174	1,972	1,770	1,567	1,365	1,163
Net Operating Income (Loss)	654	887	2,441	2,330	2,461	2,545	2,629	2,707	2,782	2,855	2,927	3,000	2,300	2,309
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	235	137	47	47	47	47	47	47	48	48	48	49	49	50
Before Tax Income	889	1,024	2,488	2,377	2,508	2,592	2,676	2,754	2,829	2,903	2,975	3,048	2,349	2,359
Taxable Income After Losses Carried Forward	889	1,024	2,488	2,377	2,508	2,592	2,676	2,754	2,829	2,903	2,975	3,048	2,349	2,359
Income Tax	258	298	738	704	744	769	794	818	840	862	884	906	696	699
Net Income (Loss)	631	725	1,751	1,672	1,765	1,823	1,882	1,937	1,989	2,041	2,092	2,143	1,653	1,660
Staff Funds Share of Net Income	59	63	73	175	167	178	182	188	194	199	204	209	214	165
Kotamadya Share of Net Income	325	347	399	863	920	971	1,003	1,035	1,065	1,094	1,122	1,150	1,178	909
Payment to Staff Funds	53	57	65	158	151	159	164	169	174	179	184	188	193	149
Payment to Kotamadya	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:														
Ave. Expenses per M3 Sold (Rp)	1,874	1,876	1,848	1,877	1,868	1,841	1,832	1,828	1,830	1,836	1,848	1,865	1,898	1,972
Operating Ratio	56%	58%	53%	56%	57%	60%	62%	64%	66%	68%	69%	71%	77%	79%
Before Tax Income/Sales	10%	11%	22%	21%	21%	22%	22%	22%	22%	22%	21%	21%	16%	16%
Increases in Weighted Average Tariffs	8%	-3%	8%	-5%	-5%	-5%	-4%	-4%	-4%	-3%	-3%	-2%	-2%	2%
Average Asset's Rate Base (Nom. Rp M)	50,447	50,859	51,294	51,752	52,235	52,744	53,280	53,848	54,442	55,070	55,732	56,430	57,166	57,463
Assets/Water Sales	5.43	5.28	4.54	4.55	4.47	4.41	4.33	4.28	4.18	4.10	4.02	3.93	3.92	3.81
Operating Income/Assets	1.3%	1.7%	4.8%	4.5%	4.7%	4.8%	4.9%	5.0%	5.1%	5.2%	5.3%	5.3%	4.0%	4.0%
Before Tax Income/Assets	1.8%	2.0%	4.9%	4.8%	4.8%	4.9%	5.0%	5.1%	5.2%	5.3%	5.3%	5.4%	4.1%	4.1%

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TABLE B5 - SOURCES AND APPLICATION OF FUNDS (CURRENT RP MILLION)	2001 Audited	2002 Audited	2003 Audited	2004 Actual	2005	2006	2007	2008	2009	2010	2011
SOURCES OF FUNDS:											
Income before Depreciation and Interest	138	131	218	237	548	615	784	1,565	3,465	3,424	7,385
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	0	0	0	0	0	0	57	41	14	100	369
Gross Internal Cash Generation	138	131	218	237	548	615	821	1,606	3,479	3,524	7,754
GOI Construction Grant	0	0	140	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)	0	0	0	0	0	460	0	0	0	0	0
Other RG Equity/Advance	0	0	0	0	0	0	5,400	3,223	0	0	0
Reinvestment by Kotamadya	0	0	0	0	43	108	135	194	248	562	303
Total Equity	0	0	140	0	43	568	5,535	3,417	248	562	303
Borrowing:											
Proposed Loan	0	0	0	0	0	871	15,131	10,805	4,614	378	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	801	1,019	2,238	3,072	3,545	0
Total Borrowing	0	0	0	0	0	1,572	16,150	13,042	7,686	3,923	0
TOTAL SOURCES OF FUNDS	138	131	358	237	589	2,775	22,506	18,085	11,412	8,008	8,058
APPLICATIONS OF FUNDS:											
Proposed WSSP Projects	0	0	0	0	0	1,387	21,618	15,435	8,592	540	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	824	271	1,473	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	0	0	0	0	6	7	8	8	9	474	3,740
Master Plan	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	601	1,019	2,238	3,072	3,545	0
Total Capital Expenditures	0	824	271	1,473	6	1,995	22,642	17,681	9,672	4,558	3,740
Amortization of L/T Debt	0	0	0	0	0	0	0	0	0	0	2,119
Operational Interest of L/T Debt	0	0	0	0	0	0	0	0	0	0	3,801
Total Debt Service of L/T Debt	0	0	0	0	0	0	0	0	0	0	5,920
Working Capital Needs	0	74	(137)	(94)	538	(77)	33	733	5	(1,934)	562
Other Assets/Liabil. Changes	0	(789)	196	0	52	(51)	(45)	(41)	(37)	(38)	(5)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	0	0	0	0	7	18	22	32	41	92	50
Income Tax	0	0	0	0	0	72	93	138	180	426	224
TOTAL APPLICATIONS OF FUNDS	0	110	331	1,379	604	1,957	22,745	18,544	9,861	3,104	10,490
CASH INCREASE (DECREASE)	138	21	27	(1,142)	(14)	818	(239)	(479)	1,551	4,905	(2,432)
Cash Balance, Beginning	(135)	3	25	52	1	(13)	805	566	87	1,638	8,543
Cash Balance, Ending	3	25	52	1	(13)	805	566	87	1,638	6,543	4,111
Minimum Cash Requirement	11	11	11	11	12	14	20	87	144	173	680
DSCR (SLAP, Cash balance less minimum cash)	na	na	na	na	na	na	na	na	na	na	1.58
DSCR (ADB and Perpamsi, Net revenues)	na	na	na	na	na	na	na	na	na	na	1.31
DSCR (Cashflow)	na	na	na	na	na	na	na	na	na	na	0.68
DSCR (BPKP, Net Income)	na	na	na	na	na	na	na	na	na	na	0.10
Contribution to Investment	na	103%	59%	22%	-123%	38%	4%	5%	37%	122%	35%
Contr. to Investment, 3 Yr Average			46%	184%	5572%	27%	4%	10%	35%	76%	80%

PDAM KABUPATEN TAPANULI TENGAH

TABLE B5 - SOURCES AND A	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
(CURRENT RP MILLION)														
SOURCES OF FUNDS:														
Income before Depreciation and Interest	7,785	8,017	9,584	9,498	9,886	9,802	9,953	10,114	10,290	10,481	10,691	10,921	10,400	10,586
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	235	137	47	47	47	47	47	47	48	48	48	49	49	50
Gross Internal Cash Generation	8,021	8,155	9,631	9,543	9,713	9,848	10,000	10,162	10,337	10,529	10,739	10,970	10,450	10,635
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	325	347	399	963	920	971	1,003	1,035	1,065	1,094	1,122	1,150	1,178	909
Total Equity	325	347	399	963	920	971	1,003	1,035	1,065	1,094	1,122	1,150	1,178	909
Borrowing:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SOURCES OF FUNDS	8,346	8,502	10,030	10,506	10,633	10,820	11,003	11,197	11,402	11,623	11,862	12,120	11,628	11,545
APPLICATIONS OF FUNDS:														
Proposed WSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	3,983	4,200	4,451	4,716	4,998	5,295	5,611	5,945	6,299	6,674	7,070	7,491	6,953	7,319
Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	3,983	4,200	4,451	4,716	4,998	5,295	5,611	5,945	6,299	6,674	7,070	7,491	6,953	7,319
Amortization of L/T Debt	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119
Operational Interest of L/T Debt	3,793	3,581	3,388	3,188	2,984	2,781	2,579	2,377	2,174	1,972	1,770	1,567	1,365	1,163
Total Debt Service of L/T Debt	5,912	5,709	5,507	5,305	5,102	4,900	4,698	4,495	4,293	4,091	3,888	3,686	3,484	3,281
Working Capital Needs	(30)	(83)	(283)	(395)	(307)	(264)	(225)	(194)	(159)	(149)	(133)	(120)	105	107
Other Assets/Liabil. Changes	(5)	(6)	(7)	(18)	(15)	(16)	(18)	(17)	(17)	(18)	(18)	(19)	(19)	(15)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	53	57	65	158	151	159	164	169	174	179	184	188	193	149
Income Tax	241	258	298	738	704	744	769	794	818	840	862	884	906	896
TOTAL APPLICATIONS OF FUNDS	10,134	10,135	10,032	10,506	10,632	10,818	11,000	11,193	11,397	11,617	11,854	12,111	11,622	11,537
CASH INCREASE (DECREASE)	(1,788)	(1,633)	(2)	0	0	1	3	4	5	7	8	10	7	8
Cash Balance, Beginning	4,111	2,322	689	686	687	687	688	691	695	700	707	715	725	731
Cash Balance, Ending	2,322	689	686	687	687	688	691	695	700	707	715	725	731	739
Minimum Cash Requirement	692	689	686	687	687	688	691	695	700	707	715	725	731	739
DSCR (SLAP, Cash balance less minim	1.28	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DSCR (ADB and Perpami, Net revenue	1.36	1.43	1.75	1.80	1.90	2.01	2.13	2.26	2.41	2.57	2.76	2.96	3.00	3.24
DSCR (Cashflow)	0.69	0.69	0.94	0.91	0.92	0.93	0.93	0.94	0.94	0.94	0.94	0.94	1.00	1.01
DSCR (BPKP, Net Income)	0.11	0.13	0.32	0.32	0.35	0.37	0.40	0.43	0.46	0.50	0.54	0.58	0.47	0.51
Contribution to Investment	55%	61%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Contr. to Investment, 3 Yr Average	51%	73%	88%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%

PDAM KABUPATEN TAPANULI TENGAH

TABLE B6 - BALANCE SHEET No Asset Revaluation			2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)			Audited	Audited	Audited	Actual							
Assets in Operation	reval after:	2004	2,208	3,215	3,607	5,280	5,280	5,287	7,282	29,924	47,605	57,277	61,935
Accumulated Depreciation			1,549	1,831	1,831	1,831	2,108	2,365	2,714	3,689	5,720	8,468	11,589
Net Fixed Assets			658	1,384	1,976	3,449	3,172	2,902	4,567	26,235	41,885	48,809	50,246
Work In Progress			504	321	0	0	6	1,995	22,642	17,661	9,572	4,558	3,740
Cash + Deposits			3	25	52	1	(13)	805	568	87	1,838	6,543	4,111
Accounts Receivable - Water	590	60 days= target	276	336	406	430	867	850	895	1,050	1,701	778	1,445
Reserve of Bad Debts Provision, Water			(126)	(99)	(102)	(90)	0	0	0	0	0	0	0
Past Connection Fees Put To Balance Sheet			0	0	0	0	0	0	0	0	0	0	0
Receivable - Credited New Connections							0	0	0	0	0	0	0
Inventories	1,230	30 days= target	9	8	5	4	97	159	281	1,164	1,026	141	150
Other Receivable	Piutang (Usaha) non-Air; Piutang Lain Lain. Uang		6	7	7	4	5	5	5	6	6	6	7
Total Current Assets			169	277	389	380	976	1,818	1,747	2,307	4,371	7,468	5,711
Installation Inventory	189	70 days= target	480	420	245	447	391	342	299	261	228	199	199
Other Assets			24	24	174	174	90	99	99	99	99	99	99
TOTAL ASSETS			1,835	2,428	2,763	4,450	4,844	7,155	29,354	48,583	56,255	61,132	59,995
Accounts Payable	35	30 days= target	5	4	3	33	10	12	19	83	138	187	179
Other Payable			21	25	207	316	339	383	388	415	438	482	487
Other Current Liabilities (Cust. Deposit)			28	38	57	75	75	76	76	172	269	292	318
Tax Payable	0	4 Turn Ov = Targ	0	0	0	0	72	147	249	367	701	750	803
Current Matur. Long-Term Debt			0	0	0	0	0	0	0	0	0	2,119	2,119
Total Current Liabilities			54	67	267	424	486	597	732	1,037	1,545	3,789	3,904
Deferred Income			0	0	0	0	0	0	0	0	0	0	0
Meter Reserve Fund			38	47	110	169	5	5	5	5	5	5	5
Other Liabilities			0	3	0	0	1	2	5	8	12	21	26
Long Term Debt - Net			0	3	0	0	0	1,572	17,722	30,764	38,450	40,254	38,135
Total Liabilities			92	114	377	613	502	2,177	18,463	31,814	40,012	44,069	42,070
Assets Revaluation Surplus	10 average age initial revaluation						0	0	0	0	0	0	0
Reserves + "Net" Retained Earnings			(602)	(1,253)	(1,558)	(1,210)	(948)	(700)	(323)	138	1,364	1,023	2,181
Local Gov't Equity			1,830	3,057	3,290	3,435	3,478	4,067	9,001	13,019	13,266	13,829	14,132
Central Gov't Equity (Inc'l Not Yet Handed Over)			514	514	654	1,612	1,812	1,812	1,612	1,612	1,612	1,612	1,612
Total Equity			1,742	2,312	2,386	3,837	4,142	4,879	10,891	14,788	16,243	17,083	17,925
TOTAL EQUITY AND LIABILITIES			1,835	2,428	2,763	4,450	4,844	7,155	29,354	48,583	56,255	61,132	59,995
Current Ratio			3.1	4.1	1.4	0.9	2.0	3.0	2.4	2.2	2.8	2.0	1.5
Working Capital, exclud. cash			111	185	48	(46)	493	418	448	1,183	1,188	(748)	(164)
Debt Equity Ratio (70/30 = 233%)			0%	0%	0%	0%	0%	32%	163%	208%	237%	248%	225%
Total Assets/Total Debt			na	na	na	na	8,545.9	4.5	1.7	1.5	1.5	1.4	1.5
# Days Accounts Receivable			670	821	881	833	590	484	378	272	166	60	60
% Debt/(Net Fixed Assets +WIP)			0	0%	0%	0%	0%	32%	65%	70%	75%	79%	75%
Cash = # Month Operating Expenses			0.3	2.2	4.6	0.1	-1.1	58.1	28.1	1.0	11.4	37.7	22.1

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TABLE B6 - BALANCE SHEET (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets in Operation	65,574	69,538	73,738	78,188	82,905	87,902	93,198	98,809	104,754	111,053	117,727	124,797	132,288	139,241
Accumulated Depreciation	14,927	18,467	22,221	26,201	30,422	34,897	39,642	44,873	50,006	55,660	61,654	68,009	74,744	81,858
Net Fixed Assets	50,647	51,071	51,517	51,987	52,483	53,005	53,556	54,138	54,748	55,393	56,072	56,788	57,543	57,383
Work In Progress	3,883	4,200	4,451	4,718	4,998	5,285	5,611	5,945	6,299	6,674	7,070	7,491	7,953	7,319
Cash + Deposits	2,322	889	686	687	687	688	691	695	700	707	715	725	731	739
Accounts Receivable - Water	1,528	1,582	1,859	1,868	1,920	1,968	2,021	2,078	2,138	2,207	2,280	2,359	2,400	2,478
Reserve of Bad Debts Provision, Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Connection Fees Put To Balance Sheet	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Receivable - Credited New Connections	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inventories	158	167	176	188	198	207	218	230	243	256	270	285	301	317
Other Receivable	7	7	8	8	9	9	10	10	11	11	12	13	13	14
Total Current Assets	4,013	2,445	2,728	2,748	2,811	2,872	2,938	3,012	3,092	3,180	3,278	3,381	3,415	3,548
Installation Inventory	199	199	199	199	199	199	199	199	199	199	199	199	199	199
Other Assets	99	99	99	99	99	99	99	99	99	99	99	99	99	99
TOTAL ASSETS	58,922	58,014	58,995	59,750	60,589	61,471	62,404	63,392	64,438	65,545	66,717	67,958	69,240	70,548
Accounts Payable	191	204	217	233	249	268	284	303	324	346	369	394	418	439
Other Payable	514	542	572	604	637	672	709	748	789	833	878	927	978	1,031
Other Current Liabilities (Cust. Deposit)	340	383	387	411	434	458	482	508	529	553	577	601	621	642
Tax Payable	860	844	1,446	1,789	2,085	2,333	2,544	2,725	2,884	3,025	3,153	3,270	3,349	3,460
Current Matur. Long-Term Debt	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119
Total Current Liabilities	4,024	4,172	4,741	5,155	5,524	5,848	6,137	6,401	6,645	6,875	7,096	7,310	7,562	7,851
Deferred Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meter Reserve Fund	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Other Liabilities	31	37	44	59	74	90	107	124	141	159	177	196	215	230
Long Term-Debt - Net	36,016	33,898	31,779	29,881	27,542	25,423	23,305	21,186	19,068	16,940	14,830	12,712	10,593	8,474
Total Liabilities	40,078	38,112	38,589	34,880	33,148	31,360	29,554	27,716	25,859	23,988	22,108	20,223	18,076	15,961
Assets Revaluation Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reserves + "Net" Retained Earnings	2,776	3,485	5,610	7,092	8,745	10,435	12,178	13,969	15,807	17,690	19,620	21,596	22,846	24,360
Local Gov't Equity	14,457	14,805	15,204	16,167	17,085	18,057	19,060	20,095	21,160	22,254	23,377	24,527	25,706	26,815
Central Gov't Equity (Inc'l Not Yet Handd)	1,612	1,812	1,612	1,612	1,612	1,612	1,612	1,612	1,612	1,612	1,612	1,612	1,612	1,612
Total Equity	18,846	19,902	22,426	24,870	27,444	30,104	32,850	35,676	38,579	41,557	44,609	47,735	50,164	52,587
TOTAL EQUITY AND LIABILITIES	58,922	58,014	58,995	59,750	60,589	61,471	62,404	63,392	64,438	65,545	66,717	67,958	69,240	70,548
Current Ratio	1.0	0.6	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Working Capital, exclud. cash	(214)	(297)	(580)	(974)	(1,282)	(1,548)	(1,771)	(1,965)	(2,134)	(2,283)	(2,416)	(2,535)	(2,630)	(2,723)
Debt Equity Ratio (70/30 = 233%)	202%	181%	151%	128%	108%	91%	77%	65%	55%	46%	38%	31%	25%	20%
Total Assets/Total Debt	1.5	1.8	1.7	1.9	2.0	2.2	2.4	2.7	3.0	3.4	3.9	4.5	5.3	8.3
# Days Accounts Receivable	60	60	80	60	60	60	60	60	60	60	60	60	60	50
% Debt/(Net Fixed Assets +WIP)	70%	65%	61%	56%	52%	47%	43%	39%	35%	31%	27%	23%	20%	18%
Cash = # Month Operating Expenses	11.7	3.2	3.0	2.8	2.6	2.5	2.3	2.2	2.0	1.9	1.8	1.7	1.7	1.8

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TABLE B7 - FINANCING PLAN		1996 - 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	% CAP. EXP.	TOTAL	Audited	Audited	Audited	Actual							
Income before Depreciation	17.4%	9,833	138	131	218	237	548	615	784	1,585	3,465	3,424	7,385
Non-Operating Income (Loss) - Net	0.4%	211	0	0	0	0	0	0	57	41	14	100	369
Gross Internal Cash Generation	17.8%	10,044	138	131	218	237	548	615	821	1,608	3,479	3,524	7,754
Minus:													
Loan Amortization	0.0%	0	0	0	0	0	0	0	0	0	0	0	2,119
Operational Interest	0.0%	0	0	0	0	0	0	0	0	0	0	0	3,801
Total Debt Service	0.0%	0	0	0	0	0	0	0	0	0	0	0	5,920
Working Capital Needs	-2.2%	(1,238)	0	74	(137)	(84)	598	(77)	33	733	5	(1,934)	582
Other Assets/Liabil. Changes	-0.4%	(212)	0	(789)	198	0	52	(51)	(45)	(41)	(37)	(38)	(5)
Kotamadya Share of Net Income	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	0.4%	204	0	0	0	0	7	18	22	32	41	62	50
Income Tax	1.8%	909	0	0	0	0	0	72	93	139	180	420	224
Net Internal Cash Generation	18.4%	10,381	138	846	159	331	(51)	853	718	742	3,290	4,978	1,004
Cash Increase (Decrease)	11.6%	6,558	138	21	27	(1,142)	(14)	819	(239)	(479)	1,551	4,905	(2,432)
Investments:													
Proposed WWSPP Projects	80.8%	45,569	0	0	0	0	0	1,387	21,618	15,435	6,582	540	0
Committed/Other Projects	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0.0%	0	0	824	271	1,473	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	0.9%	505	0	0	0	0	8	7	8	8	9	474	3,740
Interest Accumulated	18.5%	10,474	0	0	0	0	0	801	1,019	2,238	3,072	3,545	0
Total Capital Expenditures	100.0%	56,548	0	824	271	1,473	8	1,995	22,642	17,581	9,672	4,558	3,740
NET TO BE FINANCED:	93.2%	52,723	0	0	140	0	43	2,160	21,685	16,480	7,933	4,485	303
FINANCED BY:													
Proposed Loan	56.4%	31,898	0	0	0	0	0	971	15,131	10,805	4,814	378	0
Committed Loan	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	18.5%	10,474	0	0	0	0	0	801	1,019	2,238	3,072	3,545	0
Total Borrowing	74.9%	42,372	0	0	0	0	0	1,572	16,150	13,042	7,886	3,923	0
GOI Construction Grant	0.0%	0	0	0	140	0	0	0	0	0	0	0	0
Feasibility Study Grant	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)	0.8%	480	0	0	0	0	0	480	0	0	0	0	0
Other RG Equity/Advance	15.2%	8,623	0	0	0	0	0	0	5,400	3,223	0	0	0
Reinvestment by Kotamadya	2.2%	1,247	0	0	0	0	43	108	135	194	248	582	303
Total Equity	18.3%	10,351	0	0	0	0	43	588	5,535	3,417	248	582	303
TOTAL EXTERNAL FINANCE	93.2%	52,723	0	0	140	0	43	2,160	21,685	16,480	7,933	4,485	303

PDAM KABUPATEN TAPANULI TENGAH

TABLE B7 - FINANCING PLAN (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Income before Depreciation	7,785	8,017	9,584	9,496	9,688	9,802	9,953	10,114	10,290	10,481	10,691	10,921	10,400	10,586
Non-Operating Income (Loss) - Net	235	137	47	47	47	47	47	47	48	48	48	49	49	50
Gross Internal Cash Generation	8,021	8,155	9,631	9,543	9,735	9,849	10,000	10,162	10,337	10,529	10,739	10,970	10,449	10,636
Minus:														
Loan Amortization	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2,119
Operational Interest	3,793	3,591	3,398	3,186	2,984	2,781	2,579	2,377	2,174	1,972	1,770	1,567	1,365	1,163
Total Debt Service	5,912	5,709	5,507	5,305	5,102	4,900	4,698	4,495	4,293	4,091	3,888	3,686	3,484	3,281
Working Capital Needs	(30)	(83)	(263)	(395)	(307)	(204)	(225)	(104)	(109)	(140)	(133)	(120)	105	107
Other Assets/Liabil. Changes	(5)	(6)	(7)	(16)	(15)	(16)	(15)	(17)	(17)	(18)	(18)	(19)	(19)	(15)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	53	57	65	158	151	159	164	169	174	179	184	188	193	149
Income Tax	241	258	298	738	704	744	759	794	818	840	862	884	908	696
Net Internal Cash Generation	1,850	2,219	4,050	3,753	4,078	4,326	4,611	4,914	5,239	5,586	5,958	6,350	5,781	6,417
Cash Increase (Decrease)	(1,788)	(1,633)	(2)	0	0	1	3	4	5	7	8	10	7	8
Investments:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	3,863	4,200	4,451	4,718	4,998	5,295	5,611	5,945	6,299	6,674	7,070	7,491	6,953	7,319
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	3,863	4,200	4,451	4,718	4,998	5,295	5,611	5,945	6,299	6,674	7,070	7,491	6,953	7,319
NET TO BE FINANCED:	325	347	399	963	920	971	1,003	1,035	1,065	1,094	1,122	1,150	1,178	909
FINANCED BY:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Lend)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	325	347	399	963	920	971	1,003	1,035	1,065	1,094	1,122	1,150	1,178	909
Total Equity	325	347	399	963	920	971	1,003	1,035	1,065	1,094	1,122	1,150	1,178	909
TOTAL EXTERNAL FINANCE	325	347	399	963	920	971	1,003	1,035	1,065	1,094	1,122	1,150	1,178	909

PDAM KASIPATEN TAPANULI TENGAH

TABLE B8 - MONITORING INDICATORS

	Audited	Audited	Audited	Actual							
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
SUPPLY AND DEMAND											
Maximum Cash and PFC											
Population - 000	77	78	80	81	81	81	82	83	84	84	85
% Population Served	11%	11%	12%	12%	12%	12%	12%	27%	41%	44%	47%
Number of Connections - 000	1.7	1.7	1.8	1.8	1.8	1.8	1.8	4.1	8.5	7.0	7.8
Increase in Connections - 000		0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3	0.8	0.8
Consumption M3/Month/Connec	27.2	25.4	23.3	27.2	23.0	18.2	17.1	11.8	13.0	14.2	14.2
Forecast Volume Sold - 000 M3	561	532	500	589	499	399	377	575	1,012	1,201	1,300
% Unaccounted for Water	50%	52%	55%	47%	47%	47%	47%	45%	42%	40%	39%
PDAM Production- 000 M3	1,118	1,118	1,118	1,118	948	757	716	1,048	1,755	2,016	2,127
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0
MANAGEMENT											
# Days Accounts Receivable	870	811	881	833	590	484	378	272	188	80	60
Number of Employees	28	28	28	28	22	20	19	35	53	58	61
Employees Per 1000 Connections	16	18	18	16	12	11	10	9	8	8	8
% Increase # of employees		0%	0%	0%	-20%	-9%	-5%	91%	49%	7%	8%
PROJECT DEVELOPMENT											
Cumulative Project Cost (Rp Million)	0	0	0	0	0	1,387	23,003	38,438	45,029	45,569	45,569
Cumulative Project Cost (US \$000)	0	0	0	0	0	0	2	4	4	4	4
Cumulative Project Loan (US \$000)	0	0	0	0	0	87	1,550	2,548	2,960	2,993	2,993
Disbursement Profile	0%	0%	0%	0%	0%	3%	52%	85%	99%	100%	100%
FINANCIAL											
Average tariff (current Rp/M3)	288	281	338	320	1,100	1,807	2,292	2,452	3,698	3,939	6,780
Average nominal tariff increase		5%	20%	-5%	243%	48%	43%	7%	51%	7%	72%
Cash Balance to Min. Cash Requirement	0	2	5	0	(1)	58	28	1	11	38	6
Contribution to investment - Ave of 3 years		0%	46%	164%	5572%	27%	4%	10%	35%	76%	80%
R o R on Revalued Assets excl. Int	-3%	-3%	4%	3%	8%	11%	12%	4%	4%	1%	1%
% Debt on Debt plus Equity	0%	0%	0%	0%	0%	32%	163%	208%	237%	246%	225%
CONSTANT PRICE ANALYSIS: 2004 base year											
Tariff (2005 Rp/M3)	371	342	381	341	1,100	1,500	2,000	2,000	2,818	2,845	4,629
Annual Real Tariff Increase		-8%	0	-10%	223%	38%	33%	0%	0	1%	63%
Real Tariff Increase From Base Year	-3%	-10%	0	-10%	189%	294%	428%	428%	0	648%	1118%
Salary (2005 Rp 000)/employee/month	78	89	84	60	58	58	58	58	58	58	58
Operating Costs (2005Rp/M3 Sold)	338	312	308	246	283	388	560	1,482	1,289	1,252	1,177
CRITICAL FINANCIAL INDICATORS 1995 - 2005											
	2005 - 2015							2005 - 2015			
	MINIMUM	MAXIMUM	AVERAGE				VARIABLE OR INDICATOR	MINIMUM	MAXIMUM	AVERAGE	
Cash	(13)	6,543	1,647				DSCR (ADB and Perpamsi. Net revenues)	1.3	1.8	1.5	
Cash = # Month Operating Expenses	(1)	58	18				Contr to Invest. - Ave 3 Years	4%	5572%	553%	
Tariff Increase, constant prices	-10%	223%	35%				Days Accounts Receivable	60	590	204	
R o R on Revalued Assets excl. Int	1%	12%	5%				Debt/(debt + equity)	0%	248%	161%	

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TABLE B8 - MONITORING IND														
Maximum Cash and PFC	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUPPLY AND DEMAND														
Population - 000	86	87	88	89	90	91	91	92	93	94	95	96	97	98
% Population Served	50%	53%	56%	59%	62%	65%	67%	70%	72%	75%	77%	80%	79%	78%
Number of Connections - 000	8.2	8.7	9.3	9.9	10.5	11.0	11.8	12.2	12.7	13.3	13.9	14.5	14.5	14.5
Increase in Connections - 000	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
Consumption M3/Month/Connec.	13.0	13.0	13.2	13.2	13.5	13.8	14.1	14.4	14.7	15.0	15.2	15.5	16.1	16.3
Forecast Volume Sold - 000 M3	1,275	1,382	1,477	1,583	1,691	1,823	1,960	2,100	2,244	2,389	2,538	2,688	2,788	2,833
% Unaccounted-for Water	37%	38%	34%	28%	27%	27%	27%	26%	26%	26%	26%	26%	25%	25%
PDAM Production- 000 M3	2,033	2,117	2,241	2,158	2,323	2,494	2,671	2,852	3,037	3,225	3,416	3,609	3,740	3,802
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MANAGEMENT:														
# Days Accounts Receivable	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Number of Employees	65	70	75	79	84	88	93	97	102	106	111	116	116	116
Employees Per 1000 Connections	8	8	8	8	8	8	8	8	8	8	8	8	8	8
% Increase # of employees	8%	7%	7%	6%	6%	5%	5%	5%	5%	4%	4%	4%	0%	0%
PROJECT DEVELOPMENT														
Cumulative Project Cost (Rp Million)	45,569	45,569	45,569	45,569	45,569	45,569	45,569	45,569	45,569	45,569	45,569	45,569	45,569	45,569
Cumulative Project Cost (US \$000)	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Cumulative Project Loan (US \$000)	2,993	2,993	2,993	2,993	2,993	2,993	2,993	2,993	2,993	2,993	2,993	2,993	2,993	2,993
Disbursement Profile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
FINANCIAL														
Average tariff (current Rp/M3)	7,283	7,088	7,854	7,270	8,906	6,566	6,271	6,017	5,801	5,618	5,465	5,339	5,236	5,321
Average nominal tariff increase	8%	-3%	8%	-5%	-5%	-5%	-4%	-4%	-4%	-3%	-3%	-2%	-2%	2%
Cash Balance to Min. Cash Requirement	3	1	1	1	1	1	1	1	1	1	1	1	1	1
Contribution to investment - Ave of 3 yrs	51%	73%	88%	85%	65%	65%	65%	65%	65%	65%	65%	65%	69%	85%
R o R on Revahued Assets excl. Int	1%	2%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	4%	4%
% Debt on Debt plus Equity	202%	181%	151%	128%	108%	91%	77%	85%	55%	48%	38%	31%	25%	20%
CONSTANT PRICE ANALYSIS:														
Tariff (2005 Rp/M3)	4,727	4,348	4,484	4,018	3,819	3,201	2,852	2,885	2,453	2,252	2,077	1,923	1,788	1,722
Annual Real Tariff Increase	2%	-8%	3%	-10%	-10%	-10%	-9%	-9%	-8%	-8%	-8%	-7%	-7%	-4%
Real Tariff Increase From Base Year	1142%	1043%	1073%	956%	851%	757%	678%	608%	545%	492%	446%	405%	370%	352%
Salary (2005 Rp 000)/employee/month	58	56	56	58	58	56	56	56	56	56	56	56	56	56
Operating Costs (2005Rp/M3 Sold)	1,216	1,154	1,078	1,037	973	915	862	816	774	736	702	672	648	638
CRITICAL FINANCIAL INDICATORS 10														
Cash														
Cash = # Month Operating Expenses														
Tariff Increase, constant prices														
R o R on Revahued Assets excl. Int														

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TABLE B4 - PROFIT AND LOSS ACCOUNT

(CURRENT RP MILLION)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Audited	Audited	Audited	Actual							
Number of Service Connections - '000	19.7	21.8	22.8	22.9	23.8	24.7	28.9	38.3	48.1	47.8	47.9
Average Consumption - m3/conn/month	27.4	15.8	22.7	22.4	22.1	22.0	19.1	17.7	18.5	19.2	19.4
Volume Sold - '000m3	6,454	6,741	6,186	6,169	6,303	6,528	6,813	6,182	10,229	11,038	11,138
% Unaccounted-for Water	30%	4%	35%	38%	35%	35%	34%	32%	31%	30%	30%
Water Produced - '000m3	6,788	7,187	7,787	7,787	9,759	10,043	10,031	12,071	14,863	15,979	16,195
Average Tariff - Current Rp/M3	746	524	1,182	1,169	1,221	2,222	2,488	2,507	2,889	3,022	4,070
Tariff Revenues	4,817	6,229	7,202	7,212	7,698	14,503	16,438	20,488	29,349	33,355	45,338
Net Connection Fees	1,204	1,303	887	24	458	551	2,595	6,197	5,370	1,242	122
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	433	410	1,700	978	959	997	1,188	1,549	1,882	1,830	1,936
Total Operating Revenues	6,454	7,942	9,789	8,214	9,113	16,052	20,199	28,212	36,582	36,528	47,398
Personnel	2,424	2,814	3,375	3,486	3,523	3,939	4,860	6,785	8,598	9,413	9,960
Power	473	581	874	892	1,031	1,138	1,197	1,520	1,975	2,240	2,395
Chemical	177	184	237	271	317	349	368	487	607	688	738
Maintenance Material	351	431	432	403	1,003	1,178	1,389	3,919	5,184	5,900	8,248
Administration - General	1,010	1,140	1,365	1,321	1,375	1,535	1,897	2,881	3,378	3,777	3,997
Bad Debts & Write Off	391	187	368	0	285	308	801	843	801	1,148	1,305
Raw Water Purchases	728	867	1,233	247	263	300	316	334	352	372	392
Raw Water Reimbursement	43	31	55	125	98	100	100	121	149	212	182
Total Operating Expenses	5,885	6,234	7,958	6,745	7,894	8,844	10,895	18,450	21,040	23,750	25,193
Income (Loss) before Depreciation	859	1,708	1,831	1,468	1,219	7,209	9,503	11,762	15,542	12,778	22,203
Depreciation	1,849	1,703	2,355	2,355	3,153	3,174	3,326	6,702	11,478	13,777	15,011
Operating Income (Loss)	(790)	4	(524)	(887)	(1,934)	4,034	6,177	5,060	4,064	(999)	7,191
Operational Interest	0	0	0	0	0	0	0	0	0	0	10,286
Net Operating Income (Loss)	(790)	4	(524)	(887)	(1,934)	4,034	6,177	5,060	4,064	(999)	(3,104)
Royalties	1,698	1,576	1,847	1,847	1,878	2,087	2,201	2,322	2,450	2,585	2,727
Non-Operating Income (Loss) - Other	82	95	111	121	188	319	773	383	718	1,587	2,435
Before Tax Income	991	1,674	1,418	1,081	231	6,440	9,151	7,746	7,232	3,172	2,058
Taxable Income After Losses Carried Forward (5 Years)	961	1,674	1,418	1,081	231	6,440	9,151	7,746	7,232	3,172	2,058
Income Tax	350	884	524	224	81	1,923	2,737	2,315	2,181	943	809
Net Income (Loss)	611	790	894	857	150	4,517	6,414	5,431	5,051	2,229	1,249
Staff Funds Share of Net Income	10.0% of net income	0	0	0	86	17	452	641	543	507	223
Kotamadya Share of Net Income	55.0% of net income	0	0	0	471	94	2,484	3,528	2,887	2,789	1,228
Payment to Staff Funds	90.0% of share	0	0	0	77	15	406	577	488	458	201
Payment to Kotamadya	0.0% of share	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:											
Ave. Expenses per M3 Sold (Rp)	887	925	1,284	1,093	1,252	1,355	1,617	2,015	2,057	2,152	2,262
Operating Ratio	112%	100%	106%	111%	121%	75%	69%	82%	89%	103%	85%
Before Tax Income/Sales	21%	27%	20%	15%	3%	44%	56%	38%	25%	10%	5%
Increases in Weighted Average Tariffs	24%	28%	28%	1%	4%	82%	12%	1%	14%	5%	35%
Average Asset's Rate Base (Nom. Rp M.)	11,780	11,899	13,952	15,887	19,241	21,271	19,938	57,550	108,784	125,175	126,380
Assets/Water Sales	2.45	1.91	1.94	2.20	2.50	1.47	1.21	2.81	3.71	3.75	2.79
Operating Income/Assets	-6.7%	0.0%	-3.8%	-5.6%	-10.1%	19.0%	31.0%	8.8%	3.7%	-0.8%	-2.5%
Before Tax Income/Assets	8.4%	14.1%	10.2%	6.8%	1.2%	30.3%	45.9%	13.5%	8.6%	2.5%	1.6%

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TABLE B4 - PROFIT AND LOS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
(CURRENT RP MILLION)														
Number of Service Connections - '000	48.1	48.2	48.4	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	50.0
Average Consumption - m3/conn/month	18.7	18.5	18.4	18.4	18.3	18.3	18.2	18.0	18.0	17.8	17.9	17.8	17.7	17.7
Volume Sold - '000m3	10,774	10,710	10,707	10,711	10,712	10,714	10,712	10,814	10,816	10,817	10,819	10,819	10,818	10,816
% Unaccounted-for Water	30%	30%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%
Water Produced - '000m3	15,722	15,883	15,748	15,845	15,848	15,853	15,852	15,708	15,712	15,715	15,719	15,722	15,722	15,721
Average Tariff - Current Rp/M3	4,488	4,740	4,882	5,250	5,527	5,836	6,586	6,949	7,326	7,720	8,143	8,598	9,087	9,614
Tariff Revenues	48,356	50,761	53,339	56,228	59,208	62,525	70,660	73,758	77,770	81,962	86,469	91,301	96,491	102,086
Net Connection Fees	122	127	133	140	148	157	167	177	188	199	211	224	238	253
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	1,842	1,948	1,954	1,959	1,865	1,871	1,877	1,883	1,928	1,993	2,002	2,008	2,014	2,020
Total Operating Revenues	50,421	52,835	55,425	58,329	61,321	64,654	72,804	75,916	79,947	84,157	88,682	93,534	98,743	104,339
Personnel	10,538	11,150	11,798	12,484	13,209	13,977	14,790	15,650	16,560	17,524	18,543	19,622	20,734	21,973
Power	2,453	2,578	2,734	2,903	3,063	3,232	3,410	3,584	3,762	3,969	4,189	4,420	4,663	4,919
Chemical	754	792	841	892	941	994	1,048	1,096	1,156	1,220	1,288	1,359	1,433	1,512
Maintenance Material	6,591	6,954	7,338	7,740	8,166	8,615	9,089	9,588	10,116	10,672	11,259	11,878	12,532	13,221
Administration - General	4,229	4,474	4,734	5,009	5,301	5,609	5,935	6,280	6,645	7,032	7,441	7,874	8,332	8,817
Bad Debts & Write Off	1,774	1,892	1,986	2,066	2,200	2,316	2,446	2,764	2,885	3,042	3,206	3,382	3,571	3,774
Raw Water Purchases	414	438	460	486	512	540	570	602	635	670	706	745	786	829
Raw Water Retribution	157	157	157	275	290	308	323	337	356	376	397	418	441	466
Total Operating Expenses	28,909	28,433	30,047	31,875	33,882	35,589	37,610	39,882	42,115	44,505	47,029	49,699	52,524	55,512
Income (Loss) before Depreciation	23,512	24,402	25,378	26,454	27,440	29,065	35,194	36,034	37,832	39,652	41,653	43,835	46,219	48,827
Depreciation	16,094	17,378	18,765	20,262	21,876	23,623	25,507	27,541	29,737	32,108	34,607	37,430	40,414	43,634
Operating Income (Loss)	7,418	7,024	6,613	6,192	5,562	5,442	9,686	8,493	8,095	7,544	6,986	6,404	5,808	5,193
Operational Interest	10,278	9,730	9,182	8,634	8,088	7,536	6,880	6,442	5,894	5,347	4,799	4,251	3,703	3,155
Net Operating Income (Loss)	(2,860)	(2,706)	(2,569)	(2,442)	(2,526)	(2,097)	2,606	2,051	2,200	2,198	2,187	2,153	2,103	2,038
Royalties	2,877	3,035	3,202	3,378	3,564	3,760	3,967	4,185	4,415	4,658	4,915	5,185	5,470	5,771
Non-Operating Income (Loss) - Other	2,047	1,745	1,452	1,163	874	584	300	307	315	323	331	340	350	360
Before Tax Income	2,064	2,074	2,086	2,089	2,114	2,248	6,963	6,543	6,930	7,178	7,433	7,678	7,923	8,169
Taxable Income After Losses Carried For	2,064	2,074	2,086	2,089	2,114	2,248	6,963	6,543	6,930	7,178	7,433	7,678	7,923	8,169
Income Tax	611	614	617	621	625	666	2,080	1,954	2,070	2,145	2,221	2,295	2,368	2,442
Net Income (Loss)	1,454	1,461	1,469	1,478	1,488	1,582	4,883	4,589	4,860	5,034	5,212	5,384	5,555	5,727
Staff Funds Share of Net Income	145	145	146	147	148	149	158	468	459	486	503	521	538	555
Kotamadya Share of Net Income	797	800	803	808	813	819	870	2,686	2,524	2,673	2,766	2,866	2,961	3,055
Payment to Staff Funds	130	131	131	132	133	134	142	439	413	437	453	469	485	500
Payment to Kotamadya	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:														
Ave. Expenses per M3 Sold (Rp)	2,498	2,655	2,806	2,976	3,144	3,322	3,511	3,757	3,967	4,182	4,429	4,680	4,947	5,229
Operating Ratio	85%	87%	88%	89%	91%	92%	87%	89%	90%	91%	92%	93%	94%	95%
Before Tax Income/Sales	4%	4%	4%	4%	4%	4%	10%	9%	9%	9%	9%	8%	8%	8%
Increases in Weighted Average Tariffs	10%	6%	5%	5%	5%	6%	13%	5%	5%	5%	5%	6%	6%	6%
Average Asset's Rate Base (Nom. Rp/M.	124,479	123,960	123,398	122,789	122,128	121,412	120,636	119,795	118,885	117,898	116,829	115,671	114,417	113,059
Assets/Water Sales	2.57	2.44	2.31	2.18	2.08	1.94	1.71	1.62	1.53	1.44	1.35	1.27	1.19	1.11
Operating Income/Assets	-2.3%	-2.2%	-2.1%	-2.0%	-1.9%	-1.7%	2.2%	1.7%	1.9%	1.9%	1.9%	1.9%	1.8%	1.8%
Before Tax Income/Assets	1.7%	1.7%	1.7%	1.7%	1.7%	1.9%	5.8%	5.5%	5.8%	6.1%	6.4%	6.6%	6.9%	7.2%

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TABLE B5 - SOURCES AND APPLICATION OF FUNDS

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual							
SOURCES OF FUNDS:											
Income before Depreciation and Interest	859	1,708	1,813	1,468	1,219	7,209	9,503	11,782	15,542	12,778	22,203
Royalties	1,808	1,578	1,847	1,847	1,978	2,087	2,201	2,322	2,450	2,585	2,727
Non-Operating Income (Loss) - Net	82	85	111	121	188	319	773	383	718	1,587	2,435
Gross Internal Cash Generation	2,640	3,371	3,771	3,436	3,385	9,614	12,477	14,448	18,710	18,950	27,365
GOI Construction Grant	0	5,543	4,018	9,808	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)	0	0	0	0	0	0	1,906	934	824	0	0
Other RG Equity/Advance	0	0	0	0	0	0	0	0	0	0	0
Reinvestment by Kotamadya	0	0	0	0	471	94	2,484	3,528	2,987	2,789	1,228
Total Equity	0	5,543	4,018	9,808	471	94	4,390	4,462	3,811	2,789	1,228
Borrowing:											
Proposed Loan			0	0	0	810	54,713	21,878	7,151	544	0
Committed Loan			0	0	0	0	0	0	0	0	0
Ongoing Loans	29	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	1,525	3,190	6,785	8,538	9,609	0
Total Borrowing	29	0	0	0	0	2,334	57,903	28,663	15,689	10,152	0
TOTAL SOURCES OF FUNDS	2,669	8,921	7,789	13,242	3,858	12,042	74,770	47,573	38,210	29,891	28,591
APPLICATIONS OF FUNDS:											
Proposed WSSP Projects	0	0	0	0	0	1,158	78,162	31,255	10,215	776	0
Committed/Other Projects	0	0	0	9,808	0	0	0	0	0	0	0
Past Projects	0	34	107	1,800	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	0	49	95	74	527	626	593	625	658	1,362	15,596
Master Plan	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	1,525	3,190	6,785	8,538	9,609	0
Total Capital Expenditures	0	183	202	11,779	527	3,307	81,944	38,664	19,412	11,747	15,596
Amortization of L/T Debt	0	0	0	0	0	0	0	0	0	0	5,707
Operational Interest of L/T Debt	0	0	0	0	0	0	0	0	0	0	10,298
Total Debt Service of L/T Debt	0	0	0	0	0	0	0	0	0	0	16,003
Working Capital Needs	0	(157)	605	0	1,135	566	(1,887)	(700)	338	219	2,898
Other Assets/Liabil. Changes	0	8,281	5,528	0	(491)	(160)	(170)	(163)	(134)	(115)	(20)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	0	0	0	0	77	15	406	577	489	458	201
Income Tax	0	350	894	524	224	61	1,823	2,737	2,315	2,181	943
TOTAL APPLICATIONS OF FUNDS	0	8,384	7,229	12,304	1,472	3,789	82,217	41,116	22,419	14,468	35,648
CASH INCREASE (DECREASE)	2,669	253	561	938	2,386	8,253	(7,447)	6,457	15,791	15,423	(7,057)
Cash Balance, Beginning	(1,457)	1,212	1,466	2,025	2,025	4,409	12,861	5,214	11,871	27,402	42,885
Cash Balance, Ending	1,212	1,465	2,025	2,025	4,409	12,861	5,214	11,871	27,462	42,885	35,828
Minimum Cash Requirement	486	520	863	662	658	737	891	1,371	1,753	1,979	3,438
DSCR (SLAP, Cash balance less minimum cash)	na	na	na	na	na	na	na	na	na	na	3.02
DSCR (ADB and Perpamsi, Net revenues)	na	na	na	na	na	na	na	na	na	na	1.71
DSCR (Cashflow)	na	na	na	na	na	na	na	na	na	na	0.73
DSCR (BPKP, Net Income)	na	na	na	na	na	na	na	na	na	na	0.09
Contribution to Investment	na	-2791%	-1610%	25%	552%	279%	18%	40%	98%	145%	55%
Contr. to Investment, 3 Yr Average			-1043%	-898%	578%	207%	13%	36%	75%	104%	61%

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TABLE B5 - SOURCES AND AI (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SOURCES OF FUNDS:														
Income before Depreciation and Interest	23,512	24,402	25,378	26,454	27,640	28,085	35,194	38,034	37,832	39,652	41,653	43,835	46,219	48,827
Royalties	2,877	3,035	3,202	3,378	3,584	3,760	3,957	4,185	4,415	4,658	4,915	5,185	5,470	5,771
Non-Operating Income (Loss) - Net	2,047	1,745	1,452	1,163	874	584	300	307	315	323	331	340	350	360
Gross Internal Cash Generation	28,436	29,182	30,033	30,995	32,078	33,409	39,461	40,528	42,562	44,633	46,891	49,360	52,039	54,959
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	797	800	803	808	813	819	870	2,886	2,524	2,673	2,768	2,866	2,961	3,055
Total Equity	797	800	803	808	813	819	870	2,886	2,524	2,673	2,768	2,866	2,961	3,055
Borrowing:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SOURCES OF FUNDS	29,233	29,982	30,836	31,803	32,891	34,228	40,331	43,212	45,086	47,306	49,667	52,226	55,000	58,014
APPLICATIONS OF FUNDS:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	16,838	18,180	19,628	21,191	22,878	24,700	26,667	28,790	31,082	33,558	36,226	39,109	42,222	45,581
Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	16,838	18,180	19,628	21,191	22,878	24,700	26,667	28,790	31,082	33,558	36,226	39,109	42,222	45,581
Amortization of L/T Debt	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737
Operational Interest of L/T Debt	10,278	9,730	9,182	8,634	8,086	7,538	6,990	6,442	5,894	5,347	4,799	4,251	3,703	3,155
Total Debt Service of L/T Debt	15,015	15,467	14,919	14,371	13,823	13,275	12,727	12,179	11,632	11,084	10,536	9,988	9,440	8,892
Working Capital Needs	1,146	822	821	782	710	673	20	(377)	(94)	49	188	309	418	519
Other Assets/Liabil. Changes	(13)	(13)	(13)	(13)	(13)	(13)	(14)	(44)	(41)	(44)	(45)	(47)	(48)	(50)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	130	131	131	132	133	134	142	439	413	437	453	469	485	500
Income Tax	609	611	614	617	621	625	666	2,080	1,954	2,070	2,145	2,221	2,295	2,368
TOTAL APPLICATIONS OF FUNDS	34,725	35,287	36,099	37,080	38,152	39,395	40,208	43,069	44,945	47,152	49,502	52,049	54,810	57,810
CASH INCREASE (DECREASE)	(5,492)	(5,316)	(5,263)	(5,267)	(5,261)	(5,167)	123	144	140	153	165	177	190	203
Cash Balance, Beginning	35,828	30,336	25,020	19,757	14,500	9,239	4,072	4,195	4,338	4,479	4,632	4,797	4,974	5,164
Cash Balance, Ending	30,336	25,020	19,757	14,500	9,239	4,072	4,195	4,338	4,479	4,632	4,797	4,974	5,164	5,367
Minimum Cash Requirement	3,577	3,858	3,747	3,854	3,959	4,072	4,195	4,338	4,479	4,632	4,797	4,974	5,164	5,367
DSCR (SLAP, Cash balance less minimum)	2.67	2.38	2.07	1.74	1.38	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DSCR (ADB and Perampsi, Net revenue)	1.78	1.69	2.01	2.16	2.32	2.52	3.10	3.33	3.66	4.03	4.45	4.94	5.51	6.18
DSCR (Cashflow)	0.72	0.71	0.70	0.68	0.67	0.66	1.01	0.98	0.99	1.00	1.01	1.03	1.04	1.05
DSCR (BPKP, Net Income)	0.09	0.09	0.10	0.10	0.11	0.12	0.38	0.38	0.42	0.45	0.49	0.54	0.59	0.64
Contribution to Investment	87%	71%	73%	75%	77%	79%	100%	100%	100%	100%	100%	100%	100%	100%
Confr. to Investment, 3 Yr Average	49%	54%	57%	57%	59%	60%	68%	55%	55%	55%	58%	58%	58%	56%

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TABLE B6 - BALANCE SHEET No Asset Revaluation												
(CURRENT RP MILLION)												
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
		Audited	Audited	Audited	Actual							
Assets in Operation	reval after	2004										
Accumulated Depreciation		21,787	23,737	29,958	29,958	17,224	20,399	23,725	30,427	41,904	55,981	70,693
Net Fixed Assets		11,780	12,018	15,887	15,887	22,594	19,947	19,928	95,171	122,358	127,992	124,728
Work in Progress		330	345	55	9,861	527	3,307	81,944	38,884	19,412	11,747	15,596
Cash + Deposits		1,212	1,465	2,025	2,025	4,409	12,861	5,214	11,871	27,462	42,885	35,828
Accounts Receivable - Water	132 60 days= target	2,341	2,830	3,255	3,255	2,778	4,865	4,641	4,973	5,978	5,483	7,453
Reserve of Bad Debts Provision, Water		(716)	(518)	(630)	(630)	(47)	(50)	(93)	(106)	(132)	(188)	(214)
Past Connection Fees Put To Balance Sheet		219	159	1,051	1,051	1,051	1,051	1,051	1,051	1,051	1,051	1,051
Receivable - Credited New Connections						2	3	12	32	38	24	13
Inventories	30 30 days= target	22	50	67	87	109	127	145	384	461	547	580
Other Receivable	Piutang (Usaha) non-Air; Piutang Lain Lain, Uang I	1,237	1,222	993	993	1,063	1,122	1,183	1,248	1,317	1,389	1,466
Total Current Assets		4,315	5,210	8,761	8,761	9,365	19,578	12,154	19,234	36,198	51,191	48,175
Installation Inventory	985 70 days= target	773	1,055	1,048	1,048	853	695	565	460	375	305	305
Other Assets		881	915	1,466	1,466	1,182	1,182	1,182	1,182	1,182	1,182	1,182
TOTAL ASSETS		18,079	18,543	25,217	35,022	34,521	44,709	115,774	154,712	179,523	192,418	187,987
Accounts Payable	33 30 days= target	69	209	568	568	336	378	433	742	957	1,084	1,145
Other Payable		307	368	314	314	338	355	374	395	417	439	454
Other Current Liabilities (Cust. Deposit)		108	127	141	141	147	152	178	237	285	295	296
Tax Payable	8 4 Turn. Ov = Targ	2,445	3,025	3,092	3,092	2,380	3,708	5,518	6,453	7,001	8,194	5,254
Current Matur Long-Term Debt		29	0	0	0	0	0	0	0	0	5,737	5,737
Total Current Liabilities		2,859	3,728	4,114	4,114	3,169	4,593	6,503	7,826	8,658	13,749	12,895
Deferred Income		0	0	0	0	0	0	0	0	0	0	0
Water Reserve Fund		0	0	0	0	5	5	5	5	5	5	5
Other Liabilities		0	0	0	0	8	9	50	108	157	202	222
Long Term Debt - Net		0	0	0	0	0	2,334	80,237	88,901	104,590	109,005	103,268
Total Liabilities		2,859	3,728	4,114	4,114	3,211	6,942	86,795	96,839	113,410	122,961	116,390
Assets Revaluation Surplus	10 average age initial revaluation	0	0	0	0	0	0	0	0	0	0	0
Reserves + "Net" Retained Earnings		7,189	2,021	2,748	2,748	2,878	9,041	15,863	20,295	24,723	25,278	28,192
Local Gov't Equity		1,509	1,809	2,351	2,351	2,823	2,917	7,307	11,789	15,580	18,389	19,595
Central Gov't Equity (Incl Not Yet Handed Over)		0,442	11,985	16,004	25,809	25,809	25,809	25,809	25,809	25,809	25,809	25,809
Total Equity		15,120	15,915	21,103	30,909	31,310	37,767	48,879	57,873	68,112	69,457	71,597
TOTAL EQUITY AND LIABILITIES		18,079	18,543	25,217	35,022	34,521	44,709	115,774	154,712	179,523	192,418	187,987
Current Ratio		1.5	1.4	1.6	1.6	2.9	4.3	1.9	2.5	4.2	3.7	3.8
Working Capital, exclud. cash		174	17	822	822	1,757	2,324	437	(283)	75	294	3,190
Debt Equity Ratio (70/30 = 233%)		0%	0%	0%	0%	0%	6%	123%	154%	158%	165%	152%
Total Assets/Total Debt		815.4	na	na	na	4,476.3	19.1	1.9	1.7	1.7	1.7	1.7
# Days Accounts Receivable		183	171	174	185	137	120	107	92	76	62	82
% Debt/(Net Fixed Assets + WIP)		0	0%	0%	0%	0%	10%	59%	66%	74%	82%	78%
Cash = # Month Operating Expenses		2.8	2.8	3.1	3.8	8.7	17.2	5.9	8.5	15.7	21.7	17.1

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TABLE 86 - BALANCE SHEET (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets in Operation	211,017	227,855	248,035	265,683	286,854	309,732	334,432	361,099	389,889	420,970	454,526	490,752	529,862	572,084
Accumulated Depreciation	86,786	104,165	122,929	143,181	165,069	188,893	214,200	241,741	271,478	303,586	338,253	375,684	416,097	459,731
Net Fixed Assets	124,230	123,691	123,106	122,471	121,784	121,040	120,233	119,358	118,411	117,385	116,273	115,069	113,765	112,352
Work in Progress	18,838	18,180	19,628	21,191	22,878	24,700	26,667	28,790	31,082	33,556	36,226	39,109	42,222	45,581
Cash + Deposits	30,336	25,020	19,757	14,500	9,239	4,072	4,185	4,338	4,479	4,632	4,787	4,974	5,164	5,367
Accounts Receivable - Water	7,949	8,344	8,768	9,243	9,733	10,278	11,015	12,124	12,784	13,473	14,214	15,008	15,862	16,778
Reserve of Bad Debt Provision, Water	(292)	(311)	(326)	(343)	(362)	(381)	(402)	(454)	(474)	(500)	(527)	(556)	(587)	(620)
Past Connection Fees Put To Balance Sheet	1,051	1,051	1,051	1,051	1,051	1,051	1,051	1,051	1,051	1,051	1,051	1,051	1,051	1,051
Receivable - Credited New Connections	7	4	3	2	2	1	1	1	1	2	2	2	2	2
Inventories	810	844	879	717	757	788	842	888	937	988	1,042	1,100	1,160	1,224
Other Receivable	1,547	1,632	1,721	1,818	1,916	2,021	2,132	2,250	2,373	2,504	2,642	2,787	2,940	3,102
Total Current Assets	41,207	36,383	31,852	26,988	22,335	17,841	19,435	20,198	21,151	22,150	23,220	24,365	25,591	25,903
Installation Inventory	305	305	305	305	305	305	305	305	305	305	305	305	305	305
Other Assets	1,182	1,182	1,182	1,182	1,182	1,182	1,182	1,182	1,182	1,182	1,182	1,182	1,182	1,182
TOTAL ASSETS	183,763	179,741	175,873	172,136	168,484	165,068	167,821	169,833	172,130	174,577	177,207	180,031	183,065	186,324
Accounts Payable	1,200	1,285	1,337	1,422	1,502	1,586	1,675	1,764	1,853	1,908	2,078	2,194	2,317	2,446
Other Payable	489	510	544	574	606	639	674	711	751	792	835	881	930	981
Other Current Liabilities (Cust. Deposit)	297	288	298	299	300	301	302	303	304	305	306	307	308	309
Tax Payable	4,551	4,027	3,637	3,349	3,137	3,018	4,344	5,212	5,980	6,629	7,113	7,630	8,135	8,544
Current Matur. Long-Term Debt	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737
Total Current Liabilities	12,273	11,842	11,554	11,382	11,282	11,282	12,732	13,728	14,634	15,431	16,149	16,809	17,427	18,017
Deferred Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meter Reserve Fund	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Other Liabilities	235	248	261	275	288	301	316	360	401	445	490	537	585	635
Long Term Debt - Net	97,531	91,793	86,058	80,319	74,582	68,845	63,108	57,371	51,634	45,897	40,160	34,423	28,685	22,948
Total Liabilities	110,044	103,889	97,877	91,981	86,157	80,433	78,161	71,464	68,674	61,777	56,804	51,773	46,702	41,605
Assets Revaluation Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reserves + "Net" Retained Earnings	27,516	26,851	30,192	31,542	32,901	34,390	40,546	44,569	49,132	53,803	58,538	63,026	68,769	74,071
Local Gov't Equity	20,382	21,102	21,995	22,803	23,016	24,435	25,305	27,901	30,515	33,188	35,920	38,823	41,784	44,839
Central Gov't Equity (Incl Not Yet Handl)	25,809	25,809	25,809	25,809	25,809	25,809	25,809	25,809	25,809	25,809	25,809	25,809	25,809	25,809
Total Equity	73,719	75,852	77,996	80,155	82,327	84,635	91,660	98,369	105,456	112,800	120,403	128,258	136,362	144,719
TOTAL EQUITY AND LIABILITIES	183,763	179,741	175,873	172,136	168,484	165,068	167,821	169,833	172,130	174,577	177,207	180,031	183,065	186,324
Current Ratio	3.4	3.1	2.7	2.4	2.0	1.6	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.5
Working Capital, exclud. cash	4,335	5,258	6,079	6,841	7,551	8,224	8,245	7,868	7,775	7,824	8,011	8,320	8,738	9,257
Debt Equity Ratio (70/30 = 233%)	140%	129%	118%	107%	98%	88%	75%	84%	54%	48%	38%	31%	25%	20%
Total Assets/Total Debt	1.8	1.8	1.9	2.0	2.1	2.2	2.4	2.7	3.0	3.4	3.8	4.4	5.2	6.4
# Days Accounts Receivable	62	62	62	62	62	62	62	62	62	62	62	62	62	62
% Debt/(Net Fixed Assets + WIP)	73%	69%	64%	60%	56%	51%	47%	43%	38%	34%	30%	26%	22%	18%
Cash = # Month Operating Expenses	13.5	10.6	7.9	5.5	3.3	1.4	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2

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TABLE B7 - FINANCING PLAN		1998 - 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	% CAP. EXP.	TOTAL	Audited	Audited	Audited	Actual							
Income before Depreciation	36.0%	56,793	859	1,716	1,813	1,408	1,219	7,209	9,503	11,782	15,542	12,778	22,203
Non-Operating Income (Loss) - Net	2.4%	3,759	82	15	111	121	188	319	773	383	718	1,587	2,435
Gross Internal Cash Generation	39.0%	60,553	941	1,831	1,925	1,589	1,407	7,527	10,276	12,125	16,260	14,365	24,637
Minus:													
Loan Amortization	0.0%	0	0	0	0	0	0	0	0	0	0	0	5,737
Operational Interest	0.0%	0	0	0	0	0	0	0	0	0	0	0	10,296
Total Debt Service	0.0%	0	0	0	0	0	0	0	0	0	0	0	16,033
Working Capital Needs	-0.9%	(1,463)	0	(157)	605	0	1,135	596	(1,887)	(700)	338	219	2,896
Other Assets/Liabil. Changes	-0.5%	(742)	0	8,291	5,528	0	(491)	(180)	(170)	(183)	(134)	(115)	(20)
Kotamadya Share of Net Income	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	1.3%	1,944	0	0	0	0	77	15	406	577	489	458	201
Income Tax	5.9%	9,196	0	330	894	524	224	61	1,923	2,737	2,315	2,161	943
Net Internal Cash Generation	33.3%	51,617	941	(8,813)	(5,102)	1,065	481	7,045	10,003	9,874	13,252	11,643	4,585
Cash Increase (Decrease)	24.8%	38,476	2,669	213	561	939	2,384	8,253	(7,447)	8,457	15,791	15,423	(7,057)
Investments:													
Proposed WSSP Projects	78.4%	121,585	0	0	0	0	0	1,158	78,182	31,255	10,215	776	0
Committed/Other Projects	0.0%	0	0	0	0	9,808	0	0	0	0	0	0	0
Past Projects/Master Plan	0.0%	0	0	134	107	1,900	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	2.5%	3,864	0	49	95	74	527	826	583	525	658	1,382	15,596
Interest Accumulated	19.1%	29,046	0	0	0	0	0	1,525	3,190	6,785	8,538	9,809	0
Total Capital Expenditures	100.0%	155,075	0	183	202	11,779	527	3,307	81,944	38,664	18,412	11,747	15,596
NET TO BE FINANCED:	91.5%	141,934	1,728	7,119	5,865	11,652	2,448	4,515	84,494	35,448	21,951	15,526	3,953
FINANCED BY:													
Proposed Loan	54.9%	85,096	0	0	0	0	0	810	54,713	21,878	7,151	544	0
Committed Loan	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0.0%	0	29	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	19.1%	29,646	0	0	0	0	0	1,525	3,190	6,785	8,538	9,809	0
Total Borrowing	74.0%	114,742	29	0	0	0	0	2,334	57,903	28,663	15,689	10,152	0
GOI Construction Grant	0.0%	0	0	5,543	4,018	9,808	0	0	0	0	0	0	0
Feasibility Study Grant	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	93.1%	144,388	0	5,543	4,018	9,808	0	0	0	0	0	0	0
RG Equity (Land)	2.4%	3,664	0	0	0	0	0	0	1,906	934	824	0	0
Other RG Equity/Advance	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Reinvestment by Kotamadya	7.7%	11,882	0	0	0	0	471	94	2,484	3,528	2,907	2,789	1,226
Total Equity	10.0%	15,546	0	0	0	0	471	94	4,390	4,462	3,811	2,789	1,226
TOTAL EXTERNAL FINANCE	84.0%	130,288	29	5,543	4,018	9,808	471	2,428	62,293	33,125	19,500	12,941	1,226

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TABLE B7 - FINANCING PLAN	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
(CURRENT RP MILLION)														
Income before Depreciation	23,512	24,402	25,378	26,454	27,640	29,065	35,194	38,034	37,832	39,652	41,653	43,335	46,219	48,827
Non-Operating Income (Loss) - Net	2,047	1,745	1,452	1,163	874	584	300	307	315	323	331	343	350	360
Gross Internal Cash Generation	25,559	26,147	26,831	27,617	28,514	29,649	35,494	38,341	38,147	39,974	41,984	44,175	46,569	49,188
Minus :														
Loan Amortization	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737	5,737
Operational Interest	10,278	9,730	9,182	8,634	8,086	7,538	6,990	6,442	5,894	5,347	4,799	4,251	3,703	3,155
Total Debt Service	16,015	15,467	14,919	14,371	13,823	13,275	12,727	12,179	11,632	11,084	10,536	9,988	9,440	8,892
Working Capital Needs	1,148	922	821	762	710	673	20	(377)	(94)	49	188	309	418	519
Other Assets/Liabil. Changes	(13)	(13)	(13)	(13)	(13)	(13)	(14)	(44)	(41)	(44)	(45)	(47)	(48)	(50)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	130	131	131	132	133	134	142	439	413	437	453	469	485	500
Income Tax	609	611	614	617	621	625	666	2,080	1,954	2,070	2,145	2,221	2,295	2,368
Net Internal Cash Generation	7,672	8,029	10,359	11,748	13,240	14,955	21,952	22,062	24,283	28,378	28,708	31,235	33,881	36,959
Cash Increase (Decrease)	(5,492)	(5,316)	(5,263)	(5,257)	(5,261)	(5,167)	123	144	140	153	165	177	190	203
Investments:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	16,838	18,180	19,628	21,191	22,878	24,700	26,667	28,790	31,082	33,556	36,226	39,109	42,222	45,581
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	16,838	18,180	19,628	21,191	22,878	24,700	26,667	28,790	31,082	33,556	36,226	39,109	42,222	45,581
NET TO BE FINANCED:	3,674	3,835	4,006	4,186	4,377	4,579	4,637	6,871	6,939	7,331	7,683	8,051	8,431	8,826
FINANCED BY:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Construction Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	797	800	803	808	813	819	870	2,688	2,524	2,673	2,768	2,866	2,961	3,055
Total Equity	797	800	803	808	813	819	870	2,688	2,524	2,673	2,768	2,866	2,961	3,055
TOTAL EXTERNAL FINANCE	797	800	803	808	813	819	870	2,688	2,524	2,673	2,768	2,866	2,961	3,055

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TABLE B8 - MONITORING INDICATORS

	Audited	Audited	Audited	Actual							
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
SUPPLY AND DEMAND											
Population - 000	404	409	413	422	426	431	435	439	444	448	453
% Population Served	23%	25%	27%	31%	34%	35%	40%	51%	60%	62%	62%
Number of Connections - 000	19.7	21.6	22.8	22.9	23.8	24.7	28.9	38.3	46.1	47.8	47.9
Increase in Connections - 000		2.1	1.0	0.1	0.8	0.9	4.2	9.5	7.8	1.7	0.1
Consumption M3/Month/Connect	27.4	25.8	22.7	22.4	22.1	22.0	19.1	17.7	18.5	19.2	19.4
Forecast Volume Sold - 000 M3	8,454	8,741	8,196	8,169	6,303	6,526	6,613	8,162	10,228	11,036	11,138
% Unaccounted-for Water	30%	34%	35%	36%	35%	35%	34%	32%	31%	30%	30%
PDAM Production- 000 M3	6,786	7,887	7,767	7,787	9,759	10,043	10,031	12,071	14,863	15,979	16,195
Net Water Purchased - 0000 M3	2,385	2,155	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755
MANAGEMENT:											
# Days Accounts Receivable	193	171	174	165	137	120	107	92	76	62	62
Number of Employees	188	188	188	188	194	203	237	314	377	391	392
Employees Per 1000 Connections	10	9	8	8	8	8	8	8	8	8	8
% Increase # of employees		-8%	0%	0%	4%	4%	17%	32%	20%	4%	0%
PROJECT DEVELOPMENT											
Cumulative Project Cost (Rp Million)	0	0	0	0	0	1,156	79,318	110,573	120,789	121,585	121,585
Cumulative Project Cost (US \$000)	0	0	0	0	0	0	8	11	12	12	12
Cumulative Project Loan (US \$000)	0	0	0	0	0	82	5,486	7,589	8,258	8,308	8,308
Disbursement Profile	0%	0%	0%	0%	0%	1%	66%	91%	99%	100%	100%
FINANCIAL											
Average tariff (current Rp/M3)	775	924	1,162	1,169	1,221	2,222	2,486	2,507	2,669	3,022	4,070
Average nominal tariff increase		24%	26%	1%	4%	82%	12%	1%	14%	5%	35%
Cash Balance to Min. Cash Requirement	3	3	3	4	7	17	6	9	18	22	10
Contribution to investment - Ave of 3 years		0%	-1043%	-808%	578%	207%	13%	36%	75%	104%	81%
R o R on Revalued Assets excl. Int.	-7%	0%	-4%	-6%	-10%	19%	31%	9%	4%	-1%	-2%
% Debt on Debt plus Equity	0%	0%	0%	0%	0%	8%	123%	154%	158%	165%	152%
CONSTANT PRICE ANALYSIS: 2004 base year											
Tariff (2005 Rp/M3)	1,032	1,120	1,315	1,244	1,221	2,075	2,200	2,104	2,281	2,278	2,909
Annual Real Tariff Increase		9%	0	-5%	-2%	70%	6%	-4%	0	0%	28%
Real Tariff Increase From Base Year	-22%	-14%	0	-5%	-7%	58%	67%	60%	1	73%	121%
Salary (2005 Rp 000)/employee/month	1,425	1,536	1,711	1,662	1,512	1,512	1,512	1,512	1,512	1,512	1,512
Operating Costs (2005Rp/M3 Sold)	1,199	1,127	1,453	1,163	1,262	1,265	1,432	1,891	1,636	1,622	1,618
CRITICAL FINANCIAL INDICATORS 1995 - 2005											
	2005 - 2015							2005 - 2015			
	MINIMUM	MAXIMUM	AVERAGE				VARIABLE OR INDICATOR	MINIMUM	MAXIMUM	AVERAGE	
Cash	4,409	42,885	20,886				DSCR (ADB and Pemansl. Net revenues)	1.7	2.2	1.9	
Cash = # Month Operating Expenses	5	22	12				Contr to invest. - Ave 3 Years	13%	578%	116%	
Tariff Increase, constant prices	-4%	70%	10%				Days Accounts Receivable	62	137	82	
R o R on Revalued Assets excl. Int.	-10%	31%	4%				Debt/(debt + equity)	0%	165%	114%	

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TABLE B8 - MONITORING IND

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUPPLY AND DEMAND														
Population - 000	457	462	466	471	478	480	485	490	485	500	505	510	515	520
% Population Served	61%	61%	60%	60%	59%	58%	59%	58%	58%	58%	57%	57%	58%	58%
Number of Connections - 000	48.1	48.2	48.4	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	50.0
Increase in Connections - 000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Consumption M3/Month/Connec.	18.7	18.5	18.4	18.4	18.3	18.3	18.2	18.0	18.0	17.9	17.9	17.8	17.7	17.7
Forecast Volume Sold - 000 M3	10,774	10,710	10,707	10,711	10,712	10,714	10,712	10,814	10,816	10,817	10,819	10,819	10,818	10,818
% Unaccounted-for Water	30%	30%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%
PDAM Production- 000 M3	15,722	15,863	15,748	15,845	15,848	15,853	15,852	15,708	15,712	15,715	15,719	15,722	15,722	15,721
Net Water Purchased - 0000 M3	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755	1,755
MANAGEMENT:														
# Days Accounts Receivable	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Number of Employees	393	394	398	397	398	399	400	401	403	404	405	406	408	409
Employees Per 1000 Connections	8	8	8	8	8	8	8	8	8	8	8	8	8	8
% Increase # of employees	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PROJECT DEVELOPMENT														
Cumulative Project Cost (Rp Million)	121,565	121,565	121,565	121,565	121,565	121,565	121,565	121,565	121,565	121,565	121,565	121,565	121,565	121,565
Cumulative Project Cost (US \$000)	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Cumulative Project Loan (US \$000)	8,308	8,308	8,308	8,308	8,308	8,308	8,308	8,308	8,308	8,308	8,308	8,308	8,308	8,308
Disbursement Profile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
FINANCIAL														
Average tariff (current Rp/M3)	4,488	4,740	4,882	5,250	5,527	5,838	6,598	6,949	7,326	7,720	8,143	8,598	9,087	9,514
Average nominal tariff increase	10%	6%	5%	5%	5%	6%	13%	5%	5%	5%	5%	6%	6%	6%
Cash Balance to Min. Cash Requirement	8	7	5	4	2	1	1	1	1	1	1	1	1	1
Contribution to Investment - Ave of 3 year	48%	54%	57%	37%	38%	40%	48%	55%	55%	55%	56%	56%	56%	56%
R o R on Revalued Assets excl. Int	-2%	-2%	-2%	-2%	-2%	-2%	2%	2%	2%	2%	2%	2%	2%	2%
% Debt on Debt plus Equity	140%	129%	118%	107%	98%	88%	75%	64%	54%	46%	38%	31%	25%	20%
CONSTANT PRICE ANALYSIS:														
Tariff (2005 Rp/M3)	3,039	3,042	3,031	3,027	3,021	3,024	3,240	3,235	3,232	3,229	3,228	3,231	3,237	3,246
Annual Real Tariff Increase	5%	0%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Real Tariff Increase From Base Year	131%	131%	130%	130%	130%	130%	148%	148%	140%	145%	145%	146%	146%	147%
Salary (2005 Rp 000)/employee/month	1,512	1,512	1,512	1,512	1,512	1,512	1,512	1,512	1,512	1,512	1,512	1,512	1,512	1,512
Operating Costs (2005Rp/M3 Sold)	1,691	1,704	1,707	1,716	1,719	1,721	1,724	1,749	1,750	1,753	1,758	1,759	1,762	1,765
CRITICAL FINANCIAL INDICATORS 19														
Cash														
Cash = # Month Operating Expenses														
Tariff Increase, constant prices														
R o R on Revalued Assets excl. Int														

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TABLE B4 - PROFIT AND LOSS ACCOUNT
(CURRENT RP MILLION)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Audited	Audited	Audited	Actual							
Number of Service Connections - '000	10.4	10.8	11.3	11.8	11.8	11.8	11.8	14.5	17.2	19.2	21.2
Average Consumption - m3/consum/month	23.8	24.1	24.2	25.9	23.7	23.7	23.7	21.5	20.7	21.3	21.4
Volume Sold - '000m3	2,970	3,143	3,288	3,882	3,381	3,360	3,380	3,738	4,280	4,895	5,424
% Unaccounted-for Water	22%	22%	23%	19%	13%	13%	18%	18%	20%	20%	20%
Water Produced - '000m3	3,808	4,014	4,272	4,588	4,188	4,168	4,168	4,853	5,354	6,089	6,749
Average Tariff - Current Rp/M3 :	1,032	1,240	1,330	1,545	1,644	2,410	2,578	3,924	4,198	4,429	5,539
Tariff Revenues	3,066	3,896	4,378	5,887	5,524	8,097	8,684	14,668	17,969	21,884	30,044
Net Connection Fees	517	577	474	572	(4)	0	0	3,590	3,931	3,030	3,196
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	91	102	84	132	109	109	109	133	158	177	195
Total Operating Revenues	3,674	4,576	4,934	6,591	5,628	8,206	8,773	18,391	22,059	24,890	33,435
Personnel	1,435	1,813	2,006	2,280	1,887	1,896	1,928	2,389	2,881	3,288	3,827
Power	98	91	114	187	198	212	227	271	334	401	489
Chemical	118	130	134	150	224	239	258	308	377	452	529
Maintenance Material	466	524	358	481	504	549	804	1,958	2,997	3,925	4,198
Administration - General	389	434	781	789	719	714	711	838	988	1,058	1,231
Bad Debts & Write Off	318	355	468	425	556	543	785	851	1,441	1,740	2,100
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0
Raw Water Retribution	54	81	36	40	42	42	42	47	54	84	67
Total Operating Expenses	2,854	3,207	3,876	4,291	4,109	4,195	4,594	6,841	9,071	10,948	12,421
Income (Loss) before Depreciation	821	1,369	1,057	2,100	1,519	4,011	4,179	11,750	12,988	13,943	21,015
Depreciation 7.5% unrevalued assets	1,166	1,126	1,243	1,340	1,368	1,388	1,481	3,215	6,151	8,811	10,220
Operating Income (Loss)	(345)	242	(186)	760	151	2,643	2,719	8,535	6,837	5,332	10,795
Operational Interest	526	950	1,122	1,214	1,133	583	524	480	388	313	8,429
Net Operating Income (Loss)	(819)	(708)	(1,308)	(454)	(983)	2,059	2,195	8,076	6,449	5,019	2,366
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	98	89	88	41	84	80	213	0	185	449	1,025
Before Tax Income	(721)	(619)	(1,221)	(412)	(899)	2,139	2,409	8,076	6,634	5,468	3,391
Taxable Income After Losses Carried Forward (5 Years)	(723)	(1,391)	(2,012)	(3,024)	(3,923)	(1,011)	2,018	8,078	6,634	5,468	3,391
Income Tax	0	0	0	0	0	0	598	2,414	1,981	1,832	1,009
Net Income (Loss)	(723)	(619)	(1,221)	(412)	(899)	2,139	1,812	5,662	4,653	3,636	2,383
Staff Funds Share of Net Income 10.0% of net income	0	0	0	0	0	0	214	181	566	465	384
Kotamadya Share of Net Income 55.0% diilq	0	0	0	0	0	0	1,177	997	3,114	2,658	2,110
Payment to Staff Funds 90.0% of share	0	0	0	0	0	0	193	163	510	419	345
Payment to Kotamadya 0.0% of share	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:											
Ave. Expenses per M3 Sold (Rp)	961	1,020	1,178	1,106	1,223	1,248	1,367	1,776	2,119	2,236	2,280
Operating Ratio	109%	55%	104%	88%	97%	68%	69%	54%	69%	79%	68%
Before Tax Income/Sales	-25%	-16%	-28%	-7%	-16%	26%	28%	55%	37%	25%	11%
Increases in Weighted Average Tariffs		23%	7%	16%	8%	47%	7%	52%	7%	5%	25%
Average Asset's Rate Base (Nom. Rp M)	8,455	8,745	8,920	8,420	7,556	6,304	6,202	27,138	61,390	86,642	98,570
Assets/Water Sales	2.76	2.24	2.04	1.48	1.37	0.79	0.72	1.85	3.42	4.00	3.28
Operating Income/Assets	-10.3%	-8.1%	-14.7%	-5.4%	-13.0%	32.2%	35.4%	29.8%	10.5%	5.8%	2.4%
Before Tax Income/Assets	-9.1%	-7.1%	-13.7%	-4.9%	-11.9%	33.5%	38.8%	29.8%	10.8%	6.3%	3.4%

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TABLE B4 - PROFIT AND LOS (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Number of Service Connections - '000	23.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1
Average Consumption - m3/conn/month	20.8	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4
Volume Sold - 000m3	5,784	6,165	6,163	6,164	6,164	6,163	6,163	6,163	6,163	6,163	6,163	6,163	6,163	6,163
% Unaccounted-for Water	20%	18%	14%	15%	15%	15%	14%	14%	14%	14%	13%	13%	13%	13%
Water Produced - 000m3	7,201	7,878	7,678	7,678	7,678	7,678	7,678	7,678	7,678	7,678	7,678	7,678	7,678	7,678
Average Tariff - Current Rp/M3	5,731	5,846	6,905	7,141	7,408	7,697	8,009	8,346	8,711	9,105	9,530	9,989	10,484	11,018
Tariff Revenues	33,149	36,044	42,554	44,012	45,859	47,440	49,362	51,441	53,607	56,114	58,735	61,562	64,612	67,899
Net Connection Fees	3,372	3,558	0	0	0	0	0	0	0	0	0	0	0	0
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	213	231	231	231	231	231	231	231	231	231	231	231	231	231
Total Operating Revenues	38,734	39,833	42,786	44,244	45,890	47,671	49,593	51,672	53,819	56,346	58,966	61,794	64,843	68,131
Personnel	4,415	5,057	5,335	5,829	5,938	6,265	6,610	6,973	7,357	7,761	8,188	8,638	9,113	9,615
Power	528	594	626	661	697	735	778	818	863	911	961	1,014	1,070	1,128
Chemical	595	669	708	745	788	829	875	923	974	1,027	1,084	1,144	1,206	1,273
Maintenance Material	4,429	4,672	4,929	5,200	5,486	5,788	6,108	6,442	6,797	7,170	7,565	7,981	8,420	8,883
Administration - General	1,421	1,627	1,717	1,811	1,911	2,018	2,128	2,243	2,367	2,497	2,634	2,779	2,932	3,093
Bad Debts & Write Off	2,910	3,211	3,491	4,122	4,283	4,422	4,595	4,781	4,982	5,200	5,435	5,689	5,963	6,258
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Raw Water Retribution	72	77	77	139	147	165	183	172	182	192	202	213	225	237
Total Operating Expenses	14,389	15,907	16,881	18,306	19,228	20,210	21,251	22,353	23,521	24,758	26,069	27,458	28,929	30,487
Income (Loss) before Depreciation	22,385	23,928	25,904	25,937	26,663	27,461	28,342	29,319	30,298	31,587	32,897	34,336	35,914	37,643
Depreciation	11,109	12,081	13,133	14,196	15,267	16,418	17,655	18,986	20,418	21,957	23,612	25,394	27,307	29,368
Operating Income (Loss)	11,256	11,846	12,771	11,741	11,396	11,043	10,687	10,333	9,880	9,630	9,285	8,943	8,607	8,277
Operational Interest	8,318	7,788	7,318	6,870	6,430	5,994	5,557	5,121	4,685	4,248	3,812	3,375	2,939	2,503
Net Operating Income (Loss)	2,940	4,058	5,453	4,871	4,966	5,049	5,130	5,211	5,295	5,382	5,473	5,568	5,668	5,775
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	645	322	107	105	109	111	113	116	119	123	128	130	135	139
Before Tax Income	3,585	4,382	5,560	4,976	5,075	5,160	5,243	5,329	5,415	5,505	5,599	5,698	5,803	5,914
Taxable Income After Losses Carried For	3,585	4,382	5,560	4,976	5,075	5,160	5,243	5,329	5,415	5,505	5,599	5,698	5,803	5,914
Income Tax	1,067	1,306	1,659	1,484	1,514	1,539	1,584	1,580	1,616	1,643	1,671	1,701	1,732	1,768
Net Income (Loss)	2,518	3,076	3,901	3,492	3,561	3,621	3,679	3,738	3,799	3,862	3,928	3,998	4,071	4,146
Staff Funds Share of Net Income	238	252	308	390	348	356	362	368	374	380	386	393	400	407
Kotamadya Share of Net Income	1,310	1,385	1,892	2,145	1,921	1,958	1,992	2,023	2,056	2,089	2,124	2,160	2,199	2,239
Payment to Staff Funds	214	227	277	351	314	320	326	331	336	342	348	354	360	366
Payment to Kotamadya	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:														
Ave. Expenses per M3 Sold (Rp)	2,484	2,580	2,739	2,970	3,120	3,279	3,448	3,627	3,818	4,017	4,230	4,455	4,694	4,947
Operating Ratio	69%	70%	70%	73%	75%	77%	78%	80%	81%	83%	84%	86%	87%	88%
Before Tax Income/Sales	11%	12%	13%	11%	11%	11%	11%	10%	10%	10%	10%	9%	9%	9%
Increases in Weighted Average Tariffs	3%	2%	18%	3%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%
Average Asset's Rate Base (Nom. Rp M)	99,694	100,993	102,349	102,784	102,249	101,673	101,054	100,389	99,673	98,904	98,076	97,186	96,229	95,199
Assets/Water Sales	3.01	2.80	2.41	2.34	2.24	2.14	2.05	1.95	1.86	1.76	1.67	1.58	1.49	1.40
Operating Income/Assets	2.9%	4.0%	5.3%	4.7%	4.9%	5.0%	5.1%	5.2%	5.3%	5.4%	5.6%	5.7%	5.9%	6.1%
Before Tax Income/Assets	3.6%	4.3%	5.4%	4.8%	5.0%	5.1%	5.2%	5.3%	5.4%	5.6%	5.7%	5.9%	6.0%	6.2%

PDAM KOTA PALOPO

TABLE B5 - SOURCES AND APPLICATION OF FUNDS

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual							
SOURCES OF FUNDS:											
Income before Depreciation and Interest	821	1,388	1,057	2,100	1,519	4,011	4,179	11,750	12,888	13,843	21,015
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	98	88	88	41	84	80	213	0	185	449	1,025
Gross Internal Cash Generation	919	1,458	1,145	2,141	1,603	4,091	4,393	11,750	13,172	14,381	22,040
GOI Construction Grant	0	789	0	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)					0	151	86	393	385	0	0
Other RG Equity/Advance					0	0	4,598	0	0	0	0
Reinvestment by Kotamadya	0	0	0	0	0	0	1,177	997	3,114	2,559	2,110
Total Equity	0	789	0	0	0	151	5,941	1,390	3,479	2,559	2,110
Borrowing :											
Proposed Loan			0	0	0	830	29,499	20,823	17,634	1,339	0
Committed Loan			0	0	0	0	0	0	0	0	0
Ongoing Loans	5,912	11	(101)	(61)	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	1,280	1,958	4,315	6,297	7,839	0
Total Borrowing	5,912	11	(101)	(61)	0	2,090	31,455	24,937	23,932	8,978	0
TOTAL SOURCES OF FUNDS	6,831	2,238	1,044	2,080	1,603	6,333	41,788	38,078	40,583	25,929	24,150
APPLICATIONS OF FUNDS:											
Proposed WSSP Projects	0	0	0	0	0	1,186	42,142	29,461	25,192	1,914	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	1,680	855	848	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	0	0	0	0	0	0	0	0	0	1,646	12,379
Master Plan	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	1,280	1,958	4,315	6,297	7,839	0
Total Capital Expenditures	0	1,680	855	848	0	2,446	44,097	33,776	31,489	11,198	12,379
Amortization of L/T Debt	0	0	0	0	325	770	901	901	2,289	2,289	8,858
Operational Interest of L/T Debt	528	950	1,122	1,214	1,133	583	524	480	388	313	8,428
Total Debt Service of L/T Debt	528	950	1,122	1,214	1,458	1,359	1,424	1,380	2,677	2,602	15,287
Working Capital Needs	0	323	63	714	(317)	597	(773)	(1,192)	(1,284)	(744)	1,451
Other Assets/Liabil. Changes	0	(1,159)	(719)	(1,290)	511	28	9	13	(21)	(10)	(35)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	0	0	0	0	0	0	193	163	510	419	345
Income Tax	0	0	0	0	0	0	0	596	2,414	1,981	1,632
TOTAL APPLICATIONS OF FUNDS	528	1,804	1,321	1,465	1,653	4,430	44,850	34,716	35,785	15,448	31,059
CASH INCREASE (DECREASE)	6,305	434	(277)	595	(50)	1,903	(3,162)	3,381	4,798	10,483	(6,909)
Cash Balance, Beginning	(5,181)	1,124	1,558	1,281	1,810	1,760	3,683	501	3,883	8,661	19,143
Cash Balance, Ending	1,124	1,558	1,281	1,810	1,760	3,683	501	3,883	8,681	19,143	12,234
Minimum Cash Requirement	282	348	417	459	464	483	501	667	978	1,129	2,309
DSCR (SLAP, Cash balance less minimum cash)	2.50	2.28	1.77	2.11	1.89	3.35	1.00	3.35	3.87	7.92	1.65
DSCR (ADB and Perparam, Net revenues)	1.75	1.53	1.02	1.76	1.10	3.01	3.08	8.64	4.92	5.53	1.44
DSCR (Cashflow)	1.75	1.53	1.02	1.76	1.10	3.01	3.08	8.64	4.92	4.90	0.83
DSCR (BPKP, Net Income)	-1.47	-0.85	-1.09	-0.34	-0.62	1.57	1.27	4.16	1.74	1.47	0.16
Contribution to Investment	na	80%	79%	177%	na	86%	11%	35%	38%	113%	44%
Contr. to Investment, 3 Yr Average			48%	137%	#N/A	92%	14%	28%	39%	90%	69%

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TABLE B5 - SOURCES AND AI	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
(CURRENT RP MILLION)														
SOURCES OF FUNDS:														
Income before Depreciation and Interest	22,365	23,926	25,804	25,937	26,663	27,461	28,342	29,319	30,398	31,587	32,897	34,335	35,914	37,643
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	645	322	107	105	109	111	113	116	119	123	126	130	135	139
Gross Internal Cash Generation	23,010	24,248	26,012	26,042	26,772	27,572	28,456	29,435	30,517	31,710	33,023	34,466	36,049	37,783
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	1,310	1,385	1,692	2,145	1,921	1,959	1,992	2,023	2,056	2,089	2,124	2,160	2,199	2,239
Total Equity	1,310	1,385	1,692	2,145	1,921	1,959	1,992	2,023	2,056	2,089	2,124	2,160	2,199	2,239
Borrowing:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SOURCES OF FUNDS	24,321	25,634	27,703	28,186	28,692	29,530	30,447	31,458	32,573	33,800	35,148	36,627	38,248	40,022
APPLICATIONS OF FUNDS:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	13,407	14,519	13,681	14,712	15,821	17,014	18,297	19,676	21,159	22,755	24,470	26,315	28,299	30,432
Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	13,407	14,519	13,681	14,712	15,821	17,014	18,297	19,676	21,159	22,755	24,470	26,315	28,299	30,432
Amortization of L/T Debt	6,858	5,764	4,670	4,620	4,570	4,570	4,570	4,570	4,570	4,570	4,570	4,570	4,570	4,570
Operational Interest of L/T Debt	8,316	7,786	7,318	6,870	6,430	5,994	5,557	5,121	4,685	4,248	3,812	3,375	2,939	2,503
Total Debt Service of L/T Debt	15,174	13,551	11,988	11,490	11,000	10,564	10,127	9,691	9,254	8,818	8,382	7,945	7,509	7,072
Working Capital Needs	409	200	529	(66)	68	105	141	174	206	237	267	298	329	361
Other Assets/Liabil. Changes	(21)	(23)	(26)	(35)	(31)	(32)	(33)	(33)	(34)	(34)	(35)	(35)	(36)	(37)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	214	227	277	351	314	320	328	331	336	342	348	354	360	366
Income Tax	1,009	1,067	1,306	1,659	1,484	1,514	1,539	1,564	1,590	1,616	1,643	1,671	1,701	1,732
TOTAL APPLICATIONS OF FUNDS	30,193	29,541	27,752	28,111	28,656	28,485	30,397	31,403	32,512	33,733	35,075	36,547	38,162	39,928
CASH INCREASE (DECREASE)	(5,872)	(3,907)	(49)	77	36	46	50	55	61	67	73	79	86	94
Cash Balance, Beginning	12,234	6,362	2,455	2,408	2,483	2,519	2,564	2,615	2,670	2,731	2,798	2,871	2,950	3,036
Cash Balance, Ending	6,362	2,455	2,408	2,483	2,519	2,564	2,615	2,670	2,731	2,798	2,871	2,950	3,036	3,130
Minimum Cash Requirement	2,462	2,455	2,408	2,483	2,519	2,564	2,615	2,670	2,731	2,798	2,871	2,950	3,036	3,130
DSCR (SLAP, Cash balance less minimum)	1.26	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DSCR (ADB and Perpamsi, Net revenue)	1.52	1.79	2.17	2.27	2.43	2.61	2.81	3.04	3.30	3.60	3.94	4.34	4.80	5.34
DSCR (Cashflow)	0.53	0.72	1.03	0.99	1.00	1.00	1.00	1.01	1.01	1.02	1.02	1.03	1.03	1.04
DSCR (BPKP, Net Income)	0.17	0.23	0.33	0.30	0.32	0.34	0.38	0.39	0.41	0.44	0.47	0.50	0.54	0.58
Contribution to Investment	58%	73%	100%	101%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Contr. to Investment, 3 Yr Average	59%	73%	95%	64%	65%	64%	65%	65%	65%	65%	65%	65%	65%	65%

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TABLE B6 - BALANCE SHEET No Asset Revaluation

(CURRENT RP MILLION)		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
		Audited	Audited	Audited	Actual							
Assets in Operation	Revaluation	2001										
Accumulated Depreciation		14,747	10,433	17,283	17,730	11,110	10,160	20,586	84,804	98,489	129,059	141,157
Net Fixed Assets		8,202	7,400	8,478	9,704	11,073	12,441	13,902	17,117	23,287	31,878	42,098
Work In Progress		6,455	9,035	8,805	8,034	7,078	5,709	6,895	47,577	75,202	98,081	99,059
Cash + Deposits		11	12	20	412	0	2,448	44,087	33,776	31,489	11,188	12,379
Accounts Receivable - Water	126 80 days=target	1,124	1,556	1,281	1,810	1,780	3,883	501	3,883	8,881	19,143	12,234
Reserve of Bad Debts Provision, Water		2,210	2,846	3,522	4,141	1,900	2,494	2,357	3,484	3,589	3,584	4,939
Past Connection Fees Put To Balance Sheet		(1,218)	(1,571)	(2,038)	(2,039)	(91)	(89)	(131)	(140)	(237)	(286)	(345)
Receivable - Credited New Connections		0	0	0	0	0	0	0	0	0	0	0
Inventories	45 30 days=target	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	0	0	0
Other Receivable	Piutang (Usaha) non-Air; Piutang Lain Lain, Uang I	77	87	98	32	91	92	96	226	309	384	393
Total Current Assets		1	2	12	90	97	104	111	119	125	132	139
Installation Inventory	60 70 days=target	2,197	2,924	2,872	4,034	3,758	6,283	2,935	7,532	12,456	22,917	17,360
Other Assets		508	613	604	775	802	829	858	887	918	949	949
TOTAL ASSETS		213	196	177	157	186	186	186	186	186	186	186
Accounts Payable	10 30 days=target	11,464	12,780	12,877	13,413	11,821	15,434	54,771	89,957	120,251	133,331	129,932
Other Payable		38	10	142	51	139	144	154	281	390	487	534
Other Current Liabilities (Cust. Deposit)		18	19	23	19	20	22	23	25	28	28	29
Tax Payable	0 4 Turn Over Target	94	107	131	148	148	148	148	182	216	241	268
Current Matur. Long-Term Debt		17	2	3	0	0	0	598	2,881	4,127	4,727	4,554
Total Current Liabilities		1,450	1,813	2,122	2,433	778	901	901	2,289	2,289	6,858	6,858
Deferred Income		1,818	1,853	2,421	2,851	1,083	1,215	1,822	5,838	7,046	12,340	12,241
Meter Reserve Fund		0	0	0	0	0	0	0	0	0	0	0
Other Liabilities		139	349	462	462	5	5	5	5	5	5	5
Long Term Debt - Net		2,218	3,191	4,138	5,408	5,408	5,408	5,428	5,442	5,493	5,535	5,569
TOTAL LIABILITIES		4,481	4,107	3,700	3,328	4,660	5,850	36,404	59,053	80,895	82,815	75,957
Assets Revaluation Surplus	10 average age initial revaluation	8,435	9,801	10,718	11,847	11,154	12,476	43,857	70,137	83,242	100,895	93,772
Reserves + "Net" Retained Earnings		0	0	0	0	0	0	0	0	0	0	0
Local Gov't Equity		(8,765)	(7,383)	(8,604)	(8,987)	(9,896)	(7,756)	(5,540)	1,778	5,487	8,554	9,969
Central Gov't Equity (Inc'l Not Yet Handed Over)		7,101	7,101	7,101	7,101	7,101	7,253	13,193	14,583	18,082	20,821	22,731
Total Equity		2,692	3,461	3,481	3,481	3,481	3,481	3,481	3,481	3,481	3,481	3,481
TOTAL EQUITY AND LIABILITIES		3,028	3,179	1,959	1,588	887	2,957	11,114	19,820	27,010	32,638	36,161
Current Ratio		11,464	12,780	12,877	13,413	11,821	15,434	54,771	89,957	120,251	133,331	129,932
Working Capital, exclud. cash		1.4	1.5	1.2	1.5	3.5	5.2	1.6	1.3	1.8	1.9	1.4
Debt Equity Ratio (70/30 = 233%)		905	1,228	1,291	2,006	1,689	2,288	1,512	320	(984)	(1,708)	(257)
Total Assets/Total Debt		185%	186%	297%	368%	815%	228%	336%	308%	307%	275%	229%
# Days Accounts Receivable		1.4	1.4	1.3	1.2	1.1	1.3	1.3	1.3	1.4	1.4	1.5
% Debt/(Net Fixed Assets + WIP)		293	294	329	287	140	121	109	92	79	65	85
Cash = # Month Operating Expenses		1	85%	68%	68%	77%	83%	73%	75%	78%	82%	74%
		4.7	5.8	4.0	5.1	5.1	10.5	1.3	7.0	11.5	21.0	11.8

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TABLE B6 - BALANCE SHEET (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets in Operation	153,538	186,943	181,462	195,143	209,855	225,678	242,680	280,986	280,662	301,822	324,577	348,047	375,382	403,681
Accumulated Depreciation	53,206	65,287	78,420	92,617	107,863	124,301	141,958	160,942	181,360	203,317	228,830	252,322	279,629	308,995
Net Fixed Assets	100,329	101,656	103,042	102,526	101,971	101,375	100,734	100,044	99,302	98,505	97,647	96,725	95,733	94,686
Work In Progress	13,407	14,519	13,881	14,712	15,821	17,014	18,297	19,576	21,159	22,755	24,410	26,315	28,299	30,432
Cash + Deposits	6,362	2,455	2,406	2,483	2,519	2,584	2,615	2,670	2,731	2,798	2,871	2,850	3,036	3,130
Accounts Receivable - Water	5,449	5,925	6,995	7,235	7,506	7,798	8,114	8,456	8,825	9,224	9,655	10,120	10,621	11,182
Reserve of Bad Debts Provision, Water	(478)	(528)	(574)	(678)	(701)	(727)	(755)	(786)	(819)	(855)	(893)	(935)	(980)	(1,029)
Fast Connection Fees Put To Balance Sheet	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Receivable - Credited New Connections	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inventories	417	444	468	494	521	550	580	612	640	681	719	758	800	844
Other Receivable	147	155	163	172	182	182	202	214	225	238	251	265	279	294
Total Current Assets	11,897	8,451	9,459	9,707	10,027	10,377	10,756	11,186	11,608	12,086	12,602	13,158	13,756	14,401
Installation Inventory	949	949	949	949	949	949	949	949	949	949	949	949	949	949
Other Assets	166	186	186	186	186	186	186	186	186	186	186	186	186	186
TOTAL ASSETS	126,768	125,780	127,316	128,079	128,954	129,901	130,921	132,021	133,205	134,480	135,854	137,332	138,922	140,634
Accounts Payable	578	828	662	703	742	783	826	871	918	970	1,023	1,079	1,139	1,201
Other Payable	31	32	34	38	38	40	42	45	47	50	52	55	58	62
Other Current Liabilities (Cust. Deposit)	290	315	315	315	315	315	315	315	315	315	315	315	315	315
Tax Payable	4,482	4,668	5,160	5,354	5,529	5,686	5,829	5,961	6,087	6,208	6,327	6,446	6,566	6,690
Current Matur, Long-Term Debt	5,764	4,870	4,620	4,570	4,570	4,570	4,570	4,570	4,570	4,570	4,570	4,570	4,570	4,570
Total Current Liabilities	11,147	10,313	10,791	10,978	11,194	11,394	11,582	11,762	11,938	12,112	12,287	12,465	12,648	12,838
Deferred Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meter Reserve Fund	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Other Liabilities	5,591	5,613	5,641	5,876	5,708	5,740	5,772	5,805	5,839	5,873	5,908	5,943	5,979	6,016
Long Term Debt - Net	70,192	65,522	60,902	56,333	51,783	47,193	42,824	38,054	33,484	28,915	24,345	19,776	15,206	10,636
Total Liabilities	86,935	81,454	77,340	72,992	68,670	64,332	59,983	55,626	51,266	46,905	42,545	38,189	33,839	29,495
Assets Revaluation Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reserves + "Net" Retained Earnings	12,331	15,418	19,397	22,363	25,839	28,985	32,343	35,775	39,264	42,811	46,420	50,094	53,836	57,652
Local Gov't Equity	24,041	25,426	27,118	29,284	31,184	33,143	35,134	37,158	39,214	41,303	43,427	45,588	47,786	50,025
Central Gov't Equity (Inc'l Not Yet Hande)	3,461	3,461	3,461	3,461	3,461	3,461	3,461	3,461	3,461	3,461	3,461	3,461	3,461	3,461
Total Equity	39,833	44,307	49,976	55,087	60,284	65,569	70,938	76,384	81,939	87,575	93,308	99,143	105,084	111,139
TOTAL EQUITY AND LIABILITIES	126,768	125,780	127,316	128,079	128,954	129,901	130,921	132,021	133,205	134,480	135,854	137,332	138,922	140,634
Current Ratio	1.1	0.8	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1
Working Capital, exclud. cash	153	353	682	815	883	989	1,129	1,303	1,509	1,746	2,014	2,312	2,641	3,003
Debt Equity Ratio (70/30 = 233%)	191%	158%	131%	111%	93%	79%	67%	56%	46%	38%	31%	25%	19%	14%
Total Assets/Total Debt	1.6	1.7	1.8	1.9	2.1	2.3	2.5	2.7	3.0	3.4	3.9	4.5	5.4	6.6
# Days Accounts Receivable	66	66	65	68	68	66	66	66	66	66	66	66	66	66
% Debt/(Net Fixed Assets + WIP)	67%	60%	56%	52%	48%	44%	40%	36%	32%	28%	24%	20%	16%	12%
Cash = # Month Operating Expenses	5.3	1.9	1.7	1.8	1.6	1.5	1.5	1.4	1.4	1.4	1.3	1.3	1.3	1.2

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TABLE B7 - FINANCING PLAN		1996 - 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)		% CAP. EXP.	TOTAL	Audited	Audited	Audited	Actual						
Income before Depreciation	38.1%	46,871	821	1,388	1,057	2,100	1,519	4,011	4,179	11,750	12,988	13,943	21,015
Non-Operating Income (Loss) - Net	0.8%	927	98	89	88	41	84	80	213	0	185	449	1,025
Gross Internal Cash Generation	38.9%	47,798	919	1,458	1,145	2,141	1,603	4,091	4,393	11,750	13,172	14,391	22,040
Minus:													
Loan Amortization	5.8%	7,155	0	0	0	0	325	776	901	901	2,289	2,289	6,858
Operational Interest	1.8%	2,287	528	950	1,122	1,214	1,133	583	524	480	388	313	8,425
Total Debt Service	7.7%	9,422	528	950	1,122	1,214	1,459	1,359	1,424	1,380	2,677	2,602	15,287
Working Capital Needs	-2.8%	(3,397)	0	323	63	714	(317)	597	(773)	(1,192)	(1,284)	(744)	1,451
Other Assets/Liabil. Changes	0.0%	19	0	(1,153)	(719)	(1,290)	511	28	9	13	(21)	(10)	(35)
Kotamadya Share of Net Income	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	1.0%	1,284	0	0	0	0	0	0	183	183	510	419	345
Income Tax	4.1%	4,992	0	0	0	0	0	0	0	598	2,414	1,981	1,632
Net Internal Cash Generation	28.8%	35,478	393	1,344	678	1,504	(50)	2,108	3,540	10,810	8,877	10,144	3,358
Cash Increase (Decrease)	14.1%	17,383	8,305	43	(277)	595	(50)	1,903	(3,162)	3,361	4,798	10,483	(6,909)
Investments:													
Proposed WSSP Projects	81.2%	99,894	0	0	0	0	0	1,186	42,142	29,481	25,192	1,914	0
Committed/Other Projects	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0.0%	0	0	1,600	855	848	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	1.3%	1,440	0	0	0	0	0	0	0	0	0	1,848	12,379
Interest Accumulated	17.5%	21,467	0	0	0	0	0	1,280	1,958	4,315	8,287	7,838	0
Total Capital Expenditures	100.0%	123,007	0	1,600	855	848	0	2,466	44,097	33,778	31,489	11,198	12,379
NET TO BE FINANCED:	85.3%	104,912	5,912	780	(101)	(61)	0	2,241	37,395	28,327	27,411	11,537	2,110
FINANCED BY:													
Proposed Loan	58.8%	69,928	0	0	0	0	0	830	29,499	20,823	17,634	1,339	0
Committed Loan	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0.0%	0	5,912	11	(101)	(61)	0	0	0	0	0	0	0
Interest Accumulated	17.5%	21,467	0	0	0	0	0	1,280	1,958	4,315	8,287	7,838	0
Total Borrowing	74.3%	91,392	5,912	11	(101)	(61)	0	2,090	31,455	24,937	23,932	8,978	0
GOI Construction Grant	0.0%	0	0	789	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	0.0%	0	0	789	0	0	0	0	0	0	0	0	0
RG Equity (Land)	0.8%	975	0	0	0	0	0	151	88	393	365	0	0
Other RG Equity/Advance	3.8%	4,698	0	0	0	0	0	0	4,898	0	0	0	0
Reinvestment by Kotamadya	6.4%	7,846	0	0	0	0	0	0	1,177	997	3,114	2,559	2,110
Total Equity	11.0%	13,519	0	0	0	0	0	151	5,941	1,390	3,479	2,559	2,110
TOTAL EXTERNAL FINANCE	85.3%	104,912	5,912	780	(101)	(61)	0	2,241	37,395	28,327	27,411	11,537	2,110

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TABLE B7 - FINANCING PLAN (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Income before Depreciation	22,365	23,926	25,904	25,937	26,863	27,461	28,342	29,319	30,398	31,587	32,897	34,336	35,914	37,643
Non-Operating Income (Loss) - Net	645	322	107	105	109	111	113	116	119	123	128	130	135	139
Gross Internal Cash Generation	23,010	24,249	26,012	26,042	26,772	27,572	28,456	29,435	30,517	31,710	33,023	34,466	36,049	37,783
Minus:														
Loan Amortization	6,658	5,764	4,670	4,820	4,570	4,570	4,570	4,570	4,570	4,570	4,570	4,570	4,570	4,570
Operational Interest	8,316	7,786	7,318	6,870	6,430	5,994	5,557	5,121	4,685	4,248	3,812	3,375	2,939	2,503
Total Debt Service	15,174	13,551	11,988	11,480	11,000	10,564	10,127	9,691	9,254	8,818	8,382	7,945	7,508	7,072
Working Capital Needs	409	200	529	(66)	68	105	141	174	208	237	267	298	329	361
Other Assets/Liabil. Changes	(21)	(23)	(28)	(35)	(31)	(32)	(33)	(33)	(34)	(34)	(35)	(35)	(36)	(37)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	214	227	277	351	314	320	326	331	336	342	348	354	360	366
Income Tax	1,009	1,087	1,308	1,659	1,484	1,514	1,539	1,564	1,590	1,616	1,643	1,671	1,701	1,732
Net Internal Cash Generation	6,224	9,227	11,940	12,644	13,938	15,101	16,355	17,708	19,164	20,732	22,419	24,234	26,187	28,287
Cash Increase (Decrease)	(5,872)	(3,907)	(49)	77	36	46	50	55	61	67	73	79	86	94
Investments:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	13,407	14,519	13,681	14,712	15,821	17,014	18,297	19,678	21,159	22,755	24,470	26,315	28,299	30,432
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	13,407	14,519	13,681	14,712	15,821	17,014	18,297	19,678	21,159	22,755	24,470	26,315	28,299	30,432
NET TO BE FINANCED:	1,310	1,385	1,692	2,145	1,921	1,959	1,992	2,023	2,056	2,089	2,124	2,160	2,199	2,239
FINANCED BY:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	1,310	1,385	1,692	2,145	1,921	1,959	1,992	2,023	2,056	2,089	2,124	2,160	2,199	2,239
Total Equity	1,310	1,385	1,692	2,145	1,921	1,959	1,992	2,023	2,056	2,089	2,124	2,160	2,199	2,239
TOTAL EXTERNAL FINANCE	1,310	1,385	1,692	2,145	1,921	1,959	1,992	2,023	2,056	2,089	2,124	2,160	2,199	2,239

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TABLE B8 - MONITORING INDICATORS

	Audited	Audited	Audited	Actual								
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Maximum Cash and PFC												
SUPPLY AND DEMAND												
Population - 000	79	81	102	128	129	130	132	133	134	136	137	
% Population Served	78%	80%	86%	84%	84%	84%	83%	84%	74%	81%	88%	
Number of Connections - 000	10.4	10.9	11.3	11.6	11.8	11.8	11.8	14.5	17.2	19.2	21.2	
Increase in Connections - 000		0.5	0.5	0.5	0.0	0.0	0.0	2.7	2.7	2.0	2.0	
Consumption M3/Month/Connec	23.8	24.1	24.2	25.9	23.7	23.7	23.7	21.5	20.7	21.3	21.4	
Forecast Volume Sold - 000 M3	2,970	3,143	3,289	3,682	3,381	3,380	3,380	3,738	4,280	4,895	5,424	
% Unaccounted-for Water	22%	22%	23%	19%	13%	13%	18%	18%	20%	20%	20%	
PDAM Production- 000 M3	3,808	4,014	4,272	4,566	4,168	4,168	4,168	4,653	5,354	6,089	6,749	
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	
MANAGEMENT:												
# Days Accounts Receivable	293	294	329	287	140	121	109	92	79	65	65	
Number of Employees	108	108	108	108	101	95	91	104	118	128	141	
Employees Per 1000 Connections	10	10	10	9	8	8	8	7	7	7	7	
% Increase # of employees		0%	0%	0%	-7%	-5%	-5%	15%	14%	8%	10%	
PROJECT DEVELOPMENT												
Cumulative Project Cost (Rp Million)	0	0	0	0	0	1,188	43,327	72,789	97,981	99,894	99,894	
Cumulative Project Cost (US \$000)	0	0	0	0	0	0	4	7	9	9	9	
Cumulative Project Loan (US \$000)	0	0	0	0	0	83	2,916	4,818	8,398	8,514	6,514	
Disbursement Profile	0%	0%	0%	0%	0%	1%	45%	74%	98%	100%	100%	
FINANCIAL												
Average tariff (current Rp/M3)	1,032	1,240	1,330	1,545	1,644	2,410	2,578	3,824	4,198	4,429	5,539	
Average nominal tariff increase		20%	7%	16%	6%	47%	7%	52%	7%	5%	25%	
Cash Balance to Min. Cash Requirement	4	4	3	4	4	8	1	6	9	17	5	
Contribution to investment - Ave of 3 years		0%	48%	137%	#N/A	92%	14%	28%	39%	90%	69%	
R o R on Revalued Assets excl. Int	-10%	-8%	-15%	-6%	-13%	32%	35%	30%	11%	6%	2%	
% Debt on Debt plus Equity	195%	186%	297%	368%	815%	228%	336%	309%	307%	275%	229%	
CONSTANT PRICE ANALYSIS:	2004 base year											
Tariff (2005 Rp/M3)	1,428	1,510	1,505	1,644	1,644	2,250	2,250	3,200	3,200	3,200	3,793	
Annual Real Tariff Increase		0%	(0)	9%	0%	37%	0%	42%	0	0%	19%	
Real Tariff Increase From Base Year	-5%	0%	0	9%	9%	49%	49%	113%	1	113%	152%	
Salary (2005 Rp 000)/employee/month	1,531	1,518	1,751	1,855	1,548	1,548	1,548	1,548	1,548	1,548	1,548	
Operating Costs (2005Rp/M3 Sold)	1,329	1,213	1,333	1,240	1,223	1,186	1,193	1,448	1,815	1,818	1,568	
CRITICAL FINANCIAL INDICATORS 1995 - 2005	2005 - 2015								2005 - 2015			
	MINIMUM	MAXIMUM	AVERAGE					VARIABLE OR INDICATOR	MINIMUM	MAXIMUM	AVERAGE	
Cash	501	19,143	5,776					DSCR (ADB and Perpamsi, Net revenues)	1.1	6.8	3.2	
Cash = # Month Operating Expenses	1	21	7					Contr to invest. - Ave 3 Years	#N/A	#N/A	#N/A	
Tariff Increase, constant prices	-3%	42%	9%					Days Accounts Receivable	65	140	85	
R o R on Revalued Assets excl. Int	-13%	35%	11%					Debt/(debt + equity)	111%	815%	281%	

PDAM KOTA PALOPO

TABLE B8 - MONITORING IND

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUPPLY AND DEMAND														
Maximum Cash and PFC														
Population - 000	138	140	141	142	144	145	147	148	150	151	153	154	156	157
% Population Served	95%	102%	101%	100%	99%	98%	97%	98%	95%	94%	93%	92%	91%	90%
Number of Connections - 000	23.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	23.1
Increase in Connections - 000	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consumption M3/Month/Connec.	20.8	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4
Forecast Volume Sold - 000 M3	5,784	6,165	6,163	6,164	6,164	6,163	6,163	6,163	6,163	6,163	6,163	6,163	6,163	6,163
% Unaccounted-for Water	20%	18%	14%	15%	15%	15%	14%	14%	14%	14%	13%	13%	13%	13%
PDAM Production - 000 M3	7,201	7,678	7,678	7,678	7,678	7,678	7,678	7,678	7,678	7,678	7,678	7,678	7,678	7,678
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MANAGEMENT:														
# Days Accounts Receivable	68	68	65	68	66	66	66	66	66	66	66	66	66	66
Number of Employees	154	168	168	168	168	168	168	168	168	168	168	168	168	168
Employees Per 1000 Connections	7	7	7	7	7	7	7	7	7	7	7	7	7	7
% Increase # of employees	9%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PROJECT DEVELOPMENT														
Cumulative Project Cost (Rp Million)	99,894	99,894	99,894	99,894	99,894	99,894	99,894	99,894	99,894	99,894	99,894	99,894	99,894	99,894
Cumulative Project Cost (US \$000)	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Cumulative Project Loan (US \$000)	6,514	6,514	6,514	6,514	6,514	6,514	6,514	6,514	6,514	6,514	6,514	6,514	6,514	6,514
Disbursement Profile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
FINANCIAL														
Average tariff (current Rp/M3)	5,731	5,846	6,905	7,141	7,408	7,697	8,009	8,346	8,711	9,105	9,530	9,989	10,484	11,018
Average nominal tariff increase	3%	2%	18%	3%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%
Cash Balance to Min. Cash Requirement	3	1	1	1	1	1	1	1	1	1	1	1	1	1
Contribution to Investment - Ave of 3 year	59%	73%	95%	64%	65%	64%	65%	65%	65%	65%	65%	65%	65%	65%
R o R on Revalued Assets excl. Int	3%	4%	5%	5%	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%
% Debt on Debt plus Equity	181%	158%	131%	111%	93%	78%	67%	56%	46%	38%	31%	25%	19%	14%
CONSTANT PRICE ANALYSIS:														
Tariff (2009 Rp/M3)	3,720	3,597	4,027	3,947	3,881	3,823	3,770	3,724	3,684	3,650	3,621	3,596	3,579	3,565
Annual Real Tariff Increase	-2%	-3%	12%	-2%	-2%	-2%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	0%
Real Tariff Increase From Base Year	147%	139%	167%	162%	158%	154%	150%	147%	145%	142%	141%	139%	138%	137%
Salary (2009 Rp 000/employee/month)	1,548	1,548	1,548	1,548	1,548	1,548	1,548	1,548	1,548	1,548	1,548	1,548	1,548	1,548
Operating Costs (2009 Rp/M3 Sold)	1,812	1,587	1,597	1,642	1,635	1,629	1,623	1,618	1,614	1,610	1,607	1,605	1,603	1,601
CRITICAL FINANCIAL INDICATORS 19														
Cash														
Cash = # Month Operating Expenses														
Tariff Increase, constant prices														
R o R on Revalued Assets excl. Int														

PDAM KABUPATEN MAROS

TABLE B4 - PROFIT AND LOSS ACCOUNT

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual							
Number of Service Connections - '000	3.9	4.2	4.9	5.7	5.7	5.8	6.8	9.9	14.1	14.9	15.8
Average Consumption - m3/conn/month	16.2	16.1	15.2	16.1	17.6	17.1	15.0	13.5	13.2	14.8	14.8
Volume Sold - 000m3	793	608	894	1,239	1,210	1,182	1,228	1,602	2,220	2,644	2,804
% Unaccounted-for Water	36%	40%	33%	45%	45%	45%	45%	44%	42%	40%	39%
Water Produced - 000m3	1,191	1,358	1,335	2,269	2,215	2,165	2,237	2,846	3,601	4,401	4,579
Average Tariff - Current Rp/m3	920	1,296	1,378	1,736	2,220	3,240	3,730	4,782	5,550	5,867	6,876
Tariff Revenues	702	1,049	1,233	2,152	2,688	3,830	4,580	7,860	12,319	15,514	24,887
Net Connection Fees	73	163	480	540	18	22	720	2,287	3,295	727	777
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	59	28	17	35	43	43	51	74	104	111	117
Total Operating Revenues	834	1,240	1,710	2,726	2,747	3,895	5,351	10,021	15,719	18,352	25,782
Personnel	261	244	259	751	260	261	301	432	627	687	767
Power	268	315	370	523	602	630	697	949	1,355	1,856	1,814
Chemical	50	53	68	161	128	135	149	203	290	354	387
Maintenance Material	40	76	78	271	262	361	516	1,468	2,443	3,144	3,341
Administration - General	235	385	684	597	514	485	484	576	769	862	983
Bad Debts & Write Off	86	137	0	0	100	125	178	213	357	566	712
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0
Raw Water Reimbursement	31	31	0	10	22	22	22	28	38	61	48
Total Operating Expenses	870	1,242	1,456	2,313	1,888	1,998	2,331	3,887	5,879	7,328	8,030
Income (Loss) before Depreciation	(136)	(3)	252	413	859	1,897	3,020	6,154	9,840	9,024	17,752
Depreciation 8.8% unrevalued assets	862	809	712	1,979	1,865	1,868	1,972	3,331	5,837	7,967	9,147
Operating Income (Loss)	(998)	(812)	(460)	(1,566)	(1,008)	31	1,048	2,824	4,003	1,058	8,604
Operational Interest	778	1,209	0	0	495	802	782	704	831	560	6,275
Net Operating Income (Loss)	(1,770)	(2,020)	(460)	(1,566)	(1,501)	(772)	267	2,119	3,372	497	2,329
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	0	0	0	0	0	11	47	21	27	341	317
Before Tax Income	(1,776)	(2,020)	(460)	(1,566)	(1,501)	(760)	314	2,140	3,400	838	2,646
Taxable Income After Losses Carried Forward (5 Years)	(1,776)	(3,797)	(4,257)	(5,823)	(7,324)	(6,308)	(3,974)	(1,374)	3,582	838	2,646
Income Tax	0	0	0	0	0	0	0	0	1,069	243	785
Net Income (Loss)	(1,776)	(2,020)	(460)	(1,566)	(1,501)	(760)	314	2,140	2,331	595	1,861
Staff Funds Share of Net Income 10.0% of net income	0	0	0	0	0	0	0	31	214	233	60
Kotamadya Share of Net Income 55.0% d lto	0	0	0	0	0	0	0	172	1,177	1,282	327
Payment to Staff Funds 90.0% of share	0	0	0	0	0	0	0	28	193	210	54
Payment to Kotamadya 0.0% of share	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:											
Ave. Expenses per M3 Sold (Rp)	1,271	1,517	1,630	1,868	1,560	1,680	1,898	2,414	2,648	2,771	2,864
Operating Ratio	220%	165%	127%	157%	137%	99%	80%	72%	75%	94%	87%
Before Tax Income/Sales	-253%	-193%	-37%	-73%	-58%	-20%	7%	28%	26%	5%	11%
Increases in Weighted Average Tariffs		41%	6%	28%	28%	48%	15%	28%	16%	6%	51%
Average Asset's Rate Base (Nom. Rp M.)	6,348	6,005	5,338	9,334	12,725	10,869	10,153	22,975	48,933	64,275	69,164
Assets/Water Sales	9.04	5.72	4.33	4.34	4.74	2.84	2.22	3.00	3.81	4.14	2.78
Operating Income/Assets	-28.0%	-33.6%	-8.6%	-16.8%	-11.8%	-7.1%	2.8%	9.2%	7.2%	0.8%	3.4%
Before Tax Income/Assets	-28.0%	-33.6%	-8.6%	-16.8%	-11.8%	-7.0%	3.1%	9.3%	7.2%	1.3%	3.8%

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TABLE B4 - PROFIT AND LOSS (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Number of Service Connections - '000	16.7	17.6	18.4	19.3	20.2	21.1	22.0	22.9	23.7	24.6	25.5	26.4	26.4	26.6
Average Consumption - m3/conn/month	14.0	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.8	14.9	15.0	15.1	15.4	15.4
Volume Sold - 000m3	2,809	2,914	3,080	3,272	3,459	3,655	3,850	4,036	4,224	4,409	4,594	4,779	4,887	4,901
% Unaccounted-for Water	37%	36%	35%	31%	30%	30%	30%	29%	29%	29%	29%	28%	28%	28%
Water Produced - 000m3	4,484	4,558	4,732	4,711	4,955	5,210	5,465	5,705	5,949	6,189	6,428	6,667	6,808	6,832
Average Tariff - Current Rp/M3	10,458	10,437	10,354	10,250	10,062	9,845	10,062	10,177	10,374	10,610	10,880	11,200	11,774	12,485
Tariff Revenues	28,375	30,411	31,993	33,542	34,807	36,345	38,743	41,071	43,817	46,783	50,029	53,673	57,535	61,096
Net Connection Fees	820	865	913	964	1,017	1,073	1,132	1,195	1,261	1,331	1,404	1,482	68	72
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	124	131	137	144	150	157	163	170	178	183	190	196	196	197
Total Operating Revenues	30,319	31,406	33,044	34,649	35,974	37,575	40,038	42,436	45,254	48,296	51,622	55,250	57,799	61,364
Personnel	854	949	1,051	1,162	1,282	1,412	1,552	1,703	1,868	2,042	2,231	2,435	2,573	2,718
Power	1,877	2,012	2,205	2,316	2,570	2,851	3,155	3,475	3,823	4,198	4,598	5,030	5,420	5,738
Chemical	401	430	471	495	549	609	674	742	816	896	982	1,074	1,158	1,226
Maintenance Material	3,525	3,719	3,923	4,139	4,367	4,607	4,861	5,128	5,410	5,707	6,011	6,352	6,702	7,070
Administration - General	1,072	1,191	1,319	1,458	1,609	1,771	1,947	2,137	2,341	2,562	2,800	3,056	3,229	3,411
Bad Debts & Write Off	1,142	1,348	1,396	1,469	1,540	1,598	1,668	1,778	1,885	2,011	2,148	2,297	2,459	2,641
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Raw Water Retribution	45	46	47	85	95	105	118	128	141	154	169	185	199	211
Total Operating Expenses	8,917	9,695	10,414	11,125	12,011	12,953	13,873	15,091	16,282	17,568	18,948	20,430	21,739	23,016
Income (Loss) before Depreciation	21,401	21,711	22,630	23,524	23,963	24,622	26,068	27,345	28,972	30,728	32,674	34,820	36,060	38,349
Depreciation	9,900	10,838	11,865	12,984	14,206	15,540	16,998	18,585	20,319	22,210	24,274	26,525	28,980	31,592
Operating Income (Loss)	11,501	10,872	10,765	10,540	9,757	9,082	9,069	8,760	8,654	8,518	8,401	8,295	7,080	6,756
Operational Interest	6,197	5,822	5,449	5,075	4,703	4,329	3,933	3,612	3,304	2,997	2,689	2,381	2,073	1,765
Net Operating Income (Loss)	5,304	5,050	5,316	5,465	5,054	4,753	5,136	5,148	5,349	5,522	5,712	5,915	5,007	4,991
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	89	92	84	95	96	95	95	98	101	105	110	115	120	125
Before Tax Income	5,393	5,142	5,410	5,559	5,150	4,848	5,231	5,247	5,451	5,627	5,822	6,030	5,127	5,116
Taxable Income After Losses Carried For	5,393	5,142	5,410	5,559	5,150	4,848	5,231	5,247	5,451	5,627	5,822	6,030	5,127	5,116
Income Tax	1,609	1,534	1,614	1,659	1,538	1,446	1,581	1,565	1,626	1,679	1,738	1,800	1,529	1,526
Net Income (Loss)	3,784	3,608	3,796	3,900	3,614	3,402	3,671	3,681	3,824	3,948	4,084	4,230	3,598	3,590
Staff Funds Share of Net Income	188	378	381	380	390	361	340	367	368	382	395	408	423	380
Kotamadya Share of Net Income	1,024	2,081	1,984	2,088	2,145	1,988	1,871	2,019	2,025	2,103	2,171	2,246	2,326	1,978
Payment to Staff Funds	168	341	325	342	351	325	306	330	331	344	355	368	381	324
Payment to Kotamadya	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:														
Ave. Expenses per M3 Sold (Rp)	3,175	3,327	3,370	3,400	3,472	3,544	3,620	3,739	3,855	3,884	4,124	4,275	4,449	4,698
Operating Ratio	62%	85%	67%	70%	73%	76%	77%	79%	81%	82%	84%	85%	88%	89%
Before Tax Income/Sales	18%	17%	17%	17%	15%	13%	14%	13%	12%	12%	12%	11%	9%	8%
Increases in Weighted Average Tariffs	18%	0%	-1%	-1%	-2%	-1%	1%	1%	2%	2%	3%	3%	5%	5%
Average Assets Rate Base (Nom. Rp M.)	68,215	68,538	68,862	69,185	69,505	69,821	70,131	70,431	70,719	70,993	71,247	71,479	71,684	71,147
Assets/Water Sales	2.32	2.25	2.15	2.68	2.00	1.92	1.81	1.71	1.61	1.52	1.42	1.33	1.25	1.18
Operating Income/Assets	7.8%	7.4%	7.7%	7.9%	7.3%	6.8%	7.3%	7.3%	7.6%	7.8%	8.0%	8.3%	7.0%	7.0%
Before Tax Income/Assets	7.9%	7.5%	7.9%	8.0%	7.4%	6.9%	7.5%	7.4%	7.7%	7.9%	8.2%	8.4%	7.2%	7.2%

PDAM KABUPATEN MAROS

TABLE B5 - SOURCES AND APPLICATION OF FUNDS
(CURRENT RP MILLION)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Audited	Audited	Audited	Actual							
SOURCES OF FUNDS:											
Income before Depreciation and Interest	(136)	(3)	252	413	859	1,897	3,020	8,154	9,840	9,024	17,752
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	0	0	0	0	0	11	47	21	27	341	317
Gross Internal Cash Generation	(136)	(2)	252	413	859	1,908	3,067	8,175	9,868	9,365	18,069
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)	0	0	0	0	0	450	265	705	742	0	0
Other RG Equity/Advance	0	0	0	0	0	0	6,480	3,088	0	(9,480)	0
Reinvestment by Kolamadya	0	0	0	0	0	0	0	172	1,177	1,282	327
Total Equity	0	0	0	0	0	450	6,745	3,966	1,919	(5,198)	327
Borrowing :											
Proposed Loan	0	0	0	0	0	1,020	19,039	17,800	10,782	564	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	7,239	1,214	1,482	(1,468)	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	806	1,340	3,088	4,536	5,398	0
Total Borrowing	7,239	1,214	1,482	(1,468)	0	1,826	20,379	20,888	15,318	5,962	0
TOTAL SOURCES OF FUNDS	7,103	1,211	1,714	(1,055)	859	4,284	30,190	31,009	27,104	10,129	18,396
APPLICATIONS OF FUNDS:											
Proposed WSSP Projects	0	0	0	0	0	1,457	27,198	25,429	15,403	805	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	72	60	10,827	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	0	0	0	0	21	22	24	26	28	722	10,223
Master Plan	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	908	1,340	3,088	4,536	5,398	0
Total Capital Expenditures	0	72	60	10,827	21	2,385	28,562	28,522	19,967	6,925	10,223
Amortization of L/T Debt	0	0	0	0	84	332	1,178	1,172	1,156	1,714	4,815
Operational Interest of L/T Debt	778	1,200	0	0	485	802	782	704	631	560	8,276
Total Debt Service of L/T Debt	778	1,200	0	0	569	1,134	1,960	1,876	1,786	2,274	11,089
Working Capital Needs	0	(34)	439	184	52	235	22	438	(556)	89	943
Other Assets/Liabil. Changes	0	(12)	1,207	67	50	18	22	24	13	17	(5)
Kolamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	0	0	0	0	0	0	0	28	193	210	54
Income Tax	0	0	0	0	0	0	0	0	0	1,069	243
TOTAL APPLICATIONS OF FUNDS	778	1,236	1,706	10,879	701	3,772	30,566	30,888	21,404	10,584	22,546
CASH INCREASE (DECREASE)	6,325	(25)	8	(11,934)	158	512	(376)	121	5,700	(436)	(4,150)
Cash Balance, Beginning	(6,270)	55	30	38	63	222	733	358	479	8,179	5,743
Cash Balance, Ending	55	30	38	63	222	733	358	479	8,179	5,743	1,593
Minimum Cash Requirement	146	204	122	193	206	281	358	479	639	800	1,593
CSCR (SLAP, Cash balance less minimum cash)	0.88	0.86	na	na	1.03	1.42	1.00	1.00	4.10	3.17	1.00
DSCR (ADB and Perpamsr. Net revenues)	-0.18	0.00	na	na	1.49	1.68	1.56	3.29	5.52	4.12	1.63
DSCR (Cashflow)	-0.18	0.00	na	na	1.45	1.68	1.55	3.28	5.50	3.80	0.71
DSCR (BPKP, Net Income)	-2.28	-1.67	na	na	-2.59	-0.87	0.18	1.14	1.30	0.28	0.17
Contribution to Investment	na	-1593%	-2321%	2%	872%	22%	4%	14%	48%	101%	59%
Contr. to Investment, 3 Yr Average			-1583%	-1331%	1388%	25%	6%	17%	34%	109%	79%

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TABLE B5 - SOURCES AND APPLICATIONS OF FUNDS (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SOURCES OF FUNDS:														
Income before Depreciation and Interest	21,401	21,711	22,630	23,524	23,963	24,622	26,086	27,345	28,972	30,728	32,674	34,920	36,060	39,749
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	89	92	94	95	98	95	95	98	101	105	110	115	120	125
Gross Internal Cash Generation	21,490	21,803	22,723	23,619	24,061	24,717	26,181	27,444	29,074	30,834	32,784	34,935	36,180	39,874
GCI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GCI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GCI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	1,024	2,081	1,984	2,086	2,145	1,988	1,871	2,019	2,025	2,103	2,171	2,246	2,320	1,979
Total Equity	1,024	2,081	1,984	2,086	2,145	1,988	1,871	2,019	2,025	2,103	2,171	2,246	2,320	1,979
Borrowing:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SOURCES OF FUNDS	22,513	23,884	24,708	25,707	26,205	26,705	28,032	29,462	31,098	32,937	34,855	37,181	38,507	40,452
APPLICATIONS OF FUNDS:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	11,163	12,189	13,307	14,525	15,854	17,302	18,880	20,600	22,475	24,518	26,744	29,170	30,328	32,995
Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	11,163	12,189	13,307	14,525	15,854	17,302	18,880	20,600	22,475	24,518	26,744	29,170	30,328	32,995
Amortization of LT Debt	4,750	4,884	4,818	4,552	3,869	3,223	3,350	3,223	3,223	3,223	3,223	3,223	3,223	3,223
Operational Interest of LT Debt	6,197	5,822	5,449	5,075	4,703	4,329	3,933	3,612	3,304	2,997	2,689	2,381	2,073	1,765
Total Debt Service of LT Debt	10,947	10,506	10,067	9,627	8,571	7,551	7,283	6,835	6,527	6,215	5,911	5,604	5,296	4,988
Working Capital Needs	(595)	(753)	(515)	(391)	(181)	29	85	114	158	182	211	241	267	297
Other Assets/Liabil. Changes	(17)	(34)	(32)	(34)	(35)	(33)	(31)	(33)	(33)	(34)	(36)	(37)	(38)	(32)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	168	341	325	342	351	325	306	330	331	344	356	368	381	324
Income Tax	785	1,609	1,534	1,614	1,659	1,538	1,448	1,561	1,565	1,626	1,679	1,738	1,800	1,529
TOTAL APPLICATIONS OF FUNDS	22,451	23,856	24,684	25,684	26,219	26,711	27,989	29,407	31,025	32,855	34,868	37,084	38,423	40,372
CASH INCREASE (DECREASE)	62	28	23	23	(14)	(6)	63	56	74	82	89	98	83	81
Cash Balance, Beginning	1,593	1,655	1,683	1,707	1,730	1,715	1,709	1,772	1,827	1,901	1,983	2,072	2,170	2,253
Cash Balance, Ending	1,655	1,683	1,707	1,730	1,715	1,709	1,772	1,827	1,901	1,983	2,072	2,170	2,253	2,334
Minimum Cash Requirement	1,655	1,683	1,707	1,729	1,715	1,709	1,771	1,827	1,901	1,982	2,072	2,169	2,253	2,334
OSCR (SLAP, Cash balance less minimum)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
OSCR (ADB and Perpamsi, Net revenue)	1.96	2.08	2.26	2.45	2.81	3.27	3.59	4.02	4.45	4.96	5.55	6.23	6.83	7.71
OSCR (Cashflow)	0.94	0.92	0.94	0.94	0.98	0.98	1.00	1.00	1.01	1.02	1.02	1.03	1.11	1.10
OSCR (BPKP, Net Income)	0.35	0.34	0.38	0.41	0.42	0.45	0.50	0.54	0.59	0.63	0.69	0.75	0.88	0.72
Contribution to Investment	101%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Conir. to Investment, 3 Yr Average	88%	101%	100%	64%	64%	64%	64%	64%	64%	64%	64%	64%	66%	64%

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TABLE B6 - BALANCE SHEET No Asset Revaluation (CURRENT RP MILLION)		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
		Audited	Audited	Audited	Actual							
Assets in Operation	reval after 2004	10,430	10,554	10,614	21,241	21,211	21,281	23,648	52,207	60,730	100,696	107,822
Accumulated Depreciation		4,083	4,882	5,604	7,583	9,448	11,315	13,286	16,617	22,455	30,421	39,568
Net Fixed Assets		6,348	5,662	5,010	13,658	11,792	9,947	10,359	35,590	58,275	70,275	68,053
Work In Progress		50	0	0	0	21	2,385	28,582	28,522	19,867	8,825	10,223
Cash + Deposits		55	30	38	63	222	733	358	479	8,179	5,743	1,593
Accounts Receivable - Water	122 60 days=target	358	462	717	885	900	1,152	1,222	1,782	2,445	2,550	4,091
Reserve of Bad Debts Provision, Water		(137)	(137)	(283)	(283)	(16)	(21)	(29)	(35)	(59)	(93)	(117)
Past Connection Fees Put To Balance Sheet		14	15	110	123	123	123	123	123	123	123	123
Receivable - Credited New Connections						0	0	0	0	0	0	0
Inventories	6 30 days=target	5	3	3	3	7	15	29	95	191	291	310
Other Receivable	Piutang (Usaha) non-Air, Piutang Lain Lain, Uang	80	52	55	70	75	81	96	92	97	103	108
Total Current Assets		353	415	660	981	1,310	2,083	1,788	2,535	8,977	8,717	6,108
Installation Inventory	35 70 days=target	150	115	125	75	90	108	130	157	169	227	227
Other Assets		432	413	461	468	443	443	443	443	443	443	443
TOTAL ASSETS		7,333	8,665	8,256	15,180	13,856	14,986	41,283	67,248	87,851	88,588	85,055
Accounts Payable	8 30 days=target	25	35	18	28	128	132	152	285	402	489	538
Other Payable		268	369	150	253	271	290	310	332	350	389	390
Other Current Liabilities (Cust. Deposit)		57	85	100	100	100	101	119	173	246	261	277
Tax Payable	0 4 Turn Ov =Tang	0	0	0	0	0	0	0	0	1,069	1,044	1,588
Current Matur Long-Term Debt		0	0	0	2,515	332	1,178	1,172	1,158	1,714	4,815	4,750
Total Current Liabilities		348	489	267	2,894	829	1,702	1,753	1,928	3,781	6,989	7,524
Deferred Income		0	0	0	0	0	0	0	0	0	0	0
Meter Reserve Fund		0	0	0	62	5	5	5	5	5	5	5
Other Liabilities		44	62	62	0	0	0	0	3	22	43	48
Long Term Debt - Net		7,238	8,453	9,915	5,931	8,031	8,778	27,985	47,895	61,299	82,448	57,896
Total Liabilities		7,632	9,005	10,244	8,988	8,865	10,485	29,743	49,631	65,108	89,484	65,273
Assets Revaluation Surplus	10 average age initial revaluation						0	0	0	0	0	0
Reserves + "Net" Retained Earnings		(4,850)	(6,870)	(8,540)	(8,637)	(10,138)	(10,898)	(10,585)	(8,473)	(5,265)	(5,708)	(3,358)
Local Gov't Equity		4,539	4,539	4,539	14,917	14,917	15,387	22,112	28,078	27,998	22,798	23,128
Central Gov't Equity (Incl Not Yet Handed Over)		12	12	12	12	12	12	12	12	12	12	12
Total Equity		(289)	(2,319)	(3,988)	6,282	4,792	4,481	11,540	17,617	22,743	17,104	19,762
TOTAL EQUITY AND LIABILITIES		7,333	8,665	8,256	15,180	13,656	14,868	41,283	67,248	87,851	88,588	85,055
Current Ratio		1.0	0.9	2.5	0.3	1.6	1.2	1.0	1.3	2.4	1.2	0.8
Working Capital, exclud cash		(50)	(84)	355	538	591	827	849	1,287	731	799	1,742
Debt Equity Ratio (70/30 = 233%)		-2424%	-365%	-249%	134%	175%	222%	253%	277%	277%	383%	318%
Total Assets/Total Debt		1.0	0.8	0.6	1.8	1.6	1.5	1.4	1.4	1.4	1.3	1.4
* Days Accounts Receivable		211	185	212	167	127	114	101	87	75	82	82
% Debt/(Net Fixed Assets + WIP)		1	149%	198%	62%	71%	81%	75%	76%	81%	87%	80%
Cash = # Month Operating Expenses		0.7	0.3	0.3	0.3	1.4	4.4	1.8	1.5	12.6	9.4	2.4

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TABLE B6 - BALANCE SHEET (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets in Operation	117,845	128,008	141,197	154,503	169,028	184,862	202,184	221,064	241,664	264,139	288,657	315,401	344,571	374,899
Accumulated Depreciation	49,469	60,308	72,173	85,157	99,384	114,804	131,800	150,485	170,804	193,014	217,288	243,812	272,792	304,384
Net Fixed Assets	68,376	67,700	69,024	69,346	69,645	69,978	70,283	70,578	70,860	71,125	71,370	71,589	71,779	70,515
Work In Progress	11,183	12,189	13,307	14,525	15,854	17,302	18,880	20,600	22,475	24,518	26,744	29,170	30,328	32,995
Cash + Deposits	1,655	1,683	1,707	1,730	1,715	1,709	1,772	1,901	1,983	2,072	2,170	2,272	2,253	2,334
Accounts Receivable - Water	4,829	4,989	5,259	5,514	5,722	5,875	6,369	6,751	7,203	7,690	8,224	8,808	9,458	10,043
Reserve of Bad Debts Provision, Water	(188)	(222)	(220)	(241)	(253)	(263)	(274)	(292)	(310)	(331)	(353)	(378)	(404)	(434)
Past Connection Fees Put To Balance Sheet	123	123	123	123	123	123	123	123	123	123	123	123	123	123
Receivable - Credited New Connections	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inventories	326	345	365	385	406	433	460	486	517	549	582	617	653	689
Other Receivable	114	121	127	134	142	150	158	167	176	185	196	206	218	230
Total Current Assets	6,860	7,049	7,352	7,644	7,957	8,127	8,606	9,063	9,610	10,199	10,843	11,545	12,300	12,885
Installation Inventory	227	227	227	227	227	227	227	227	227	227	227	227	227	227
Other Assets	443	443	443	443	443	443	443	443	443	443	443	443	443	443
TOTAL ASSETS	87,069	88,608	90,352	92,185	94,046	96,076	98,440	100,912	103,615	106,512	109,627	112,974	115,076	117,165
Accounts Payable	569	608	655	698	755	817	884	954	1,030	1,111	1,197	1,290	1,373	1,451
Other Payable	411	434	458	483	509	537	567	598	631	666	702	741	782	824
Other Current Liabilities (Cust. Deposit)	292	308	323	338	354	369	385	400	415	431	447	462	463	463
Tax Payable	2,785	3,623	4,331	4,908	5,217	5,358	5,579	5,790	5,939	6,133	6,338	6,554	6,445	6,359
Current Matur. Long-Term Debt	4,684	4,618	4,552	3,689	3,223	3,350	3,223	3,223	3,223	3,223	3,223	3,223	3,223	3,223
Total Current Liabilities	8,741	9,590	10,319	10,266	10,058	10,432	10,837	10,925	11,238	11,564	11,907	12,269	12,285	12,321
Deferred Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meter Reserve Fund	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Other Liabilities	65	99	132	168	201	233	264	297	330	365	400	437	475	507
Long Term Debt - Net	53,013	48,395	43,842	39,973	36,751	33,401	30,178	26,956	23,733	20,510	17,288	14,065	10,843	7,620
Total Liabilities	61,824	58,089	54,298	50,440	47,015	44,071	41,085	38,182	35,306	32,444	29,600	26,776	23,607	20,454
Assets Revaluation Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reserves + "Net" Retained Earnings	1,084	4,276	7,827	11,431	14,571	17,557	21,037	24,392	27,946	31,603	35,390	39,314	42,261	45,523
Local Gov't Equity	24,149	26,230	28,215	30,302	32,447	34,435	36,308	38,325	40,350	42,453	44,625	46,871	49,197	51,176
Central Gov't Equity (Inc'l Not Yet Hande)	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Total Equity	25,248	30,519	36,054	41,745	47,031	52,005	57,356	62,730	68,309	74,069	80,027	86,198	91,471	96,712
TOTAL EQUITY AND LIABILITIES	87,069	88,608	90,352	92,185	94,046	96,076	98,440	100,912	103,615	106,512	109,627	112,974	115,076	117,165
Current Ratio	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.1
Working Capital, exclud. cash	1,147	393	(122)	(512)	(894)	(865)	(580)	(468)	(307)	(125)	87	328	985	1,552
Debt Equity Ratio (70/30 = 233%)	229%	174%	134%	105%	85%	71%	58%	48%	39%	32%	26%	20%	15%	11%
Total Assets/Total Debt	1.5	1.7	1.9	2.1	2.3	2.6	2.8	3.3	3.8	4.4	5.2	6.4	7.9	10.3
# Days Accounts Receivable	62	63	63	63	63	63	63	63	63	63	63	63	63	63
% Debt/(Net Fixed Assets + WIP)	73%	66%	58%	52%	47%	42%	37%	33%	29%	25%	21%	17%	14%	10%
Cash = # Month Operating Expenses	2.2	2.1	2.0	1.9	1.7	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2

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TABLE B7 - FINANCING PLAN		1996 - 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	% CAP. EXP.	TOTAL	Audited	Audited	Audited	Actual							
Income before Depreciation	34.7%	29,936	(136)	(3)	252	413	858	1,897	3,020	6,154	9,840	9,024	17,752
Non-Operating Income (Loss) - Net	0.5%	447	0	0	0	0	0	11	47	21	27	341	317
Gross Internal Cash Generation	35.2%	30,383	(136)	(2)	252	413	858	1,908	3,067	6,175	9,868	9,365	18,068
Minus:													
Loan Amortization	6.4%	5,554	0	0	0	0	84	332	1,178	1,172	1,158	1,714	4,815
Operational Interest	4.0%	3,479	778	1,209	0	0	495	802	782	704	831	560	6,275
Total Debt Service	10.5%	9,033	778	1,209	0	0	578	1,134	1,960	1,876	1,788	2,274	11,089
Working Capital Needs	0.2%	208	0	(34)	439	184	52	235	22	438	(556)	89	943
Other Assets/Liabil. Changes	0.1%	94	0	(12)	1,207	87	50	18	22	24	13	17	(5)
Kota. nadya Share of Net Income	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	0.5%	431	0	0	0	0	0	0	0	28	193	210	54
Income Tax	1.2%	1,069	0	0	0	0	0	0	0	0	0	1,069	243
Net Internal Cash Generation	22.6%	19,549	(914)	(1,166)	(1,384)	181	179	521	1,063	3,810	8,430	5,726	5,745
Cash Increase (Decrease)	6.4%	5,522	8,325	(25)	8	(1,934)	158	512	(378)	121	5,700	(438)	(4,150)
Investments:													
Proposed WSSP Projects	81.4%	70,292	0	0	0	0	0	1,457	27,188	25,429	15,403	805	0
Committed/Other Projects	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0.0%	0	0	73	60	10,627	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	1.0%	821	0	0	0	0	21	22	24	26	28	722	10,223
Interest Accumulated	17.7%	15,248	0	0	0	0	0	806	1,340	3,068	4,536	5,398	0
Total Capital Expenditures	100.0%	86,361	0	73	60	10,627	21	2,385	28,562	28,522	19,967	6,925	10,223
NET TO BE FINANCED:	83.8%	72,333	7,239	1,214	1,462	(1,468)	0	2,376	27,123	24,834	17,237	764	327
FINANCED BY:													
Proposed Loan	57.0%	49,204	0	0	0	0	0	1,020	19,039	17,800	10,782	584	0
Committed Loan	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0.0%	0	7,239	1,214	1,462	(1,468)	0	0	0	0	0	0	0
Interest Accumulated	17.7%	15,248	0	0	0	0	0	906	1,340	3,068	4,536	5,398	0
Total Borrowing	74.6%	64,452	7,239	1,214	1,462	(1,468)	0	1,926	20,378	20,868	15,318	5,982	0
GOI Construction Grant	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	92.3%	79,700	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)	2.5%	2,182					0	450	265	705	742	0	
Other RG Equity/Advance	3.6%	3,088					0	0	8,480	3,088	0	(8,480)	
Reinvestment by Kotamadya	3.0%	2,631	0	0	0	0	0	0	0	172	1,177	1,282	327
Total Equity	9.1%	7,881	0	0	0	0	0	450	8,745	3,966	1,919	(5,198)	327
TOTAL EXTERNAL FINANCE	83.8%	72,333	7,239	1,214	1,462	(1,468)	0	2,376	27,123	24,834	17,237	764	327

PDAM KABUPATEN MAROS

TABLE B7 - FINANCING PLAN (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Income before Depreciation	21,401	21,711	22,630	23,524	23,983	24,822	26,086	27,345	28,972	30,728	32,674	34,820	36,080	38,349
Non-Operating Income (Loss) - Net	89	92	94	85	86	85	85	98	101	105	110	115	120	125
Gross Internal Cash Generation	21,490	21,803	22,723	23,619	24,069	24,717	26,181	27,444	29,074	30,834	32,784	34,935	36,180	38,474
Minus:														
Loan Amortization	4,750	4,884	4,618	4,552	3,869	3,223	3,350	3,223	3,223	3,223	3,223	3,223	3,223	3,223
Operational Interest	6,197	5,822	5,449	5,075	4,703	4,329	3,933	3,612	3,304	2,997	2,689	2,381	2,073	1,765
Total Debt Service	10,947	10,506	10,067	9,628	8,571	7,551	7,283	6,835	6,527	6,219	5,911	5,604	5,296	4,988
Working Capital Needs	(595)	(753)	(515)	(391)	(181)	29	85	114	159	182	211	241	267	287
Other Assets/Liabil. Changes	(17)	(34)	(32)	(34)	(35)	(33)	(31)	(33)	(33)	(34)	(36)	(37)	(38)	(32)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	168	341	325	342	351	325	306	330	331	344	355	368	381	324
Income Tax	785	1,809	1,534	1,814	1,859	1,536	1,446	1,591	1,565	1,626	1,679	1,738	1,800	1,520
Net Internal Cash Generation	10,202	10,138	11,345	12,400	13,004	15,300	17,071	18,837	20,524	22,400	24,002	25,922	28,085	31,097
Cash Increase (Decrease)	82	28	23	23	(14)	(8)	83	56	74	82	89	98	83	81
Investments:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	11,163	12,189	13,307	14,525	15,854	17,302	18,880	20,600	22,475	24,518	26,744	29,170	30,328	32,995
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	11,163	12,189	13,307	14,525	15,854	17,302	18,880	20,600	22,475	24,518	26,744	29,170	30,328	32,995
NET TO BE FINANCED:	1,024	2,081	1,984	2,088	2,145	1,988	1,871	2,019	2,025	2,103	2,171	2,246	2,326	1,979
FINANCED BY:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Construction Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	1,024	2,081	1,984	2,088	2,145	1,988	1,871	2,019	2,025	2,103	2,171	2,246	2,326	1,979
Total Equity	1,024	2,081	1,984	2,088	2,145	1,988	1,871	2,019	2,025	2,103	2,171	2,246	2,326	1,979
TOTAL EXTERNAL FINANCE	1,024	2,081	1,984	2,088	2,145	1,988	1,871	2,019	2,025	2,103	2,171	2,246	2,326	1,979

PDAM KABUPATEN MAROS

TABLE B8 - MONITORING INDICATORS

	Audited	Audited	Audited	Actual								
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
SUPPLY AND DEMAND												
Population - 000	170	176	185	187	189	191	193	195	197	199	201	
% Population Served	15%	15%	18%	20%	22%	22%	25%	34%	47%	49%	51%	
Number of Connections - 000	3.9	4.2	4.9	5.7	5.7	5.8	5.8	8.9	14.1	14.9	15.8	
Increase in Connections - 000		0.3	0.7	0.8	0.0	0.0	1.0	3.1	4.2	0.9	0.9	
Consumption M3/Month/Connec.	16.2	15.1	15.2	18.1	17.8	17.1	15.0	13.5	13.2	14.8	14.8	
Forecast Volume Sold - 000 M3	763	808	894	1,239	1,210	1,182	1,228	1,602	2,220	2,844	2,804	
% Unaccounted-for Water	36%	43%	33%	45%	45%	45%	45%	44%	42%	40%	39%	
PDAM Production- 000 M3	1,191	1,358	1,335	2,268	2,215	2,185	2,237	2,848	3,801	4,401	4,570	
Net Water Purchased - 0000 M3	0	0	0	0	0	(0)	0	0	0	0	0	
MANAGEMENT:												
# Days Accounts Receivable	211	195	212	187	127	114	101	87	75	82	62	
Number of Employees	41	40	52	55	52	49	53	71	98	99	105	
Employees Per 1000 Connections	10	10	11	10	9	8	8	7	7	7	7	
% Increase # of employees		-2%	30%	6%	-5%	-6%	8%	34%	36%	4%	6%	
PROJECT DEVELOPMENT												
Cumulative Project Cost (Rp Million)	0	0	0	0	0	1,457	28,655	54,084	69,487	70,292	70,292	
Cumulative Project Cost (US \$000)	0	0	0	0	0	0	3	5	8	7	7	
Cumulative Project Loan (US \$000)	0	0	0	0	0	102	1,930	3,570	4,538	4,587	4,587	
Disbursement Profile	0%	0%	0%	0%	0%	2%	42%	76%	96%	100%	100%	
FINANCIAL												
Average tariff (current Rp/m3)	920	1,298	1,378	1,736	2,220	3,240	3,730	4,782	5,560	5,887	8,876	
Average nominal tariff increase		41%	6%	26%	28%	46%	15%	28%	18%	6%	51%	
Cash Balance to Min. Cash Requirement	0	0	0	0	1	3	1	1	10	7	1	
Contribution to investment - Ave of 3 years		0%	-1583%	-1331%	1398%	25%	6%	17%	34%	109%	78%	
R o R on Revalued Assets excl. Int.	-28%	-34%	-9%	-17%	-12%	-7%	3%	9%	7%	1%	3%	
% Debt on Debt plus Equity	-2424%	-365%	-249%	134%	175%	222%	253%	277%	277%	393%	316%	
CONSTANT PRICE ANALYSIS: 2004 base year												
Tariff (2005 Rp/m3)	1,272	1,581	1,558	1,847	2,220	3,025	3,255	3,900	4,230	4,239	8,078	
Annual Real Tariff Increase		24%	(0)	18%	20%	36%	8%	20%	0	0%	43%	
Real Tariff Increase From Base Year	-18%	1%	0	18%	42%	94%	109%	150%	2	172%	290%	
Salary (2005 Rp 000/employee/month)	732	618	470	1,211	416	416	416	416	416	418	418	
Operating Costs (2005Rp/m3 Sold)	1,759	1,872	1,845	1,986	1,580	1,578	1,556	1,969	2,019	2,002	1,961	
CRITICAL FINANCIAL INDICATORS 1995 - 2005												
	2005 - 2015							2005 - 2015				
	MINIMUM	MAXIMUM	AVERAGE				VARIABLE OR INDICATOR	MINIMUM	MAXIMUM	AVERAGE		
Cash	222	6,179	2,007				DSCR (ADB and Perpamsl, Net revenues)	1.5	5.5	2.5		
Cash = # Month Operating Expenses	1	13	4				Contr to Invest. - Ave 3 Years	8%	1398%	184%		
Tariff Increase, constant prices	-6%	43%	12%				Days Accounts Receivable	62	127	80		
R o R on Revalued Assets excl. Int.	-12%	0%	3%				Debt/(debt + equity)	105%	393%	232%		

PDAM KABUPATEN MAROS

TABLE B8 - MONITORING IND

Maximum Cash and PFC	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUPPLY AND DEMAND														
Population - 000	203	205	207	209	211	213	215	217	220	222	224	226	228	231
% Population Served	53%	56%	58%	60%	62%	64%	65%	67%	69%	71%	73%	74%	74%	73%
Number of Connections - 000	10.7	12.8	18.4	19.3	20.2	21.1	22.0	22.9	23.7	24.6	25.5	26.4	26.4	26.5
Increase in Connections - 000	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0
Consumption M3/Month/Connec.	14.0	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.8	14.9	15.0	15.1	15.4	15.4
Forecast Volume Sold - 000 M3	2,809	2,914	3,090	3,272	3,459	3,655	3,850	4,036	4,224	4,409	4,594	4,779	4,967	4,901
% Unaccounted-for Water	37%	36%	35%	31%	30%	30%	30%	29%	29%	29%	29%	28%	28%	28%
PDAM Production- 000 M3	4,484	4,556	4,732	4,711	4,955	5,210	5,465	5,705	5,949	6,189	6,428	6,667	6,808	6,832
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MANAGEMENT:														
# Days Accounts Receivable	62	63	63	63	63	63	63	63	63	63	63	63	63	63
Number of Employees	111	117	123	129	135	141	146	152	158	164	170	176	176	178
Employees Per 1000 Connections	7	7	7	7	7	7	7	7	7	7	7	7	7	7
% Increase # of employees	6%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	3%	0%	0%
PROJECT DEVELOPMENT														
Cumulative Project Cost (Rp Million)	70,292	70,292	70,292	70,292	70,292	70,292	70,292	70,292	70,292	70,292	70,292	70,292	70,292	70,292
Cumulative Project Cost (US \$000)	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Cumulative Project Loan (US \$000)	4,587	4,587	4,587	4,587	4,587	4,587	4,587	4,587	4,587	4,587	4,587	4,587	4,587	4,587
Disbursement Profile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
FINANCIAL														
Average tariff (current Rp/M3)	10,458	10,437	10,354	10,250	10,062	9,945	10,062	10,177	10,374	10,610	10,889	11,209	11,774	12,465
Average nominal tariff increase	18%	0%	-1%	-1%	-2%	-1%	1%	1%	2%	2%	3%	3%	5%	6%
Cash Balance to Min. Cash Requirement	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Contribution to Investment - Ave of 3 year	88%	101%	100%	64%	64%	64%	64%	64%	64%	64%	64%	64%	66%	64%
R o R on Revalued Assets excl. Int	8%	7%	8%	8%	7%	7%	7%	7%	8%	8%	8%	8%	7%	7%
% Debt on Debt plus Equity	229%	174%	134%	105%	85%	71%	58%	48%	39%	32%	26%	20%	15%	11%
CONSTANT PRICE ANALYSIS:														
Tariffs (2005 Rp/M3)	6,788	6,422	6,038	5,686	5,272	4,939	4,737	4,541	4,388	4,254	4,138	4,037	4,020	4,034
Annual Real Tariff Increase	12%	-5%	-6%	-6%	-7%	-6%	-4%	-4%	-3%	-3%	-3%	-2%	0%	0%
Real Tariff Increase From Base Year	335%	312%	287%	263%	236%	217%	204%	191%	181%	173%	165%	159%	158%	159%
Salary (2005 Rp 000)/employee/month	416	416	416	416	416	416	416	416	416	416	416	416	416	418
Operating Costs (2005Rp/M3 Sold)	2,081	2,047	1,865	1,879	1,819	1,760	1,708	1,669	1,630	1,597	1,567	1,540	1,519	1,520
CRITICAL FINANCIAL INDICATORS 19														
Cash														
Cash = # Month Operating Expenses														
Tariff Increase, constant prices														
R o R on Revalued Assets excl. Int														

PDAM KABUPATEN JENEPONTO

TABLE B4 - PROFIT AND LOSS ACCOUNT

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual							
Number of Service Connections - '000	4.4	4.6	4.8	4.9	4.9	4.9	5.9	9.5	13.0	13.4	13.5
Average Consumption - m3/conn/month	12.3	11.3	12.1	11.8	11.7	11.8	11.4	11.6	13.5	16.0	16.4
Volume Sold - 000m3	646	627	695	687	688	697	616	1,321	2,108	2,584	2,843
% Unaccounted-for Water	28%	35%	30%	30%	30%	30%	29%	28%	24%	23%	22%
Water Produced - 000m3	869	966	987	977	979	982	1,142	1,774	2,758	3,355	3,428
Average Tariff - Current Rp/M3 :	1,425	1,531	2,083	2,724	2,898	3,104	3,782	4,446	4,083	3,606	5,393
Tariff Revenues	921	960	1,448	1,871	1,894	2,162	3,085	5,872	8,594	9,834	14,255
Net Connection Fees	109	130	170	85	24	31	1,142	4,201	4,495	594	43
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	17	87	15	70	49	50	60	66	131	138	136
Total Operating Revenues	1,047	1,178	1,633	2,025	2,066	2,243	4,267	10,169	13,190	10,564	14,434
Personnel	309	331	420	505	389	400	486	782	1,118	1,202	1,271
Power	193	214	416	505	392	426	525	672	1,450	1,662	2,006
Chemical	50	139	272	328	235	255	275	296	318	342	355
Maintenance Material	96	106	177	196	186	210	289	1,082	1,387	1,745	1,253
Administration - General	185	208	289	465	442	457	528	752	1,007	879	930
Bad Debts & Write Off	35	7	7	9	22	24	28	37	71	102	117
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0
Raw Water Reimbursement	0	6	6	6	10	10	11	18	28	45	34
Total Operating Expenses	870	1,011	1,590	2,015	1,678	1,782	2,120	3,838	5,379	6,178	6,588
Income (Loss) before Depreciation	176	157	44	11	392	460	2,167	6,330	7,811	4,386	7,868
Depreciation	221	552	615	681	651	651	716	1,884	3,389	4,232	4,684
Operating Income (Loss)	(45)	(393)	(571)	(670)	(259)	(191)	1,451	4,446	4,422	154	2,984
Operational Interest	102	157	199	305	198	184	170	157	142	128	3,736
Net Operating Income (Loss)	(14)	(543)	(770)	(976)	(456)	(375)	1,281	4,289	4,300	28	(752)
Royalties	0	3	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	17	87	15	70	18	0	8	7	327	704	931
Before Tax Income	(130)	(463)	(755)	(906)	(438)	(375)	1,286	4,297	4,627	730	179
Taxable Income After Losses Carried Forward (5 Years)	(130)	(593)	(1,348)	(2,254)	(2,892)	(2,838)	(1,188)	3,864	4,627	730	179
Income Tax	0	0	0	0	0	0	0	1,150	1,379	210	45
Net Income (Loss)	(130)	(463)	(755)	(906)	(438)	(375)	1,286	3,146	3,247	520	134
Staff Funds Share of Net Income	10.0% of net income	0	0	0	0	0	0	129	315	325	52
Kotamadya Share of Net Income	55.0% of net income	0	0	0	0	0	0	707	1,730	1,786	286
Payment to Staff Funds	90.0% of share	0	0	0	0	0	0	118	283	292	47
Payment to Kotamadya	0.0% of share	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:											
Ave. Expenses per M3 Sold (Rp)	1,347	1,623	2,286	2,933	2,436	2,558	2,599	2,906	2,552	2,381	2,484
Operating Ratio	104%	133%	135%	133%	113%	109%	86%	56%	86%	99%	79%
Before Tax Income/Sales	-14%	-48%	-52%	-48%	-22%	-17%	42%	73%	54%	7%	1%
Increases in Weighted Average Tariffs		7%	36%	31%	8%	7%	22%	18%	-9%	-6%	42%
Average Asset's Rate Base (Nom. Rp M.)	1,812	2,649	3,472	3,498	3,212	2,570	2,878	15,652	31,171	37,917	41,323
Assets/Water Sales	1.87	2.76	2.40	1.87	1.51	1.19	0.87	2.87	3.64	3.86	2.90
Operating Income/Assets	-8.1%	-20.7%	-22.2%	-27.9%	-14.2%	-14.6%	47.8%	27.4%	13.8%	0.1%	-1.8%
Before Tax Income/Assets	-7.2%	-17.5%	-21.7%	-25.9%	-13.6%	-14.6%	48.0%	27.5%	14.8%	1.9%	0.4%

PDAM KABUPATEN JENEPONTO

TABLE B4 - PROFIT AND LOSS (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Number of Service Connections - '000	13.5	13.5	13.6	13.6	13.6	13.7	13.7	13.7	13.8	13.8	13.8	13.8	13.9	13.9
Average Consumption - m3/conn/month	18.3	18.3	18.3	18.2	18.2	18.2	18.1	18.1	18.1	18.1	18.1	18.1	18.0	18.0
Volume Sold - '000m3	2,642	2,644	2,646	2,646	2,650	2,652	2,653	2,655	2,657	2,659	2,661	2,663	2,665	2,667
% Unaccounted-for Water	22%	22%	21%	20%	19%	19%	18%	17%	17%	16%	15%	14%	13%	12%
Water Produced - '000m3	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428
Average Tariff - Current Rp/M3	5,755	6,036	6,334	6,684	7,022	8,208	8,481	8,859	9,312	9,786	10,296	10,844	11,434	12,069
Tariff Revenues	15,208	15,959	16,780	17,847	18,607	21,767	22,498	23,521	24,742	26,021	27,399	28,880	30,475	32,192
Net Connection Fees	45	48	51	54	58	61	65	69	73	78	82	87	93	98
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	136	137	137	137	138	138	138	139	139	139	140	140	140	141
Total Operating Revenues	15,388	16,144	16,948	17,839	18,802	21,966	22,701	23,729	24,964	26,238	27,621	29,108	30,708	32,431
Personnel	1,344	1,421	1,502	1,588	1,680	1,776	1,878	1,986	2,100	2,221	2,348	2,483	2,626	2,777
Power	2,117	2,233	2,358	2,485	2,622	2,768	2,918	3,079	3,248	3,427	3,615	3,814	4,024	4,245
Chemical	379	393	408	418	433	447	467	481	495	510	525	539	554	568
Maintenance Material	1,955	2,083	2,178	2,298	2,422	2,555	2,698	2,844	3,001	3,166	3,340	3,523	3,717	3,922
Administration - General	983	1,040	1,099	1,162	1,229	1,300	1,374	1,453	1,537	1,625	1,718	1,817	1,922	2,032
Bad Debts & Write Off	189	161	189	199	209	221	258	267	279	294	309	325	343	362
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Raw Water Retribution	34	34	34	62	65	69	73	77	81	86	90	95	100	106
Total Operating Expenses	6,981	7,383	7,783	8,212	8,681	9,135	9,685	10,187	10,741	11,327	11,945	12,598	13,286	14,012
Income (Loss) before Depreciation	8,407	8,761	9,165	9,627	10,121	12,831	13,016	13,542	14,223	14,911	15,676	16,510	17,422	18,419
Depreciation	5,281	5,894	6,162	6,669	7,217	7,811	8,453	9,148	9,899	10,713	11,593	12,546	13,577	14,692
Operating Income (Loss)	3,126	2,867	3,003	2,957	2,904	5,020	4,563	4,394	4,324	4,197	4,082	3,964	3,845	3,727
Operational Interest	3,715	3,508	3,302	3,095	2,889	2,682	2,488	2,285	2,072	1,860	1,647	1,434	1,221	1,008
Net Operating Income (Loss)	(589)	(422)	(279)	(138)	35	2,339	2,115	2,129	2,241	2,318	2,395	2,470	2,544	2,618
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	751	607	487	330	183	59	60	62	62	64	68	68	70	72
Before Tax Income	182	185	188	192	228	2,398	2,175	2,190	2,304	2,382	2,461	2,538	2,614	2,691
Taxable Income After Losses Carried For	182	185	188	192	228	2,398	2,175	2,190	2,304	2,382	2,461	2,538	2,614	2,691
Income Tax	46	47	48	49	60	711	644	648	682	706	730	753	775	798
Net Income (Loss)	136	138	141	143	169	1,687	1,531	1,542	1,621	1,676	1,732	1,785	1,838	1,892
Staff Funds Share of Net Income	13	14	14	14	14	17	169	153	154	162	168	173	179	184
Kotamadya Share of Net Income	74	75	76	77	79	93	928	842	848	892	922	952	982	1,011
Payment to Staff Funds	12	12	12	13	13	15	152	138	139	146	151	156	161	165
Payment to Kotamadya	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:														
Ave. Expenses per M3 Sold (Rp)	2,642	2,786	2,934	3,101	3,268	3,445	3,644	3,837	4,043	4,260	4,489	4,730	4,985	5,253
Operating Ratio	80%	81%	82%	83%	84%	77%	80%	81%	83%	84%	85%	86%	87%	89%
Before Tax Income/Sales	1%	1%	1%	1%	1%	11%	10%	9%	9%	9%	9%	9%	9%	8%
Increases in Weighted Average Tariffs	7%	5%	5%	5%	5%	17%	3%	4%	5%	5%	5%	5%	5%	6%
Average Asset's Rate Base (Nom. Rp M)	40,864	40,875	40,470	40,247	40,006	39,744	39,459	39,151	38,816	38,453	38,060	37,633	37,170	36,668
Assets/Water Sales	2.69	2.55	2.41	2.28	2.15	1.83	1.75	1.68	1.67	1.48	1.39	1.30	1.22	1.14
Operating Income/Assets	-1.4%	-1.0%	-0.7%	-0.3%	0.1%	5.9%	5.4%	5.4%	5.8%	6.0%	6.3%	6.6%	6.8%	7.1%
Before Tax Income/Assets	0.4%	0.5%	0.5%	0.5%	0.6%	6.0%	5.5%	5.8%	5.9%	6.2%	6.5%	6.7%	7.0%	7.3%

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TABLE B5 - SOURCES AND APPLICATION OF FUNDS

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual							
SOURCES OF FUNDS:											
Income before Depreciation and Interest	176	159	44	11	392	460	2,167	8,330	7,811	4,386	7,868
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	17	87	15	70	18	0	0	7	327	704	931
Gross Internal Cash Generation	193	246	59	80	410	460	2,173	8,337	8,138	5,090	8,799
GOI Construction Grant	0	1,587	470	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)					0	240	572	578	578	0	
Other RG Equity/Advance					0	0	5,494	0	0	0	
Reinvestment by Kotamadya	0	0	0	0	0	0	0	707	1,730	1,786	286
Total Equity	0	1,567	470	0	0	240	8,066	1,285	2,308	1,786	286
Borrowing:											
Proposed Loan			0	0	0	692	18,094	4,060	6,230	278	0
Committed Loan			0	0	0	0	0	0	0	0	0
Ongoing Loans	821	887	240	305	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	560	1,111	2,205	2,858	3,384	0
Total Borrowing	821	887	240	305	0	1,252	19,204	7,165	9,088	3,662	0
TOTAL SOURCES OF FUNDS	1,014	2,489	769	386	410	1,953	27,443	14,788	19,532	10,538	9,084
APPLICATIONS OF FUNDS:											
Proposed WSSP Projects	0	0	0	0	0	989	25,848	7,086	8,900	388	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	1,898	582	760	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	0	0	0	0	17	19	20	22	23	367	5,080
Master Plan	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	560	1,111	2,205	2,858	3,384	0
Total Capital Expenditure	0	1,898	582	760	17	1,568	26,978	9,313	11,779	4,148	5,080
Amortization of L/T Debt	0	0	0	0	147	147	147	147	147	147	2,105
Operational Interest of L/T Debt	102	157	199	305	198	184	170	157	142	128	3,736
Total Debt Service of L/T Debt	102	157	199	305	344	331	317	303	289	275	5,901
Working Capital Needs	0	481	85	41	(89)	(22)	128	(735)	(803)	352	1,114
Other Assets/Liabil. Changes	0	150	(179)	0	439	(5)	(4)	(15)	(31)	(31)	(5)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	0	0	0	0	0	0	0	116	283	292	47
Income Tax	0	0	0	0	0	0	0	0	1,150	1,379	210
TOTAL APPLICATIONS OF FUNDS	102	2,492	897	1,106	712	1,871	27,420	8,982	12,558	8,415	12,347
CASH INCREASE (DECREASE)	912	7	72	(720)	(301)	81	23	5,805	6,863	4,123	(3,263)
Cash Balance, Beginning	(785)	127	134	206	400	99	180	203	6,009	12,872	18,995
Cash Balance, Ending	127	134	206	400	99	180	203	6,009	12,872	16,995	13,732
Minimum Cash Requirement	81	58	149	193	168	176	203	345	472	538	1,039
DSCR (SLAP, Cash balance less minimum cash)	1.44	1.23	1.29	1.68	0.80	1.01	1.00	19.67	43.91	60.83	3.15
DSCR (ADB and Pampams, Net revenues)	1.89	1.57	0.30	0.26	1.19	1.39	6.86	20.90	28.16	18.50	1.49
DSCR (Cashflow)	1.89	1.57	0.30	0.26	1.14	1.34	6.80	20.83	28.08	17.17	0.63
DSCR (BPKP, Net Income)	-1.27	-2.95	-3.79	-2.97	-1.27	-1.13	4.06	10.37	11.24	1.89	0.02
Contribution to Investment	na	-32%	-10%	-35%	-1624%	10%	6%	79%	76%	111%	36%
Contr. to Investment, 3 Yr Average			-10%	-50%	-748%	34%	11%	65%	59%	124%	61%

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TABLE B5 - SOURCES AND APPLICATIONS OF FUNDS (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SOURCES OF FUNDS:														
Income before Depreciation and Interest	8,407	8,781	9,185	9,628	10,141	12,831	13,035	13,541	14,213	14,810	15,676	16,510	17,422	18,419
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	751	607	467	330	193	59	60	62	82	64	86	88	70	72
Gross Internal Cash Generation	9,158	9,387	9,652	9,958	10,334	12,890	13,095	13,603	14,275	14,875	15,741	16,578	17,492	18,492
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	74	75	78	77	79	93	928	842	848	892	922	952	982	1,011
Total Equity	74	75	78	77	79	93	928	842	848	892	922	952	982	1,011
Borrowing:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SOURCES OF FUNDS	9,232	9,462	9,728	10,033	10,413	12,983	14,024	14,445	15,124	15,866	16,663	17,530	18,474	19,503
APPLICATIONS OF FUNDS:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	5,497	5,949	6,437	6,866	7,538	8,157	8,827	9,551	10,335	11,184	12,102	13,095	14,170	15,333
Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	5,497	5,949	6,437	6,866	7,538	8,157	8,827	9,551	10,335	11,184	12,102	13,095	14,170	15,333
Amortization of L/T Debt	2,165	2,165	2,165	2,165	2,165	2,165	2,165	2,018	2,018	2,018	2,018	2,018	2,018	2,018
Operational Interest of L/T Debt	3,715	3,508	3,302	3,095	2,889	2,682	2,468	2,265	2,072	1,880	1,687	1,494	1,301	1,108
Total Debt Service of L/T Debt	5,880	5,674	5,467	5,260	5,054	4,847	4,633	4,284	4,091	3,898	3,705	3,512	3,320	3,127
Working Capital Needs	430	321	267	230	188	(116)	(310)	(172)	(106)	(62)	(21)	14	48	74
Other Assets/Liabil. Changes	(1)	(1)	(1)	(1)	(1)	(2)	(15)	(14)	(14)	(15)	(15)	(16)	(16)	(17)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	12	12	12	13	13	15	152	138	139	146	151	156	161	165
Income Tax	45	46	47	48	49	60	711	644	648	682	706	730	753	775
TOTAL APPLICATIONS OF FUNDS	11,863	12,000	12,229	12,518	12,850	12,961	13,997	14,431	15,093	15,834	16,628	17,492	18,433	19,458
CASH INCREASE (DECREASE)	(2,631)	(2,538)	(2,500)	(2,483)	(2,437)	22	28	14	30	33	35	38	41	44
Cash Balance, Beginning	13,732	11,101	8,582	6,062	3,579	1,143	1,165	1,192	1,206	1,236	1,269	1,304	1,343	1,384
Cash Balance, Ending	11,101	8,562	6,082	3,579	1,143	1,165	1,192	1,206	1,236	1,269	1,304	1,343	1,384	1,428
Minimum Cash Requirement	1,072	1,086	1,102	1,123	1,143	1,185	1,192	1,206	1,236	1,269	1,304	1,343	1,384	1,428
OSCR (SLAP, Cash balance less minimum)	2.71	2.32	1.91	1.47	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
OSCR (ADB and Perpamsi, Net revenue)	1.56	1.65	1.77	1.89	2.04	2.66	2.83	3.18	3.49	3.84	4.25	4.72	5.27	5.91
OSCR (Cashflow)	0.62	0.61	0.59	0.57	0.55	0.98	0.92	0.95	0.96	0.97	0.98	0.99	1.00	1.01
OSCR (BPKP, Net Income)	0.02	0.02	0.03	0.03	0.03	0.35	0.33	0.38	0.40	0.43	0.47	0.51	0.55	0.61
Contribution to Investment	52%	57%	61%	64%	68%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Contr. to Investment, 3 Yr Average	49%	57%	61%	60%	62%	54%	64%	64%	64%	64%	64%	64%	64%	64%

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TABLE B6 - BALANCE SHEET No Asset Revaluation (CURRENT RP MILLION)												
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
		Audited	Audited	Audited	Actual							
Assets in Operation	reval after 2004	4,505	6,810	7,192	7,952	7,970	7,970	9,538	36,517	45,829	57,608	61,757
Accumulated Depreciation		2,883	3,125	3,734	4,415	5,066	5,717	6,433	8,317	11,886	15,818	20,802
Net Fixed Assets		1,612	3,485	3,458	3,537	2,887	2,253	3,104	28,199	34,143	41,890	40,955
Work In Progress		408	0	0	0	17	1,568	26,979	9,313	11,779	4,146	5,080
Cash & Deposits		127	114	206	400	99	180	203	6,008	12,872	18,995	13,732
Accounts Receivable - Water	98 60 days=Target	326	330	474	555	535	535	700	1,210	1,586	1,817	2,343
Reserve of Bad Debts Provision, Water		(104)	(54)	(61)	(70)	(4)	(4)	(4)	(6)	(12)	(17)	(19)
Past Connection Fees Put To Balance Sheet		0	0	0	3	3	3	3	3	3	3	3
Receivable - Credited New Connections						0	0	0	0	0	0	0
Inventories	6 30 days=Target	1	1	2	19	7	14	23	78	119	173	183
Other Receivable	Piutang (Usaha) non-Air, Piutang Lain Lain, Uang	31	55	1	1	1	1	2	2	2	2	2
Total Current Assets		381	417	822	808	841	730	927	7,294	14,570	18,773	18,244
Installation Inventory	1,365 70 days=Target	24	23	31	31	25	20	17	13	11	9	9
Other Assets		0	26	20	20	16	16	18	16	16	16	18
TOTAL ASSETS		2,824	4,001	4,131	4,496	3,587	4,587	31,043	44,836	60,519	84,637	82,304
Accounts Payable	34 30 days=Target	371	0	0	0	104	112	132	248	344	401	426
Other Payable		289	208	76	288	308	330	353	378	399	421	444
Other Current Liabilities (Cust. Deposit)		0	50	169	9	9	9	11	17	23	24	24
Tax Payable	0 4 Turn Ov =Targ	0	0	0	0	0	0	0	1,150	2,242	1,892	1,464
Current Matur. Long-Term Debt		0	0	175	305	147	147	147	147	147	2,165	2,165
Total Current Liabilities		660	258	420	802	568	597	642	1,940	3,155	4,902	4,522
Deferred Income		34	38	41	41	0	0	0	0	0	0	0
Water Reserve Fund		0	187	412	412	5	5	5	5	5	5	5
Other Liabilities		0	0	0	0	0	0	0	12	40	89	74
Long Term Debt - Net		821	1,507	1,573	1,748	1,780	2,866	21,923	28,842	37,881	39,378	37,212
Total Liabilities		1,515	1,991	2,446	2,803	2,332	3,488	22,571	30,898	41,080	44,353	41,813
Assets Revaluation Surplus	10 average age initial revaluation						0	0	0	0	0	0
Reserves - "Net" Retained Earnings		(1,884)	(2,550)	(3,345)	(4,114)	(4,552)	(4,927)	(3,641)	540	3,733	2,791	2,713
Local Gov't Equity		17	17	17	17	17	257	6,323	7,808	9,918	11,702	11,988
Central Gov't Equity (Inc'l Not Yet Handed Over)		2,977	4,543	5,013	5,790	5,790	5,790	5,790	5,790	5,790	5,790	5,790
Total Equity		1,199	2,010	1,885	1,692	1,254	1,118	8,472	13,937	19,439	20,283	20,491
TOTAL EQUITY AND LIABILITIES		2,824	4,001	4,131	4,496	3,587	4,587	31,042	44,835	60,519	84,636	82,304
Current Ratio		0.6	1.8	1.5	1.5	1.1	1.2	1.4	3.6	4.6	3.8	3.6
Working Capital, exclud. cash		(406)	75	171	211	122	99	228	(507)	(1,310)	(959)	156
Debt Equity Ratio (70/30 = 233%)		74%	75%	104%	121%	152%	269%	261%	209%	186%	205%	192%
Total Assets/Total Debt		3.2	2.7	2.4	2.2	1.9	1.5	1.4	1.5	1.6	1.6	1.6
# Days Accounts Receivable		134	127	120	109	99	91	83	78	68	61	60
% Debt/(Net Fixed Assets + WIP)		0	43%	51%	58%	66%	78%	73%	78%	83%	91%	86%
Cash = # Month Operating Expenses		1.7	1.6	1.6	2.4	0.7	1.2	1.1	18.8	28.7	33.0	25.1

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TABLE B6 - BALANCE SHEET (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets in Operation	66,837	72,334	78,282	84,719	91,685	99,223	107,380	116,206	125,757	136,093	147,277	159,378	172,474	186,344
Accumulated Depreciation	28,083	31,757	37,919	44,588	51,805	59,618	68,068	77,218	87,115	97,828	109,421	121,968	135,545	150,137
Net Fixed Assets	40,774	40,577	40,363	40,132	39,880	39,607	39,311	38,990	38,642	38,265	37,855	37,411	36,929	36,407
Work In Progress	5,487	5,949	6,437	6,966	7,538	8,157	8,827	9,551	10,335	11,184	12,102	13,095	14,170	15,333
Cash + Deposits	11,101	8,582	8,082	3,579	1,143	1,185	1,192	1,208	1,236	1,269	1,304	1,343	1,384	1,428
Accounts Receivable - Water	2,500	2,823	2,755	2,801	3,058	3,578	3,698	3,866	4,087	4,277	4,504	4,747	5,010	5,292
Reserve of Bad Debts Provision, Water	(28)	(30)	(31)	(33)	(34)	(36)	(42)	(44)	(46)	(48)	(51)	(53)	(56)	(59)
Past Connection Fees Put To Balance St	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Receivable - Credited New Connections	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inventories	184	204	215	226	237	249	263	276	290	305	321	338	355	373
Other Receivable	2	2	2	2	3	3	3	3	3	3	3	4	4	4
Total Current Assets	13,771	11,385	9,008	6,879	4,410	4,982	5,116	5,311	5,554	5,810	6,085	6,381	6,699	7,041
Installation Inventory	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Other Assets	16	16	16	16	16	16	16	16	16	16	16	16	16	16
TOTAL ASSETS	60,067	57,916	55,831	53,801	51,853	52,751	53,279	53,877	54,556	55,283	56,067	56,912	57,823	58,806
Accounts Payable	449	474	499	528	557	587	619	652	687	724	763	805	848	894
Other Payable	468	494	521	560	580	612	645	681	718	758	800	843	890	939
Other Current Liabilities (Cust. Deposit)	24	24	24	24	24	24	24	24	24	24	24	25	25	25
Tax Payable	1,144	904	720	583	505	1,089	1,481	1,744	1,900	2,199	2,379	2,536	2,678	2,807
Current Matur Long-Term Debt	2,185	2,185	2,185	2,185	2,185	2,185	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018
Total Current Liabilities	4,250	4,061	3,935	3,860	3,830	4,477	4,787	5,120	5,438	5,724	5,984	6,227	6,459	6,682
Deferred Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Reserve Fund	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Other Liabilities	75	76	77	79	80	82	97	111	124	139	154	170	188	202
Long Term Debt - Net	35,047	32,882	30,717	28,552	26,387	24,222	22,203	20,185	18,166	16,148	14,129	12,111	10,092	8,074
Total Liabilities	39,377	37,024	34,735	32,486	30,302	28,785	27,072	25,420	23,734	22,015	20,273	18,513	16,742	14,963
Assets Revaluation Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reserves + "Net" Retained Earnings	2,838	2,965	3,094	3,226	3,392	5,715	7,028	8,437	9,953	11,507	13,111	14,764	16,464	18,214
Local Gov't Equity	12,061	12,138	12,212	12,289	12,368	12,481	13,389	14,231	15,079	15,971	16,893	17,845	18,827	19,838
Central Gov't Equity (Incl Not Yet Hande	5,790	5,790	5,790	5,790	5,790	5,790	5,790	5,790	5,790	5,790	5,790	5,790	5,790	5,790
Total Equity	20,689	20,891	21,096	21,305	21,550	23,966	26,206	28,457	30,822	33,267	35,794	38,399	41,081	43,842
TOTAL EQUITY AND LIABILITIES	60,067	57,916	55,831	53,801	51,853	52,751	53,279	53,877	54,556	55,283	56,067	56,911	57,823	58,806
Current Ratio	3.2	2.8	2.3	1.7	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.1
Working Capital, exclud. cash	586	807	1,174	1,404	1,602	1,485	1,175	1,004	898	836	815	829	875	949
Debt Equity Ratio (70/30 = 233%)	180%	188%	158%	144%	132%	110%	92%	78%	65%	55%	45%	37%	29%	23%
Total Assets/Total Debt	1.6	1.6	1.7	1.7	1.8	2.0	2.2	2.4	2.7	3.0	3.4	4.0	4.7	5.7
* Days Accounts Receivable	61	81	81	61	61	61	61	61	61	61	61	61	61	61
% Debt/(Net Fixed Assets + WIP)	80%	75%	70%	65%	60%	55%	50%	48%	41%	37%	32%	28%	24%	20%
Cash = # Month Operating Expenses	19.1	14.0	9.4	5.2	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.2	1.2

PDAM KABUPATEN JENEPONTO

TABLE B7 - FINANCING PLAN		2006 - 2016	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)		% CAP. EXP.	TOTAL	Audited	Audited	Audited	Actual						
Income before Depreciation	39.3%	21,155	176	159	44	11	392	460	2,167	6,330	7,811	4,388	7,868
Non-Operating Income (Loss) - Net	1.9%	1,044	17	87	15	70	18	0	8	7	327	704	931
Gross Internal Cash Generation	41.3%	22,198	193	243	59	80	410	460	2,173	6,337	8,138	5,090	8,799
Minus:													
Loan Amortization	1.4%	733	0	0	0	0	147	147	147	147	147	147	2,165
Operational Interest	1.5%	781	102	157	199	305	198	184	170	157	142	128	3,738
Total Debt Service	2.8%	1,515	102	157	199	305	344	331	317	303	289	275	5,901
Working Capital Needs	-2.0%	(1,080)	0	481	95	41	(89)	(22)	128	(735)	(803)	352	1,114
Other Assets/Liability Changes	-0.2%	(65)	0	156	(179)	0	439	(5)	(4)	(15)	(31)	(31)	(5)
Kotamadya Share of Net Income	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	1.3%	891	0	0	0	0	0	0	0	116	283	292	47
Income Tax	4.7%	2,530	0	0	0	0	0	0	0	0	1,150	1,379	210
Net Internal Cash Generation	34.6%	18,629	91	(518)	(58)	(268)	(284)	157	1,731	6,888	7,249	2,823	1,531
Cash Increase (Decrease)	31.4%	18,698	912	7	72	(720)	(301)	81	23	5,805	6,863	4,123	(3,283)
Investments:													
Proposed WSSP Projects	80.4%	43,221	0	0	0	0	0	989	25,848	7,088	8,900	398	0
Committed/Other Projects	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0.0%	0	0	1,898	582	760	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	0.8%	452	0	0	0	0	17	19	20	22	23	367	5,080
Interest Accumulated	18.8%	10,115	0	0	0	0	0	560	1,111	2,205	2,856	3,384	0
Total Capital Expenditures	100.0%	53,787	0	1,898	582	760	17	1,568	28,079	9,313	11,779	4,148	5,080
NET TO BE FINANCED:	98.8%	52,055	821	2,253	710	305	0	1,492	25,271	8,450	11,394	5,448	288
FINANCED BY:													
Proposed Loan	56.2%	30,255	0	0	0	0	0	692	18,094	4,980	6,230	278	0
Committed Loan	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0.0%	0	821	887	240	305	0	0	0	0	0	0	0
Interest Accumulated	18.8%	10,115	0	0	0	0	0	560	1,111	2,205	2,856	3,384	0
Total Borrowing	75.1%	40,389	821	887	240	305	0	1,252	19,204	7,185	8,086	3,662	0
GOI Construction Grants	0.0%	0	0	1,507	470	0	0	0	0	0	0	0	0
Feasibility Study Grant	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	93.9%	50,484	0	1,567	470	0	0	0	0	0	0	0	0
RG Equity (Lend)	3.7%	1,987	0	0	0	0	0	240	572	578	578	0	0
Other RG Equity/Advance	10.2%	5,494	0	0	0	0	0	0	5,494	0	0	0	0
Reinvestment by Kotamadya	7.9%	4,224	0	0	0	0	0	0	0	707	1,730	1,788	286
Total Equity	21.7%	11,685	0	0	0	0	0	240	6,066	1,285	2,308	1,788	286
TOTAL EXTERNAL FINANCE	98.8%	52,055	821	2,253	710	305	0	1,492	25,271	8,450	11,394	5,448	288

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TABLE B7 - FINANCING PLAN (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Income before Depreciation	8,407	8,781	9,185	9,626	10,141	12,831	13,036	13,541	14,213	14,910	15,876	16,510	17,422	18,419
Non-Operating Income (Loss) - Net	751	607	487	330	193	59	60	62	62	64	66	68	70	72
Gross Internal Cash Generation	9,158	9,387	9,672	9,956	10,334	12,890	13,096	13,603	14,275	14,975	15,941	16,578	17,492	18,492
Minus:														
Loan Amortization	2,165	2,165	2,165	2,165	2,165	2,165	2,165	2,018	2,018	2,018	2,018	2,018	2,018	2,018
Operational Interest	3,715	3,508	3,302	3,095	2,889	2,682	2,468	2,265	2,072	1,890	1,687	1,494	1,301	1,108
Total Debt Service	5,880	5,674	5,467	5,260	5,054	4,847	4,633	4,284	4,091	3,898	3,705	3,512	3,320	3,127
Working Capital Needs	430	321	267	230	198	(116)	(310)	(172)	(106)	(62)	(21)	14	46	74
Other Assets/Liabil. Changes	(1)	(1)	(1)	(1)	(1)	(2)	(15)	(14)	(14)	(15)	(15)	(16)	(16)	(17)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	12	12	12	13	13	15	152	138	139	146	151	156	161	165
Income Tax	45	46	47	48	49	60	711	644	648	682	706	730	753	775
Net Internal Cash Generation	2,792	3,338	3,861	4,406	5,023	8,068	7,925	8,723	9,517	10,325	11,215	12,181	13,230	14,366
Cash Increase (Decrease)	(2,631)	(2,538)	(2,500)	(2,483)	(2,437)	22	26	14	30	33	35	38	41	44
Investments:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	5,497	5,949	6,437	6,968	7,538	8,157	8,827	9,551	10,335	11,184	12,102	13,095	14,170	15,333
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	5,497	5,949	6,437	6,968	7,538	8,157	8,827	9,551	10,335	11,184	12,102	13,095	14,170	15,333
NET TO BE FINANCED:	74	75	76	77	79	93	928	842	848	892	922	952	982	1,011
FINANCED BY:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	74	75	76	77	79	93	928	842	848	892	922	952	982	1,011
Total Equity	74	75	76	77	79	93	928	842	848	892	922	952	982	1,011
TOTAL EXTERNAL FINANCE	74	75	76	77	79	93	928	842	848	892	922	952	982	1,011

PDAM KABUPATEN JENEPONTO

TABLE B6 - MONITORING INDICATORS

	Audited	Audited	Audited	Actual								
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
SUPPLY AND DEMAND												
Population - 000	112	112	116	121	122	122	123	124	126	127	128	
% Population Served	26%	27%	27%	27%	28%	28%	33%	48%	65%	67%	68%	
Number of Connections - 000	4.4	4.6	4.8	4.9	4.9	4.9	5.9	9.5	13.0	13.4	13.5	
Increase in Connections - 000		0.2	0.2	0.1	0.0	0.0	1.0	3.5	3.5	0.4	0.0	
Consumption M3/Month/Connec.	12.3	11.3	12.1	11.8	11.7	11.8	11.4	11.8	13.5	16.0	16.4	
Forecast Volume Sold - 000 M3	648	627	695	687	688	687	818	1,321	2,108	2,584	2,643	
% Unaccounted-for Water	26%	35%	30%	30%	30%	30%	29%	26%	24%	23%	22%	
PDAM Production - 000 M3	869	866	987	977	979	992	1,142	1,774	2,758	3,355	3,428	
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	
MANAGEMENT:												
# Days Accounts Receivable	134	127	120	108	99	91	83	76	68	61	60	
Number of Employees	45	45	52	51	48	48	53	79	106	108	108	
Employee : Per 1000 Connections	10	10	11	11	10	9	9	8	8	8	8	
% Increase # of employees		0%	16%	-2%	-6%	-4%	14%	50%	34%	2%	0%	
PROJECT DEVELOPMENT												
Cumulative Project Cost (Rp Million)	0	0	0	0	0	989	26,837	33,873	42,823	43,221	43,221	
Cumulative Project Cost (US \$000)	0	0	0	0	0	0	3	3	4	4	4	
Cumulative Project Loan (US \$000)	0	0	0	0	0	70	1,807	2,264	2,823	2,847	2,847	
Disbursement Profile	0%	0%	0%	0%	0%	2%	63%	80%	99%	100%	100%	
FINANCIAL												
Average tariff (current Rp/M3)	1,425	1,331	2,083	2,724	2,898	3,104	3,782	4,446	4,063	3,806	5,393	
Average nominal tariff increase		7%	38%	31%	6%	7%	22%	18%	-9%	-8%	42%	
Cash Balance to Min. Cash Requirement	2	1	1	2	1	1	1	17	27	32	13	
Contribution to investment - Ave of 3 years		0%	-10%	-50%	-748%	34%	11%	65%	59%	124%	81%	
R o R on Revalued Assets excl. Int	-8%	-21%	-22%	-28%	-14%	-15%	48%	27%	14%	0%	-2%	
% Debt on Debt plus Equity	74%	75%	104%	123%	152%	269%	281%	209%	195%	205%	192%	
CONSTANT PRICE ANALYSIS: 2004 base year												
Tariff (2005 Rp/M3)	1,871	1,865	2,357	2,898	2,898	2,898	3,300	3,628	3,097	2,750	3,893	
Annual Real Tariff Increase		-5%	0	23%	0%	0%	14%	10%	(0)	-11%	34%	
Real Tariff Increase From Base Year	-16%	-21%	0	23%	23%	23%	40%	54%	0	17%	57%	
Salary (2005 Rp 000)/employee/month	780	756	761	878	873	873	873	873	873	873	873	
Operating Costs (2005Rp/M3 Sold)	1,863	1,877	2,589	3,121	2,436	2,389	2,268	2,370	1,945	1,727	1,701	
CRITICAL FINANCIAL INDICATORS 1995 - 2005												
	2005 - 2015								2005 - 2015			
	MINIMUM	MAXIMUM	AVERAGE				VARIABLE OR INDICATOR		MINIMUM	MAXIMUM	AVERAGE	
Cash	99	16,995	7,218				DSCR (ADB and Perpamsi, Net revenues)		1.2	28.2	7.8	
Cash = # Month Operating Expenses	1	33	14				Contr to invest. - Ave 3 Years		-748%	124%	-17%	
Tariff increase, constant prices	-15%	34%	3%				Days Accounts Receivable		60	99	71	
R o R on Revalued Assets excl. Int	-15%	48%	5%				Debt/(debt + equity)		144%	269%	194%	

PDAM KABUPATEN JENEPONTO

TABLE B8 - MONITORING IND

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUPPLY AND DEMAND														
Maximum Cash and PFC														
Population - 000	129	131	132	133	135	136	137	138	140	142	143	144	146	147
% Population Served	66%	65%	65%	64%	64%	63%	63%	62%	62%	61%	61%	60%	60%	60%
Number of Connections - 000	13.5	13.5	13.6	13.6	13.6	13.7	13.7	13.7	13.8	13.8	13.8	13.8	13.9	13.9
Increase in Connections - 000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consumption M3/Month/Connec.	16.3	16.3	16.3	16.2	16.2	16.2	16.1	16.1	16.1	16.1	16.1	16.0	16.0	16.0
Forecast Volume Sold - 000 M3	2,642	2,644	2,646	2,648	2,650	2,652	2,653	2,655	2,657	2,659	2,661	2,663	2,665	2,667
% Unaccounted-for Water	22%	22%	21%	20%	19%	18%	18%	17%	17%	16%	15%	14%	13%	12%
PDAM Production- 000 M3	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MANAGEMENT:														
# Days Accounts Receivable	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Number of Employees	108	108	109	109	109	109	110	110	110	110	111	111	111	111
Employees Per 1000 Connections	8	8	8	8	8	8	8	8	8	8	8	8	8	8
% Increase # of employees	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PROJECT DEVELOPMENT														
Cumulative Project Cost (Rp Million)	43,221	43,221	43,221	43,221	43,221	43,221	43,221	43,221	43,221	43,221	43,221	43,221	43,221	43,221
Cumulative Project Cost (US \$000)	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Cumulative Project Loan (US \$000)	2,847	2,847	2,847	2,847	2,847	2,847	2,847	2,847	2,847	2,847	2,847	2,847	2,847	2,847
Disbursement Profile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
FINANCIAL														
Average tariff (current Rp/M3)	5,755	6,038	6,334	6,564	7,022	8,208	8,481	8,859	9,312	9,788	10,298	10,844	11,434	12,068
Average nominal tariff increase	7%	5%	5%	5%	5%	17%	3%	4%	5%	5%	5%	5%	5%	6%
Cash Balance to Min. Cash Requirement	10	8	5	3	1	1	1	1	1	1	1	1	1	1
Contribution to Investment - Ave of 3 year	49%	57%	61%	40%	42%	54%	64%	64%	64%	64%	64%	64%	64%	64%
R o R on Revalued Assets excl. Int	-1%	-1%	-1%	0%	0%	6%	5%	5%	6%	6%	6%	7%	7%	7%
% Debt on Debt plus Equity	180%	168%	156%	144%	132%	110%	92%	78%	65%	55%	45%	37%	29%	23%
CONSTANT PRICE ANALYSIS:														
Tariff (2005 Rp/M3)	3,735	3,714	3,694	3,684	3,679	4,076	3,992	3,953	3,938	3,923	3,912	3,906	3,904	3,905
Annual Real Tariff Increase	1%	-1%	-1%	0%	0%	11%	-2%	-1%	0%	0%	0%	0%	0%	0%
Real Tariff Increase From Base Year	58%	58%	57%	56%	56%	73%	69%	68%	67%	66%	66%	66%	66%	66%
Salary (2005 Rp 000)/employee/month	673	673	673	673	673	673	673	673	673	673	673	673	673	673
Operating Costs (2005Rp/M3 Sold)	1,715	1,713	1,711	1,714	1,713	1,711	1,715	1,712	1,710	1,708	1,706	1,704	1,702	1,700
CRITICAL FINANCIAL INDICATORS 19														
Cash														
Cash = # Month Operating Expenses														
Tariff Increase, constant prices														
R o R on Revalued Assets excl. Int														

PDAM KABUPATEN BARRU

TABLE B4 - PROFIT AND LOSS ACCOUNT

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual							
Number of Service Connections - '000	3.3	4.0	4.1	4.8	4.7	4.7	5.7	9.8	10.2	10.5	10.5
Average Consumption - m ³ /conn/month	11.3	10.8	10.1	18.0	18.9	16.9	14.7	13.0	18.1	18.0	18.2
Volume Sold - '000m ³	450	516	492	895	850	955	1,011	1,547	1,963	2,002	2,037
% Unaccounted-for Water	48%	39%	34%	32%	32%	32%	31%	29%	28%	27%	28%
Water Produced - '000m ³	830	848	748	1,318	1,397	1,405	1,473	2,188	2,741	2,754	2,784
Average Tariff - Current Rp/M ³	1,333	1,568	2,178	1,399	1,550	2,882	3,084	4,169	4,903	5,285	6,912
Tariff Revenues	800	810	1,072	1,252	1,472	2,781	3,127	8,448	9,623	10,538	14,078
Net Connection Fees	91	245	125	141	18	23	905	3,948	288	282	32
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	6	7	12	12	11	11	14	23	24	25	25
Total Operating Revenues	896	1,062	1,209	1,405	1,502	2,795	4,048	10,419	9,912	10,848	14,135
Personnel	80	104	132	189	125	124	144	240	255	287	283
Power	172	195	283	302	413	445	500	788	1,084	1,128	1,195
Chemical	38	41	59	88	88	95	98	104	109	115	123
Maintenance Material	121	209	200	180	303	375	479	1,298	1,740	1,908	2,020
Administration - General	224	299	389	447	414	407	458	710	747	708	749
Bad Debts & Write Off	77	86	127	138	146	172	323	388	755	1,110	1,218
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0
Raw Water Reimbursement	3	2	5	5	14	14	15	22	27	38	28
Total Operating Expenses	713	818	1,174	1,310	1,503	1,833	2,018	3,528	4,697	5,278	5,813
Income (Loss) before Depreciation	(17)	148	35	95	(2)	1,163	2,030	8,894	5,215	5,570	8,522
Depreciation 10.0% unrev. assets	509	524	1,743	1,828	1,804	1,805	1,885	3,180	5,018	5,739	8,039
Operating Income (Loss)	(526)	(378)	(1,708)	(1,531)	(1,806)	(842)	164	3,713	197	(169)	2,483
Operational Interest	128	151	171	195	158	156	156	153	137	121	3,080
Net Operating Income (Loss)	(654)	(529)	(1,879)	(1,726)	(1,962)	(799)	6	3,560	61	(290)	(597)
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	1	6	2	1	7	4	33	18	229	597	654
Before Tax Income	(653)	(523)	(1,877)	(1,726)	(1,955)	(795)	41	3,578	290	307	57
Taxable Income After Losses Carried Forward (5 Years)	(653)	1,178	(3,053)	(4,779)	(8,734)	(8,875)	(8,312)	(859)	1,157	307	57
Income Tax	0	0	0	0	0	0	0	0	338	83	8
Net Income (Loss)	(653)	(523)	(1,877)	(1,726)	(1,955)	(795)	41	3,578	(49)	224	49
Staff Fund: Share of Net Income 10.0% of net income	0	0	0	0	0	0	0	4	358	0	22
Kotamadya Share of Net Income 55.0% ditto	0	0	0	0	0	0	0	22	1,867	0	123
Payment to Staff Fund's 90.0% of share	0	0	0	0	0	0	0	4	322	0	20
Payment to Kotamadya 0.0% of share	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:											
Ave. Expenses per M ³ Sold (Rp)	1,585	1,775	2,388	1,484	1,583	1,710	1,895	2,280	2,393	2,838	2,756
Operating Ratio	178%	136%	241%	209%	220%	123%	98%	84%	98%	102%	82%
Before Tax Income/Sales	-109%	-85%	-175%	-138%	-133%	-28%	1%	55%	3%	3%	0%
Increases in Weighted Average Tariffs		18%	39%	-38%	11%	87%	7%	35%	18%	7%	31%
Average Asset's Rate Base (Nom. Rp M.)	3,312	3,458	8,382	12,365	10,704	8,908	7,878	18,272	32,505	34,323	31,432
Assets/Water Sales	5.52	4.27	7.80	9.88	7.27	3.23	2.45	2.83	3.38	3.26	2.23
Operating Income/Assets	-19.8%	-15.3%	-22.5%	-14.0%	-18.3%	-9.0%	0.1%	19.5%	0.2%	-0.8%	-1.9%
Before Tax Income/Assets	-19.7%	-15.1%	-22.4%	-14.0%	-18.3%	-8.9%	0.5%	19.6%	0.9%	0.9%	0.2%

PDAM KABUPATEN BARPU

TABLE B4 - PROFIT AND LOS: (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Number of Service Connections - '000	10.5	10.5	10.6	10.6	10.8	10.7	10.7	10.7	10.8	10.8	10.8	10.8	10.9	10.9
Average Consumption - m3/conn/month	15.9	15.9	16.0	16.0	16.0	16.0	16.0	16.1	16.2	16.2	16.3	16.4	16.4	16.5
Volume Sold - '000m3	2,005	2,010	2,024	2,038	2,041	2,043	2,057	2,074	2,088	2,103	2,117	2,131	2,144	2,158
% Unaccounted-for Water	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%
Water Produced - '000m3	2,704	2,712	2,731	2,751	2,755	2,759	2,778	2,801	2,822	2,842	2,862	2,881	2,900	2,919
Average Tariff - Current Rp/m3	7,629	8,110	8,586	9,613	10,768	11,423	11,998	12,718	13,500	14,355	15,289	16,309	17,425	18,646
Tariff Revenues	15,286	16,304	17,378	19,594	21,958	23,337	24,881	26,373	28,191	30,183	32,362	34,750	37,368	40,233
Net Connection Fees	34	37	39	41	44	46	49	52	55	58	62	66	70	75
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	25	25	25	25	25	25	25	25	25	25	26	26	26	26
Total Operating Revenues	15,355	16,386	17,440	19,660	22,037	23,408	24,755	26,450	28,272	30,267	32,450	34,842	37,462	40,333
Personnel	289	317	335	354	375	397	420	444	470	497	526	556	589	623
Power	1,233	1,305	1,386	1,473	1,558	1,644	1,747	1,858	1,975	2,098	2,229	2,368	2,514	2,670
Chemical	128	136	144	154	163	173	184	197	210	223	238	253	270	287
Maintenance Material	2,131	2,248	2,372	2,502	2,640	2,785	2,938	3,100	3,270	3,450	3,640	3,840	4,051	4,274
Administration - General	793	839	887	939	993	1,051	1,112	1,176	1,244	1,317	1,393	1,474	1,559	1,650
Bad Debts & Write Off	1,624	1,765	1,881	2,005	2,261	2,535	2,893	2,848	3,043	3,253	3,483	3,734	4,010	4,312
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Raw Water Retribution	27	27	27	50	53	56	59	63	67	71	75	80	85	90
Total Operating Expenses	6,235	6,636	7,033	7,477	8,041	8,640	9,153	9,885	10,276	10,909	11,584	12,305	13,078	13,908
Income (Loss) before Depreciation	9,120	9,730	10,407	12,183	13,996	14,768	15,602	16,785	17,994	19,358	20,867	22,536	24,383	26,428
Depreciation	8,513	7,188	7,889	8,093	8,558	10,517	11,575	12,739	14,020	15,429	16,980	18,688	20,564	22,630
Operating Income (Loss)	2,607	2,562	2,518	3,500	4,440	4,252	4,027	4,026	3,974	3,929	3,887	3,850	3,819	3,797
Operational Interest	3,059	2,885	2,711	2,538	2,364	2,190	2,020	1,862	1,703	1,545	1,387	1,229	1,071	912
Net Operating Income (Loss)	(452)	(324)	(194)	962	2,076	2,062	2,007	2,164	2,271	2,384	2,500	2,621	2,749	2,885
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	511	385	257	128	60	62	64	64	66	68	70	73	75	78
Before Tax Income	59	61	64	1,090	2,136	2,123	2,071	2,229	2,337	2,452	2,570	2,694	2,824	2,963
Taxable Income After Losses Carried For	59	61	64	1,090	2,136	2,123	2,071	2,229	2,337	2,452	2,570	2,694	2,824	2,963
Income Tax	9	10	10	318	632	626	613	660	692	727	762	799	838	880
Net Income (Loss)	50	52	53	772	1,504	1,495	1,459	1,569	1,644	1,725	1,808	1,894	1,985	2,083
Staff Funds Share of Net Income	5	5	5	5	77	150	150	146	157	164	173	181	189	199
Kotamadya Share of Net Income	27	28	28	29	425	827	822	802	863	904	949	994	1,042	1,092
Payment to Staff Funds	4	5	5	5	69	135	135	131	141	148	155	163	170	179
Payment to Kotamadya	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:														
Ave. Expenses per M3 Sold (Rp)	3,110	3,301	3,475	3,668	3,940	4,229	4,449	4,871	4,922	5,188	5,472	5,775	6,099	6,445
Operating Ratio	83%	84%	85%	82%	80%	82%	84%	85%	86%	87%	88%	89%	90%	91%
Before Tax Income/Sales	0%	0%	0%	6%	10%	9%	3%	8%	3%	8%	8%	8%	8%	7%
Increases in Weighted Average Tariffs	10%	6%	8%	12%	12%	6%	5%	6%	6%	6%	7%	7%	7%	7%
Average Asset's Rate Base (Nom. Rp M.	29,879	29,578	29,245	28,878	28,472	28,025	27,531	26,988	26,388	25,723	24,992	24,186	23,298	22,318
Assets/Water Sales	1.95	1.81	1.68	1.47	1.30	1.20	1.12	1.02	0.94	0.85	0.77	0.70	0.62	0.55
Operating Income/Assets	-1.5%	-1.1%	-0.7%	3.3%	7.3%	7.4%	7.3%	8.0%	8.6%	9.3%	10.0%	10.8%	11.8%	12.9%
Before Tax Income/Assets	0.2%	0.2%	0.2%	3.8%	7.5%	7.6%	7.5%	8.3%	8.9%	9.5%	10.3%	11.1%	12.1%	13.3%

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TABLE B5 - SOURCES AND APPLICATION OF FUNDS

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual							
SOURCES OF FUNDS:											
Income before Depreciation and Interest	(17)	146	35	95	(2)	1,163	2,030	6,694	5,215	5,570	8,522
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	1	8	2	1	7	4	33	16	229	597	654
Gross Internal Cash Generation	(16)	152	37	96	5	1,167	2,063	6,909	5,444	6,167	9,176
GOI Construction Grant	0	334	0	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)	0	0	0	0	0	0	871	749	0	0	0
Other RG Equity/Advance	0	0	0	0	488	0	4,404	0	0	(4,404)	0
Reinvestment by Kotamadya	0	0	0	0	0	0	0	22	1,987	0	123
Total Equity	0	334	0	0	488	0	5,075	772	1,987	(4,404)	123
Borrowing:											
Proposed Loan	0	0	0	0	0	507	18,827	8,654	151	160	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	1,198	144	(0)	(0)	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	448	989	2,090	2,537	2,772	0
Total Borrowing	1,198	144	(0)	(0)	0	955	17,818	8,745	2,687	2,932	0
TOTAL SOURCES OF FUNDS	1,182	630	37	96	471	2,122	24,954	18,428	10,098	4,895	9,299
APPLICATIONS OF FUNDS:											
Proposed WSSP Projects	0	0	0	0	0	725	24,039	9,506	215	229	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	713	11,345	(42)	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	0	0	0	0	17	18	19	21	22	221	6,226
Master Plan	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	448	989	2,090	2,537	2,772	0
Total Capital Expenditures	0	713	11,345	(42)	17	1,190	25,047	11,818	2,774	3,221	6,226
Amortization of L/T Debt	0	0	0	0	0	47	48	221	221	221	1,864
Operational Interest of L/T Debt	128	151	171	195	156	156	158	153	137	121	3,080
Total Debt Service of L/T Debt	128	151	171	195	156	204	204	374	358	343	4,944
Working Capital Needs	0	212	(108)	(154)	57	319	(51)	551	(22)	(232)	619
Other Assets/Liabtl Changes	0	(453)	(11,392)	2	285	(1)	(1)	(1)	(33)	(0)	(2)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	0	0	0	0	0	0	0	4	322	0	20
Income Tax	0	0	0	0	0	0	0	0	0	338	83
TOTAL APPLICATIONS OF FUNDS	128	624	18	2	515	1,712	25,200	12,545	3,400	3,669	11,890
CASH INCREASE (DECREASE)	1,054	7	20	94	(44)	409	(248)	3,881	6,698	1,025	(2,591)
Cash Balance, Beginning	(1,045)	9	18	36	66	22	431	185	4,066	10,764	11,789
Cash Balance, Ending	9	16	38	66	22	431	185	4,066	10,764	11,789	9,198
Minimum Cash Requirement	70	89	112	125	138	153	185	325	421	468	880
DSCR (SLAP, Cash balance less minimum cash)	0.53	0.52	0.55	0.69	0.26	2.37	1.00	10.99	29.68	34.05	2.68
DSCR (ADB and Perparms, Net revenues)	-0.12	1.00	0.21	0.49	0.03	5.73	10.10	18.46	15.20	18.00	1.86
DSCR (Cashflow)	-0.12	1.00	0.21	0.49	-0.07	5.84	10.01	18.41	15.14	17.38	0.80
DSCR (BPKP, Net Income)	-5.09	-3.45	-10.98	-8.83	-12.50	-3.90	0.20	9.55	-0.14	0.65	0.01
Contribution to Investment	na	34%	100%	na	-2945%	54%	8%	52%	245%	178%	58%
Confr. to Investment, 3 Yr Average			536%	34%	408%	58%	11%	42%	222%	167%	74%

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TABLE B5 - SOURCES AND A)	2012	2013	2014	2015	2016	2017	2018	2018	2020	2021	2022	2023	2024	2025
(CURRENT RP MILLION)														
SOURCES OF FUNDS:														
Income before Depreciation and Interest	9,120	8,730	10,407	12,183	13,996	14,788	15,602	16,785	17,994	19,358	20,867	22,536	24,383	26,428
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	511	385	257	128	60	62	64	64	68	68	70	73	75	78
Gross Internal Cash Generation	9,631	10,115	10,664	12,311	14,056	14,851	15,666	16,829	18,060	19,426	20,937	22,609	24,459	26,506
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kolamadya	27	28	28	29	425	827	822	802	863	904	949	994	1,042	* 092
Total Equity	27	28	28	29	425	827	822	802	863	904	949	994	1,042	* 092
Borrowing :														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SOURCES OF FUNDS	9,658	10,142	10,693	12,340	14,481	15,658	16,488	17,631	18,923	20,331	21,886	23,603	25,500	27,597
APPLICATIONS OF FUNDS:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	6,852	7,540	8,297	9,131	10,048	11,057	12,168	13,389	14,734	16,213	17,841	19,632	21,603	23,771
Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	6,852	7,540	8,297	9,131	10,048	11,057	12,168	13,389	14,734	16,213	17,841	19,632	21,603	23,771
Authorization of L/T Debt	1,804	1,804	1,804	1,804	1,804	1,804	1,857	1,857	1,857	1,857	1,857	1,857	1,857	1,857
Operational Interest of L/T Debt	3,059	2,885	2,711	2,538	2,384	2,190	2,020	1,862	1,703	1,545	1,387	1,229	1,071	912
Total Debt Service of L/T Debt	4,923	4,749	4,575	4,402	4,228	4,054	3,877	3,518	3,360	3,202	3,044	2,886	2,727	2,569
Working Capital Needs	189	160	181	29	(208)	(242)	(117)	(38)	5	51	91	130	166	202
Other Assets/Liabil. Changes	(0)	(0)	(0)	(0)	(7)	(14)	(13)	(13)	(14)	(15)	(16)	(16)	(17)	(18)
Kolamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	4	5	5	5	69	135	135	131	141	148	155	163	170	179
Income Tax	8	8	10	10	318	832	828	813	660	692	727	762	799	838
TOTAL APPLICATIONS OF FUNDS	11,958	12,462	13,048	13,576	14,448	15,622	16,477	17,600	18,886	20,291	21,843	23,556	25,449	27,542
CASH INCREASE (DECREASE)	(2,298)	(2,320)	(2,355)	(1,236)	32	35	11	31	36	39	43	47	51	56
Cash Balance, Beginning	9,198	8,900	4,581	2,226	990	1,022	1,058	1,069	1,100	1,137	1,176	1,219	1,266	1,317
Cash Balance, Ending	6,900	4,581	2,226	990	1,022	1,058	1,069	1,100	1,137	1,176	1,219	1,266	1,317	1,373
Minimum Cash Requirement	930	949	987	990	1,022	1,058	1,069	1,100	1,137	1,176	1,219	1,266	1,317	1,373
DSCR (SLAP, Cash balance less minimum)	2.21	1.76	1.28	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DSCR (ADB and Perampsi, Net revenue)	1.98	2.13	2.33	2.80	3.32	3.86	4.26	4.78	5.37	6.07	6.88	7.84	8.97	10.32
DSCR (Cashflow)	0.58	0.54	0.52	0.72	0.95	0.93	0.95	0.98	0.99	1.00	1.02	1.03	1.05	1.06
DSCR (BPKP, Net Income)	0.01	0.01	0.01	0.18	0.36	0.37	0.40	0.45	0.49	0.54	0.59	0.66	0.73	0.81
Contribution to Investment	68%	69%	72%	88%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Contr. to Investment, 3 Yr Average	65%	68%	77%	51%	80%	84%	64%	64%	64%	64%	64%	64%	64%	64%

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TABLE B6 - BALANCE SHEET No Asset Revaluation			2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)			Audited	Audited	Audited	Actual							
Assets in Operation	reval after	2004	5,884	6,887	18,043	18,001	18,001	18,018	19,208	44,258	55,873	58,848	61,889
Accumulated Depreciation			2,572	3,098	4,919	6,385	8,189	10,004	11,870	15,050	20,088	25,807	31,846
Net Fixed Assets			3,312	3,801	13,123	11,608	9,802	8,014	7,339	29,208	35,805	32,841	30,023
Work in Progress			100	0	0	0	17	1,190	25,047	11,818	2,774	3,221	6,226
Cash + Deposits			0	16	36	68	22	431	185	4,068	10,764	11,789	9,198
Accounts Receivable - Water	122	60 days= target	401	559	727	881	492	828	833	1,488	1,909	1,732	2,314
Reserve of Bad Debts Provision, Water			(183)	(249)	(378)	(514)	(24)	(28)	(53)	(80)	(124)	(183)	(200)
Past Connection Fees Put To Balance Sheet			0	0	0	0	0	0	0	0	0	0	0
Receivable - Credited New Connections							0	0	0	0	0	0	0
Inventories	11	30 days= target	4	2	4	17	12	18	30	87	134	188	178
Other Receivable	Plutang (Jasah) non-Air: Plutang Lain Lain, Uang I		85	216	282	285	308	327	350	375	395	417	440
Total Current Assets			317	545	853	735	808	1,579	1,344	5,885	13,078	13,824	11,930
Installation Inventory	148	70 days= target	131	89	20	6	5	5	4	4	3	3	3
Other Assets			342	152	122	125	185	185	185	185	185	185	185
TOTAL ASSETS			4,201	4,317	13,919	12,472	10,817	10,973	33,920	48,977	51,846	50,174	48,367
Accounts Payable	23	30 days= target	48	18	79	74	101	110	127	240	303	320	338
Other Payable			82	30	241	451	483	517	553	591	624	658	694
Other Current Liabilities (Cust. Deposit)			24	35	41	42	42	43	52	90	93	95	95
Tax Payable	0	4 Turn Over= Targ	0	0	0	0	0	0	0	0	338	337	281
Current Matur Long-Term Debt			0	80	170	268	47	48	221	221	221	1,884	1,884
Total Current Liabilities			154	253	530	835	674	717	853	1,143	1,579	3,275	3,253
Deferred Income			0	0	0	0	0	0	0	0	0	0	0
Mater Reserve Fund			5	81	157	230	5	5	5	5	5	5	5
Other Liabilities			0	0	0	0	0	0	0	0	33	33	35
Long Term Debt - Net			1,198	1,252	1,163	1,073	1,294	2,202	19,796	28,320	30,785	31,854	29,990
Total Liabilities			1,358	1,586	1,850	2,139	1,973	2,924	20,755	29,468	32,403	35,168	33,282
Assets Revaluation Surplus	10 average age in list revaluation							0	0	0	0	0	0
Reserves + "Net" Retained Earnings			(2,515)	(3,140)	(5,052)	(6,779)	(8,734)	(9,529)	(9,488)	(5,916)	(5,948)	(5,979)	(6,025)
Local Gov't Equity			0	140	11,418	11,419	11,885	11,885	18,980	17,731	18,698	15,294	15,417
Central Gov't Equity (incl Net Yet Handled Over)			5,359	5,692	5,693	5,683	5,683	5,683	5,683	5,683	5,683	5,683	5,683
Total Equity			2,844	2,900	12,060	10,333	8,844	8,048	13,185	17,509	19,444	15,008	15,085
TOTAL EQUITY AND LIABILITIES			4,201	4,387	13,919	12,472	10,817	10,973	33,920	48,977	51,846	50,174	48,367
Current Ratio			2.1	2.2	1.2	0.9	1.2	2.2	1.4	5.2	8.3	4.3	3.7
Working Capital, exclud. cash			153	385	257	103	159	478	427	978	956	724	1,343
Debt Equity Ratio (70/30 = 233%)			42%	48%	11%	13%	15%	28%	152%	163%	159%	225%	211%
Total Assets/Total Debt			3.5	3.3	10.4	9.3	8.1	4.9	1.7	1.6	1.7	1.5	1.5
# Days Accounts Receivable			280	275	281	289	135	117	108	90	79	67	66
% Debt/(Net Fixed Assets + WIP)			0	37%	10%	12%	14%	24%	62%	70%	80%	93%	88%
Cash = # Month Operating Expenses			0.2	0.2	0.4	0.6	0.2	3.2	1.1	13.8	27.5	28.8	19.7

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TABLE B6 - BALANCE SHEET (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets in Operation	68,095	74,946	82,488	90,784	99,815	109,863	121,020	133,187	146,577	161,311	177,524	195,365	214,987	236,600
Accumulated Depreciation	38,359	45,527	53,416	62,099	71,855	82,173	93,748	106,487	120,506	135,935	152,915	171,631	192,185	214,786
Net Fixed Assets	29,736	29,420	29,070	28,685	28,259	27,790	27,272	26,701	26,071	25,375	24,609	23,764	22,832	21,804
Work In Progress	6,852	7,540	8,297	9,131	10,048	11,057	12,168	13,389	14,734	16,213	17,841	19,632	21,603	23,771
Cash + Deposits	6,900	4,581	2,228	990	1,022	1,058	1,069	1,100	1,137	1,176	1,219	1,266	1,317	1,373
Accounts Receivable - Water	2,514	2,680	2,858	3,221	3,811	3,838	4,057	4,335	4,634	4,982	5,320	5,712	6,142	6,614
Reserve of Bad Debts Provision, Water	(267)	(290)	(308)	(330)	(372)	(417)	(443)	(468)	(500)	(535)	(573)	(614)	(659)	(709)
Past Connection Fees Put To Balance St	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Receivable - Credited New Connections	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inventories	186	198	209	221	233	246	259	274	289	305	322	340	359	379
Other Receivable	484	489	518	545	575	608	640	675	712	751	792	836	882	931
Total Current Assets	9,789	7,858	5,499	4,647	5,070	5,329	5,583	5,816	6,272	6,859	7,081	7,541	8,041	8,587
Installation Inventory	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Other Assets	185	185	185	185	185	185	185	185	185	185	185	185	185	185
TOTAL ASSETS	48,575	44,806	43,055	42,651	43,565	44,365	45,211	46,195	47,264	48,436	49,719	51,125	52,664	54,351
Accounts Payable	354	374	388	421	444	469	498	525	556	588	623	659	697	737
Other Payable	733	773	815	860	908	957	1,010	1,068	1,124	1,186	1,251	1,320	1,393	1,469
Other Current Liabilities (Cust. Deposit)	95	98	98	96	87	97	87	97	98	98	88	98	99	99
Tax Payable	205	183	133	418	946	1,337	1,816	1,872	2,096	2,299	2,486	2,664	2,837	3,007
Current Matur. Long-Term Debt	1,854	1,884	1,864	1,854	1,884	1,857	1,857	1,857	1,657	1,657	1,657	1,657	1,657	1,657
Total Current Liabilities	3,251	3,270	3,304	3,659	4,258	4,518	4,876	5,217	5,531	5,828	6,115	6,398	6,682	6,970
Deferred Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meter Reserve Fund	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Other Liabilities	35	35	36	36	43	57	70	83	98	112	128	144	161	179
Long Term Debt - Net	28,126	28,282	24,388	22,534	20,670	18,013	17,357	15,700	14,043	12,388	10,730	9,073	7,416	5,759
Total Liabilities	31,417	28,573	27,743	26,235	24,976	23,593	22,308	21,005	19,676	18,332	16,978	15,620	14,284	12,913
Assets Revaluation Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reserves + "Net" Retained Earnings	(5,979)	(5,931)	(5,882)	(4,808)	(3,058)	(1,702)	(394)	1,091	2,626	4,238	5,928	7,695	9,549	11,494
Local Gov't Equity	15,444	15,471	15,500	15,529	15,954	16,781	17,603	18,405	19,268	20,173	21,122	22,118	23,158	24,250
Central Gov't Equity (Inc'l Not Yet Hande	5,693	5,693	5,693	5,693	5,693	5,693	5,693	5,693	5,693	5,693	5,693	5,693	5,693	5,693
Total Equity	15,158	15,234	15,311	16,416	18,589	20,772	22,903	25,189	27,588	30,104	32,741	35,504	38,400	41,437
TOTAL EQUITY AND LIABILITIES	48,575	44,806	43,055	42,651	43,565	44,365	45,211	46,195	47,264	48,436	49,719	51,125	52,664	54,351
Current Ratio	3.0	2.3	1.7	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2
Working Capital, exclud. cash	1,512	1,671	1,832	1,862	1,653	1,411	1,294	1,258	1,261	1,312	1,403	1,533	1,699	1,901
Debt Equity Ratio (70/30 = 233%)	198%	185%	172%	149%	121%	100%	83%	69%	57%	47%	38%	30%	24%	18%
Total Assets/Total Debt	1.8	1.6	1.6	1.7	1.9	2.1	2.4	2.6	3.0	3.4	4.0	4.7	5.7	7.2
# Days Accounts Receivable	67	87	67	67	67	67	67	67	67	67	67	67	67	67
% Debt/(Net Fixed Assets + WIP)	82%	76%	70%	65%	59%	53%	48%	43%	38%	34%	29%	25%	20%	16%
Cash = # Month Operating Expenses	13.3	8.3	3.8	1.8	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.2	1.2	1.2

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TABLE B7 - FINANCING PLAN		1996 - 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	% CAP. EXP.	TOTAL	Audited	Audited	Audited	Actual							
Income before Depreciation	47.6%	20,871	(17)	146	35	95	(2)	1,163	2,030	6,894	5,215	5,570	8,522
Non-Operating Income (Loss) - Net	2.0%	879	1	6	2	1	7	4	33	18	229	597	654
Gross Internal Cash Generation	49.6%	21,750	(16)	152	37	96	5	1,167	2,063	6,909	5,444	6,167	9,176
Minus:													
Loan Amortization	1.7%	759	0	0	0	0	0	47	48	221	221	221	1,864
Operational Interest	1.7%	724	128	151	171	195	156	156	156	153	137	121	3,080
Total Debt Service	3.4%	1,483	128	151	171	195	156	204	204	374	358	343	4,944
Working Capital Needs	1.3%	565	0	212	(108)	(154)	57	318	(51)	551	(22)	(232)	618
Other Assets/Liabl. Changes	-0.1%	(35)	0	(453)	(11,382)	2	285	(1)	(1)	(1)	(33)	(0)	(2)
Kotamadya Share of Net Income	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	0.7%	326	0	0	0	0	0	0	0	4	322	0	20
Income Tax	0.8%	338	0	0	0	0	0	0	0	0	0	338	83
Net Internal Cash Generation	43.5%	19,074	(144)	242	11,365	53	(493)	645	1,910	5,981	4,818	5,719	3,512
Cash Increase (Decrease)	26.8%	11,787	1,054	7	20	94	(44)	409	(246)	3,681	6,698	1,025	(2,591)
Investments:													
Proposed WSSP Projects	79.2%	34,714	0	0	0	0	0	725	24,039	9,506	215	229	0
Committed/Other Projects	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0.0%	0	0	713	11,345	(42)	0	0	0	0	0	0	0
POAM Replacement/Connection Programme	0.7%	302	0	0	0	0	17	18	19	21	22	221	6,228
Interest Accumulated	20.1%	8,835	0	0	0	0	0	448	989	2,090	2,537	2,772	0
Total Capital Expenditures	100.0%	43,851	0	713	11,345	(42)	17	1,190	25,047	11,618	2,774	3,221	6,228
NET TO BE FINANCED:	83.3%	36,544	1,198	478	0	(0)	488	955	22,891	9,517	4,654	(1,473)	123
FINANCED BY:													
Proposed Loan	55.4%	24,300	0	0	0	0	0	507	16,827	6,854	151	180	0
Committed Loans	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0.0%	0	1,198	144	(0)	(0)	0	0	0	0	0	0	0
Interest Accumulated	20.1%	8,835	0	0	0	0	0	448	989	2,090	2,537	2,772	0
Total Borrowing	75.6%	33,135	1,198	144	(0)	(0)	0	955	17,816	8,745	2,687	2,932	0
GOI Construction Grant	0.0%	0	0	334	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APSN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	85.7%	41,970	0	334	0	0	0	0	0	0	0	0	0
RG Equity (Land)	3.2%	1,420					0	0	671	749	0	0	
Other RG Equity/Advance	0.0%	0					488	0	4,404	0	0	(4,404)	
Reinvestment by Kotamadya	4.5%	1,989	0	0	0	0	0	0	0	22	1,967	0	123
Total Equity	7.8%	3,409	0	0	0	0	488	0	5,075	772	1,987	(4,404)	123
TOTAL EXTERNAL FINANCE	83.3%	36,544	1,198	478	(0)	(0)	488	955	22,891	9,517	4,654	(1,473)	123

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TABLE B7 - FINANCING PLAN (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Income before Depreciation	9,120	9,730	10,407	12,183	13,998	14,769	15,602	16,755	17,994	19,358	20,867	22,536	24,383	26,428
Non-Operating Income (Loss) - Net	511	385	257	128	60	62	64	64	65	68	70	73	75	78
Gross Internal Cash Generation	9,631	10,115	10,664	12,311	14,056	14,831	15,666	16,829	18,060	19,426	20,937	22,609	24,458	26,506
Minus:														
Loan Amortization	1,884	1,864	1,864	1,864	1,864	1,864	1,657	1,657	1,657	1,657	1,657	1,657	1,657	1,657
Operational Interest	3,059	2,885	2,711	2,536	2,384	2,190	2,020	1,882	1,703	1,545	1,387	1,229	1,071	912
Total Debt Service	4,923	4,749	4,575	4,402	4,228	4,054	3,677	3,518	3,360	3,202	3,044	2,886	2,727	2,569
Working Capital Needs	188	180	181	20	(208)	(242)	(117)	(38)	5	51	91	130	165	202
Other Assets/Liabil. Changes	(0)	(0)	(0)	(0)	(7)	(14)	(13)	(13)	(14)	(15)	(16)	(16)	(17)	(18)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	4	5	5	5	69	135	135	131	141	148	155	163	170	178
Income Tax	8	9	10	10	318	632	628	613	660	692	727	762	799	838
Net Internal Cash Generation	4,527	5,193	5,914	7,865	9,656	10,285	11,357	12,618	13,907	15,348	16,935	18,685	20,612	22,735
Cash Increase (Decrease)	(2,288)	(2,320)	(2,355)	(1,238)	32	35	11	31	36	39	43	47	51	56
Investments:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	6,852	7,540	8,297	9,131	10,048	11,057	12,168	13,389	14,734	16,213	17,841	19,632	21,603	23,771
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	6,852	7,540	8,297	9,131	10,048	11,057	12,168	13,389	14,734	16,213	17,841	19,632	21,603	23,771
NET TO BE FINANCED:	27	28	28	28	425	827	822	802	863	904	949	994	1,042	1,092
FINANCED BY:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	27	28	28	28	425	827	822	802	863	904	949	994	1,042	1,092
Total Equity	27	28	28	28	425	827	822	802	863	904	949	994	1,042	1,092
TOTAL EXTERNAL FINANCE	27	28	28	28	425	827	822	802	863	904	949	994	1,042	1,092

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TABLE B8 - MONITORING INDICATORS

	Audited	Audited	Audited	Actual								
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
SUPPLY AND DEMAND												
Maximum Cash and PFC												
Population - 000	154	154	155	158	160	162	164	168	168	170	172	
% Population Served	15%	21%	21%	23%	23%	23%	27%	43%	43%	44%	44%	
Number of Connections - 000	3.3	4.0	4.1	4.6	4.7	4.7	5.7	9.9	10.2	10.5	10.5	
Increase in Connections - 000		0.7	0.1	0.8	0.0	0.0	1.0	4.2	0.3	0.3	0.0	
Consumption M3/Month/Connec.	11.3	13.8	10.1	16.0	16.9	16.9	14.7	13.0	16.1	16.0	16.2	
Forecast Volume Sold - 000 M3	450	516	492	895	950	955	1,011	1,547	1,963	2,002	2,037	
% Unaccounted-for Water	46%	39%	34%	32%	32%	32%	31%	29%	28%	27%	28%	
PDAM Production- 000 M3	830	848	748	1,316	1,397	1,405	1,473	2,186	2,741	2,754	2,764	
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	
MANAGEMENT												
# Days Accounts Receivable	280	275	281	289	135	117	108	90	79	67	66	
Number of Employees	58	58	57	58	54	50	54	85	84	84	84	
Employees Per 1000 Connections	17	15	14	12	12	11	9	9	8	8	8	
% Increase # of employees		0%	-2%	2%	-7%	-8%	9%	56%	-1%	0%	0%	
PROJECT DEVELOPMENT												
Cumulative Project Cost (Rp Million)	0	0	0	0	0	725	24,764	34,270	34,485	34,714	34,714	
Cumulative Project Cost (US \$000)	0	0	0	0	0	0	2	3	3	3	3	
Cumulative Project Loan (US \$000)	0	0	0	0	0	51	1,667	2,280	2,293	2,307	2,307	
Disbursement Profile	0%	0%	0%	0%	0%	2%	72%	98%	98%	100%	100%	
FINANCIAL												
Average Tariff (current Rp/M3)	1,333	1,568	2,178	1,399	1,550	2,892	3,094	4,169	4,903	5,265	6,912	
Average nominal tariff increase		16%	38%	-36%	11%	87%	7%	35%	18%	7%	31%	
Cash Balance to Min. Cash Requirement	0	0	0	1	0	3	1	13	26	25	10	
Contribution to Investment - Ave of 3 years		0%	538%	34%	408%	58%	11%	42%	222%	187%	74%	
R o R on Revalued Assets excl. Int	-20%	-15%	-22%	-14%	-18%	-9%	0%	19%	0%	-1%	-2%	
% Debt on Debt plus Equity	42%	48%	11%	13%	15%	28%	152%	163%	159%	225%	211%	
CONSTANT PRICE ANALYSIS: 2004 base year												
Tariff (2005 Rp/M3)	1,844	1,911	2,484	1,488	1,550	2,700	2,700	3,400	3,737	3,803	4,733	
Annual Real Tariff Increase		4%	0	-40%	4%	74%	0%	26%	0	2%	24%	
Real Tariff Increase From Base Year	-25%	-22%	0	-40%	-37%	10%	10%	38%	1	54%	92%	
Salary (2005 Rp 000)/employee/month	159	183	218	290	192	192	192	192	192	192	192	
Operating Costs (2005Rp/M3 Sold)	2,193	2,162	2,700	1,557	1,583	1,597	1,741	1,859	1,824	1,904	1,887	
CRITICAL FINANCIAL INDICATORS 1905 - 2005												
	2005 - 2015							2005 - 2015				
	MINIMUM	MAXIMUM	AVERAGE		VARIABLE OR INDICATOR			MINIMUM	MAXIMUM	AVERAGE		
Cash	22	11,789	4,650		DSCR (ADB and Perpamsi, Net revenues)			0.0	18.5	7.1		
Cash = # Month Operating Expenses	0	27	11		Contr to invest. - Ave 3 Years			11%	408%	113%		
Tariff Increase, constant prices	0%	74%	14%		Days Accounts Receivable			68	135	85		
R o R on Revalued Assets excl. Int	-18%	19%	-1%		Debt/(debt + equity)			15%	225%	151%		

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TABLE B8 - MONITORING IND

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Maximum Cash and PFC														
SUPPLY AND DEMAND														
Population - 000	174	178	178	180	182	185	187	189	191	194	196	199	201	203
% Population Served	43%	43%	42%	42%	42%	41%	41%	41%	40%	40%	39%	39%	39%	38%
Number of Connections - 000	10.5	10.5	10.6	10.8	10.6	10.7	10.7	10.7	10.8	10.8	10.8	10.8	10.9	10.9
Increase in Connections - 000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consumption M3/Month/Connec.	15.9	15.9	16.0	16.0	16.0	16.0	16.0	16.1	16.2	16.2	16.3	16.4	16.4	16.5
Forecast Volume Sold - 000 M3	2,005	2,010	2,024	2,038	2,041	2,043	2,057	2,074	2,088	2,103	2,117	2,131	2,144	2,158
% Unaccounted-for Water	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%
PDAM Production- 000 M3	2,704	2,712	2,731	2,751	2,755	2,759	2,776	2,801	2,822	2,842	2,862	2,881	2,900	2,919
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MANAGEMENT:														
# Days Accounts Receivable	67	67	67	67	67	67	67	67	67	67	67	67	67	67
Number of Employees	84	84	85	85	85	85	86	86	86	86	87	87	87	87
Employees Per 1000 Connections	8	8	8	8	8	8	8	8	8	8	8	8	8	8
% Increase # of employees	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PROJECT DEVELOPMENT														
Cumulative Project Cost (Rp Million)	34,714	34,714	34,714	34,714	34,714	34,714	34,714	34,714	34,714	34,714	34,714	34,714	34,714	34,714
Cumulative Project Cost (US \$000)	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Cumulative Project Loan (US \$000)	2,307	2,307	2,307	2,307	2,307	2,307	2,307	2,307	2,307	2,307	2,307	2,307	2,307	2,307
Disbursement Profile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
FINANCIAL														
Average tariff (current Rp/M3)	7,628	8,110	8,586	9,613	10,766	11,423	11,998	12,718	13,500	14,355	15,289	16,309	17,425	18,646
Average nominal tariff Increase	10%	6%	6%	12%	12%	6%	5%	6%	6%	6%	7%	7%	7%	7%
Cash Balance to Min. Cash Requirement	7	5	2	1	1	1	1	1	1	1	1	1	1	1
Contribution to Investment - Ave of 3 year	65%	69%	77%	51%	60%	64%	64%	64%	64%	64%	64%	64%	64%	64%
R o R on Revalued Assets excl. Int	-2%	-1%	-1%	3%	7%	7%	7%	8%	9%	9%	10%	11%	12%	13%
% Debt on Debt plus Equity	198%	185%	172%	149%	121%	100%	83%	69%	57%	47%	38%	30%	24%	18%
CONSTANT PRICE ANALYSIS:														
Tariff (2005 Rp/M3)	4,952	4,990	5,007	5,314	5,641	5,673	5,648	5,675	5,710	5,755	5,810	5,874	5,949	6,034
Annual Real Tariff Increase	5%	1%	0%	6%	6%	1%	0%	0%	1%	1%	1%	1%	1%	1%
Real Tariff Increase From Base Year	101%	102%	103%	116%	129%	130%	129%	130%	132%	134%	136%	138%	141%	145%
Salary (2005 Rp 000)/employee/month	192	192	192	192	192	192	192	192	192	192	192	192	192	192
Operating Costs (2005Rp/M3 Sold)	2,019	2,031	2,027	2,028	2,065	2,100	2,094	2,084	2,082	2,080	2,079	2,080	2,082	2,086
CRITICAL FINANCIAL INDICATORS 19														
Cash														
Cash = # Month Operating Expenses														
Tariff Increase, constant prices														
R o R on Revalued Assets excl. Int														

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TABLE B4 - PROFIT AND LOSS ACCOUNT (CURRENT RP MILLION)											
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Audited	Audited	Audited	Actual							
Number of Service Connections - '000	35.6	41.3	43.2	46.1	46.4	48.8	48.9	59.7	72.5	76.5	80.6
Average Consumption - m3/corr/month	18.0	17.5	18.7	18.0	17.6	17.6	17.2	15.7	16.4	17.8	17.9
Volume Sold - 000m3	7,693	8,700	9,723	9,953	9,798	9,876	9,868	11,246	14,282	16,330	17,333
% Unaccounted-for Water	53%	47%	44%	45%	45%	45%	45%	44%	42%	41%	40%
Water Produced - 000m3	16,498	18,308	17,330	17,942	17,693	17,805	17,425	20,017	24,717	27,708	28,942
Average Tariff - Current Rp/m3	1,367	1,412	1,726	2,196	2,335	2,213	3,390	3,815	4,024	4,246	4,819
Tariff Revenues	10,517	12,261	16,785	21,660	22,878	31,732	32,764	42,690	57,394	69,334	83,532
Net Connection Fees	3,482	4,136	2,848	3,311	282	308	327	15,715	16,779	5,467	5,837
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	798	955	2,477	3,176	2,065	2,077	2,090	2,657	3,231	3,409	3,588
Total Operating Revenues	14,797	17,372	22,111	28,348	25,226	34,115	35,181	61,270	77,404	78,210	92,957
Personnel	4,792	6,411	7,694	8,356	7,962	8,431	8,786	11,525	14,582	16,034	17,807
Power	1,227	1,612	1,525	1,784	1,811	1,955	2,019	2,447	3,187	3,769	4,154
Chemical	383	411	521	1,088	728	765	811	983	1,280	1,514	1,669
Maintenance Material	1,039	506	1,043	928	1,259	1,597	2,065	6,444	9,458	10,931	11,835
Administration - General	2,638	2,533	1,928	4,036	4,466	4,932	5,356	6,768	8,389	8,691	7,431
Bad Debts & Write Off	583	133	254	152	417	440	601	820	812	1,087	1,313
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0
Raw Water Retribution	0	73	187	162	177	178	174	200	247	368	289
Total Operating Expenses	10,342	11,899	15,152	18,507	16,821	18,318	19,822	29,005	37,914	40,395	44,298
Income (Loss) before Depreciation	3,955	5,473	8,958	11,841	8,404	15,800	15,359	32,265	39,490	37,815	48,659
Depreciation	3,536	4,142	3,976	4,517	4,825	4,830	5,044	9,416	16,350	20,278	22,198
Operating Income (Loss)	419	1,331	4,983	7,324	3,579	10,970	10,315	22,849	23,141	17,538	26,461
Operational Interest	1,594	1,434	3,715	1,975	2,733	2,059	2,380	2,107	1,824	1,549	21,624
Net Operating Income (Loss)	(1,175)	(103)	1,268	5,348	846	8,312	7,935	20,742	21,317	15,989	4,837
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	1,192	1,235	522	855	1,157	1,130	1,747	464	996	2,788	4,588
Before Tax Income	10	1,132	1,790	6,203	2,003	9,442	9,682	21,206	22,313	18,778	9,425
Taxable Income After Losses Carried Forward (5 Years)	16	1,132	1,790	6,203	2,003	9,442	9,682	21,206	22,313	18,778	9,425
Income Tax	0	0	397	2,434	592	2,824	2,696	6,353	6,685	6,625	2,819
Net Income (Loss)	16	1,132	1,393	3,769	1,411	6,618	6,986	14,853	15,628	12,153	6,606
Staff Funds Share of Net Income	10.0% of net income	0	0	0	377	141	882	679	1,485	1,583	1,315
Kotamadya Share of Net Income	55.0% ditto	0	0	0	2,073	776	3,640	3,732	8,169	8,595	7,234
Payment to Staff Funds	90.0% of share	0	0	0	339	127	596	511	1,337	1,407	1,184
Payment to Kotamadya	0.0% of share	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:											
Ave. Expenses per M3 Sold (Rp)	1,409	1,368	1,353	1,658	1,717	1,855	2,051	2,579	2,658	2,474	2,556
Operating Ratio	97%	92%	77%	74%	86%	68%	71%	63%	70%	78%	72%
Before Tax Income/Sales	0%	9%	11%	28%	9%	30%	49%	39%	27%	27%	11%
Increases in Weighted Average Tariffs		3%	22%	27%	6%	38%	5%	13%	5%	5%	14%
Average Asset's Rate Base (Nom. Rp M)	41,366	41,857	47,816	49,480	49,077	44,546	43,183	109,078	212,170	259,552	270,428
Assets/Water Sales	3.93	3.64	2.85	2.26	2.15	1.40	1.32	2.54	3.70	3.74	3.24
Operating Income/Assets	-2.8%	-0.2%	2.7%	10.8%	1.7%	18.7%	18.4%	19.0%	10.0%	6.2%	1.8%
Before Tax Income/Assets	0.0%	2.6%	3.7%	12.5%	4.1%	21.2%	22.4%	19.4%	10.5%	7.2%	3.5%

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TABLE B4 - PROFIT AND LOSS (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Number of Service Connections - '000	84.6	88.6	92.7	93.0	93.2	93.5	93.8	94.1	94.4	94.8	95.1	95.4	95.7	96.0
Average Consumption - m ³ /consum/month	17.9	18.1	18.1	18.7	18.7	18.8	18.7	18.7	18.7	18.7	18.6	18.6	18.5	18.5
Volume Sold - '000m ³	18,191	19,274	20,137	20,831	20,975	21,059	21,104	21,180	21,195	21,209	21,222	21,235	21,248	21,261
% Unaccounted-for Water	39%	36%	36%	35%	34%	34%	34%	34%	34%	33%	33%	32%	32%	31%
Water Produced - '000m ³	29,878	31,127	32,032	32,282	32,540	32,693	32,774	32,907	32,907	32,907	32,907	32,907	32,907	32,907
Average Tariff - Current Rp/M ³	4,926	4,921	4,983	5,036	5,353	5,879	6,025	6,264	6,523	6,802	7,098	7,415	7,751	8,111
Tariff Revenues	89,618	94,839	100,352	104,914	112,777	123,807	127,155	132,580	138,252	144,260	150,632	157,455	164,704	172,458
Net Connection Fees	6,162	8,502	8,864	524	562	591	633	668	712	750	802	846	903	953
Sales of water to other PDAMs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Operating Revenues	3,768	3,947	4,127	4,140	4,153	4,166	4,180	4,193	4,207	4,220	4,234	4,248	4,261	4,275
Total Operating Revenues	99,548	105,289	111,344	109,578	116,992	128,565	131,967	137,539	143,171	149,231	155,668	162,548	169,888	177,688
Personnel	19,727	21,804	24,050	25,453	26,939	28,511	30,175	31,937	33,801	35,775	37,865	40,077	42,418	44,897
Power	4,524	4,973	5,399	5,740	6,104	6,470	6,843	7,249	7,647	8,068	8,512	8,980	9,474	9,995
Chemical	1,817	1,997	2,169	2,306	2,452	2,599	2,749	2,912	3,072	3,241	3,419	3,607	3,805	4,015
Maintenance Material	12,275	12,950	13,862	14,414	15,206	16,043	16,925	17,856	18,838	19,874	20,967	22,120	23,337	24,620
Administration - General	8,232	9,099	10,036	10,622	11,242	11,898	12,592	13,328	14,106	14,930	15,802	16,725	17,702	18,730
Bad Debts & Write Off	1,581	1,897	1,795	1,900	1,986	2,126	2,344	2,407	2,512	2,617	2,731	2,852	2,981	3,118
Raw Water Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Raw Water Reimbursement	299	311	320	560	595	631	667	707	746	787	830	876	924	975
Total Operating Expenses	48,455	52,831	57,432	60,994	64,525	68,277	72,295	76,395	80,722	85,292	90,125	95,236	100,641	106,356
Income (Loss) before Depreciation	51,093	52,458	53,912	48,584	52,468	60,288	59,672	61,144	62,449	63,939	65,542	67,312	69,227	71,330
Depreciation	23,748	25,376	27,113	28,965	30,825	32,687	34,661	36,755	38,975	41,329	43,825	46,472	49,279	52,256
Operating Income (Loss)	27,345	27,082	26,799	19,618	21,643	27,601	25,011	24,389	23,474	22,610	21,717	20,840	19,947	19,074
Operational Interest	21,397	20,125	18,858	17,586	16,317	15,047	13,919	12,807	11,709	10,611	9,512	8,414	7,315	6,217
Net Operating Income (Loss)	5,947	6,957	7,944	2,032	5,326	12,554	11,091	11,582	11,765	11,999	12,205	12,426	12,632	12,857
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Other	3,982	3,493	3,048	2,832	1,973	1,492	1,500	1,510	1,523	1,538	1,554	1,571	1,590	1,609
Before Tax Income	9,930	10,450	10,991	4,864	7,298	14,045	12,591	13,092	13,289	13,537	13,759	13,997	14,222	14,467
Taxable Income After Losses Carried For	9,930	10,450	10,991	4,864	7,298	14,045	12,591	13,092	13,289	13,537	13,759	13,997	14,222	14,467
Income Tax	2,870	3,126	3,289	1,391	2,181	4,205	3,768	3,919	3,978	4,052	4,119	4,190	4,258	4,331
Net Income (Loss)	6,960	7,324	7,703	3,474	5,117	9,840	8,822	9,173	9,311	9,485	9,640	9,807	9,964	10,135
Staff Funds Share of Net Income	681	698	732	770	327	512	984	882	917	931	948	964	981	996
Kotamadya Share of Net Income	3,633	3,828	4,028	4,237	1,801	2,815	5,412	4,852	5,045	5,121	5,217	5,302	5,394	5,480
Payment to Staff Funds	595	626	659	693	1,295	461	988	794	826	838	854	868	883	897
Payment to Kotamadya	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RATIOS AND COMPARATORS:														
Ave. Expenses per M ³ Sold (Rp)	2,664	2,741	2,852	2,928	3,078	3,242	3,426	3,607	3,809	4,022	4,247	4,485	4,736	5,002
Operating Ratio	73%	74%	76%	82%	82%	78%	81%	82%	84%	85%	86%	87%	88%	89%
Before Tax Income/Sales	11%	11%	11%	4%	6%	11%	10%	10%	10%	9%	9%	9%	9%	8%
Increases in Weighted Average Tariffs	2%	0%	1%	1%	6%	10%	2%	4%	4%	4%	4%	4%	5%	5%
Average Asset's Rate Base (Nom. Rp M.)	273,387	276,051	278,854	281,802	283,014	282,398	281,745	281,053	280,319	279,542	278,717	277,844	276,918	275,936
Assets/Water Sales	3.05	2.91	2.78	2.69	2.52	2.28	2.22	2.12	2.03	1.94	1.85	1.76	1.68	1.60
Operating Income/Assets	2.2%	2.5%	2.8%	0.7%	1.9%	4.4%	3.9%	4.1%	4.2%	4.3%	4.4%	4.5%	4.6%	4.7%
Before Tax Income/Assets	3.6%	3.8%	3.9%	1.7%	2.6%	5.0%	4.5%	4.7%	4.7%	4.8%	4.9%	5.0%	5.1%	5.2%

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TABLE B5 - SOURCES AND APPLICATION OF FUNDS

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	Audited	Audited	Audited	Actual							
SOURCES OF FUNDS:											
Income before Depreciation and Interest	3,955	5,473	8,958	11,841	8,404	15,800	15,359	32,265	39,491	37,815	48,659
Royalties	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	1,192	1,236	522	855	1,157	1,130	1,747	484	996	2,788	4,588
Gross Internal Cash Generation	5,147	6,708	9,480	12,696	9,562	16,930	17,105	32,729	40,487	40,601	53,247
GOI Construction Grant	0	(401)	0	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)	0	0	0	0	0	0	2,620	2,247	922	0	0
Other RG Equity/Advance	0	0	0	0	0	0	0	0	0	0	0
Reinvestment by Kolamadya	0	0	0	0	2,073	776	3,840	3,732	8,169	8,595	7,234
Total Equity	0	(401)	0	0	2,073	776	6,260	5,879	9,091	8,595	7,234
Borrowing:											
Proposed Loan	0	0	0	0	0	2,808	93,328	55,822	15,224	2,384	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	14,865	5,129	(981)	7,958	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	3,079	5,753	12,737	18,746	18,929	0
Total Borrowing	14,865	5,129	(981)	7,958	0	5,686	99,078	68,559	31,970	21,324	0
TOTAL SOURCES OF FUNDS	20,112	11,437	8,499	20,651	11,634	23,393	122,445	107,288	81,548	70,520	60,481
APPLICATIONS OF FUNDS:											
Proposed WSSP Projects	0	0	0	0	0	3,725	133,323	79,745	21,749	3,420	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	9,517	3,077	7,640	0	0	0	0	0	0	0
PDAM Replacement/Connection Program/ir	0	0	0	0	168	179	190	201	214	3,189	26,345
Master Plan	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	3,079	5,753	12,737	18,746	18,929	0
Total Capital Expenditures	0	9,517	3,077	7,640	168	8,883	139,266	92,684	38,709	25,519	26,345
Amortization of L/T Debt	0	0	0	0	2,233	2,591	2,591	2,591	2,591	2,591	12,949
Operational Interest of L/T Debt	1,594	1,434	3,715	1,975	2,733	2,858	2,380	2,107	1,824	1,546	21,824
Total Debt Service of L/T Debt	1,594	1,434	3,715	1,975	4,966	5,249	4,971	4,698	4,415	4,137	34,573
Working Capital Needs	0	415	528	8,815	2,432	(686)	(1,781)	(3,170)	(1,823)	205	3,879
Other Assets/Liabil. Changes	0	1,304	780	(2,534)	1,781	(74)	(118)	(117)	(187)	(191)	(118)
Kolamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	0	0	0	0	339	127	598	811	1,337	1,407	1,184
Income Tax	0	0	0	397	2,434	592	2,824	2,898	6,353	6,685	5,625
TOTAL APPLICATIONS OF FUNDS	1,594	12,741	9,009	16,392	12,119	12,191	145,758	97,602	49,004	37,781	71,487
CASH INCREASE (DECREASE)	18,517	(1,304)	(510)	4,259	(484)	11,202	(23,313)	9,688	32,544	32,739	(11,006)
Cash Balance, Beginning	(15,308)	3,119	1,815	1,305	1,734	1,250	12,452	(10,880)	(1,195)	31,350	64,109
Cash Balance, Ending	3,119	1,815	1,305	1,734	1,250	12,452	(10,880)	(1,195)	31,350	64,109	53,103
Minimum Cash Requirement	1,038	1,111	1,408	1,540	1,818	1,984	2,066	2,809	3,527	3,711	6,573
OSCR (SLAP, Cash balance less minimum cash)	2.31	1.49	0.97	1.10	0.89	3.00	-1.80	0.16	7.30	15.60	2.35
OSCR (ADB and Perpams., Net revenues)	3.23	4.88	2.55	8.43	1.93	3.23	3.44	6.97	9.17	9.81	1.54
OSCR (Cashflow)	3.23	4.88	2.55	8.43	1.89	3.19	3.40	6.92	9.12	9.05	0.78
OSCR (BPKP, Net Income)	0.01	0.79	0.38	1.91	0.28	1.26	1.36	3.16	3.54	3.18	0.19
Contribution to Investment	na	37%	112%	52%	-102%	179%	10%	34%	89%	145%	58%
Confr. to Investment, 3 Yr Average			40%	100%	3239%	126%	14%	30%	82%	118%	90%

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TABLE B5 - SOURCES AND APPLICATIONS OF FUNDS (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SOURCES OF FUNDS:														
Income before Depreciation and Interest	51,093	52,458	53,912	48,584	52,468	60,288	59,872	81,144	62,449	63,939	35,542	67,312	69,227	71,370
Royalties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income (Loss) - Net	3,882	3,493	3,046	2,632	1,973	1,492	1,500	1,510	1,523	1,538	1,554	1,571	1,590	1,609
Gross Internal Cash Generation	55,075	55,951	58,960	51,216	54,440	61,779	61,172	82,654	63,972	65,477	67,096	68,883	70,816	72,939
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PPN Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	3,833	3,828	4,028	4,237	1,801	2,815	5,412	4,852	5,045	5,121	5,217	5,302	5,394	5,480
Total Equity	3,833	3,828	4,028	4,237	1,801	2,815	5,412	4,852	5,045	5,121	5,217	5,302	5,394	5,480
Borrowing:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SOURCES OF FUNDS	58,709	59,779	60,988	55,452	56,241	64,594	66,584	67,507	69,018	70,598	72,313	74,185	76,210	78,420
APPLICATIONS OF FUNDS:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	28,108	29,986	31,988	30,227	32,053	33,989	36,043	38,220	40,529	42,977	45,573	48,328	51,246	54,342
Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	28,108	29,986	31,988	30,227	32,053	33,989	36,043	38,220	40,529	42,977	45,573	48,328	51,246	54,342
Amortization of L/T Debt	12,949	12,949	12,949	12,949	12,949	12,231	11,640	11,512	11,512	11,512	11,512	11,512	11,512	11,512
Operational Interest of L/T Debt	21,397	20,125	18,856	17,586	16,317	15,047	13,919	12,807	11,709	10,611	9,512	8,414	7,315	6,217
Total Debt Service of L/T Debt	34,346	33,074	31,805	30,535	29,266	27,278	25,559	24,320	23,221	22,123	21,025	19,926	18,828	17,729
Working Capital Needs	1,801	1,274	1,036	2,771	2,010	585	(211)	246	337	477	583	699	793	899
Other Assets/Liab. Changes	(59)	(63)	(66)	(69)	(28)	(46)	(89)	(79)	(83)	(84)	(85)	(87)	(88)	(90)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	595	626	659	693	295	481	888	794	826	838	854	868	883	897
Income Tax	2,819	2,970	3,128	3,289	1,391	2,181	4,205	3,769	3,919	3,978	4,052	4,119	4,190	4,258
TOTAL APPLICATIONS OF FUNDS	67,608	67,888	68,548	67,448	64,985	64,447	66,392	67,268	68,749	70,309	72,002	73,851	75,851	78,035
CASH INCREASE (DECREASE)	(8,900)	(8,090)	(7,560)	(11,993)	(8,744)	147	192	238	289	289	311	334	359	385
Cash Balance, Beginning	53,103	44,203	36,113	28,553	16,580	7,816	7,983	8,155	8,393	8,662	8,951	9,262	9,597	9,956
Cash Balance, Ending	44,203	36,113	28,553	16,560	7,816	7,963	8,155	8,393	8,662	8,951	9,262	9,597	9,956	10,340
Minimum Cash Requirement	6,900	7,159	7,436	7,627	7,816	7,963	8,155	8,393	8,662	8,951	9,262	9,597	9,956	10,340
DSCR (SLAP, Cash balance less minimum)	2.09	1.88	1.66	1.29	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DSCR (AOB and Perpamsi, Net revenue)	1.60	1.69	1.79	1.68	1.86	2.26	2.30	2.58	2.75	2.96	3.19	3.46	3.76	4.11
DSCR (Cashflow)	0.79	0.79	0.79	0.69	0.76	1.02	0.98	1.00	1.01	1.02	1.02	1.03	1.04	1.05
DSCR (BPKP, Net Income)	0.20	0.22	0.24	0.11	0.17	0.38	0.35	0.38	0.40	0.43	0.46	0.49	0.53	0.57
Contribution to Investment	68%	73%	76%	60%	73%	100%	101%	101%	101%	101%	101%	101%	101%	101%
Contr. to Investment, 3 Yr Average	67%	73%	67%	47%	43%	56%	65%	65%	65%	65%	65%	65%	65%	65%

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TABLE B6 - BALANCE SHEET No Asset Revaluation (CURRENT RP MILLION)		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
		Audited	Audited	Audited	Actual							
Assets in Operation	reval after	2004										
Accumulated Depreciation		59,584	68,889	72,596	80,280	80,280	80,873	87,858	227,122	319,808	358,514	384,033
Net Fixed Assets		18,198	20,937	24,913	29,004	33,829	38,859	43,703	53,119	69,489	89,747	111,945
Work In Progress		41,368	47,849	47,883	51,277	48,878	42,214	44,152	174,003	250,337	288,787	272,088
Cash + Deposits		9	205	471	427	186	8,983	139,266	92,084	38,709	25,519	28,345
Accounts Receivable - Water	74 70 days= target	3,119	1,815	1,305	1,734	1,250	12,452	(10,880)	(1,195)	31,350	64,109	53,103
Reserve of Bad Debts Provision, Water		3,038	2,845	4,945	5,110	4,822	6,346	6,485	8,403	11,125	13,297	16,020
Past Connection Fees Put To Balance Sheet		(841)	(774)	(1,028)	(1,181)	(80)	(84)	(115)	(119)	(156)	(208)	(252)
Receivable - Credited New Connections		444	428	634	468	466	466	466	466	466	466	466
Inventories	44 40 days= target	177	50	101	405	(0)	(0)	(0)	(5)	(0)	(1)	(1)
Other Receivable	Prutang (Usaha) non-Air, Prutang Lain Lain, Uang I	173	203	240	111	241	284	338	849	1,202	1,384	1,458
Total Current Assets		6,311	4,866	6,196	6,648	6,820	19,590	(3,558)	8,541	44,136	78,182	70,859
Installation Inventory	59 45 days= target	1,459	2,074	1,982	1,389	1,304	1,243	1,184	1,128	1,075	1,024	1,024
Other Assets		844	849	3,364	1,118	1,544	1,544	1,544	1,544	1,544	1,544	1,544
TOTAL ASSETS		49,989	55,743	59,697	60,837	56,512	71,573	162,591	277,899	335,788	376,036	371,960
Accounts Payable	106 30 days= target	0	2,820	2,133	2,848	684	777	857	1,388	1,853	1,813	2,069
Other Payable		13,678	10,124	12,084	875	937	988	1,043	1,100	1,180	1,224	1,292
Other Current Liabilities (Cust. Deposits)		879	723	723	723	728	732	738	938	1,139	1,201	1,284
Tax Payable	2 4 Turn Ov = Targ	217	279	316	1,919	2,031	4,347	8,156	10,970	14,913	16,809	15,428
Current Matur. Long-Term Debt		2,926	8,033	9,810	3,630	2,581	2,591	2,591	2,591	2,591	12,848	12,849
Total Current Liabilities		17,490	21,780	25,066	9,995	6,981	9,438	11,364	16,984	21,656	34,097	33,000
Deferred Income		0	0	0	0	0	0	0	0	0	0	0
Meter Reserve Fund		759	1,261	1,566	1,459	5	5	5	5	5	5	5
Other Liabilities		0	0	0	289	323	338	395	458	590	730	849
Long Term Debt - Net		12,039	12,081	9,303	23,438	22,244	25,339	121,827	187,795	217,173	225,548	212,589
Total Liabilities		30,298	35,102	35,940	35,181	29,553	35,115	133,611	205,239	239,424	280,380	246,453
Assets Revaluation Surplus	10 average age initial revaluation						0	0	0	0	0	0
Reserves + "Net" Retained Earnings		(10,351)	(11,421)	(9,304)	(6,006)	(7,378)	1,347	7,809	25,308	39,831	50,818	53,234
Local Gov't Equity		0	2,419	2,419	2,419	4,481	5,268	11,528	17,507	28,598	35,184	42,429
Central Gov't Equity (Incl Not Yet Handled Over)		30,044	29,644	29,644	29,644	29,644	29,644	29,644	29,644	29,644	29,644	29,644
Total Equity		19,693	20,641	23,756	25,656	28,959	36,458	48,980	72,660	86,374	115,658	125,507
TOTAL EQUITY AND LIABILITIES		49,989	55,743	59,697	60,837	56,512	71,573	162,591	277,899	335,788	376,036	371,960
Current Ratio		0.4	0.2	0.2	0.7	0.9	2.1	-0.3	0.5	2.0	2.3	2.2
Working Capital, exclud. cash		(11,381)	(10,895)	(10,367)	(1,453)	980	294	(1,487)	(4,857)	(8,279)	(8,074)	(2,195)
Debt Equity Ratio (70/30 = 233%)		75%	97%	80%	106%	92%	77%	254%	262%	228%	208%	180%
Total Assets/Total Debt		3.3	2.8	3.1	2.2	2.2	2.5	1.5	1.5	1.5	1.6	1.6
# Days Accounts Receivable		111	118	109	86	75	74	74	73	72	71	71
% Debt/(Net Fixed Assets + WIP)		0	42%	40%	52%	53%	57%	68%	71%	76%	81%	78%
Cash = # Month Operating Expenses		3.5	1.8	1.2	1.3	0.9	8.2	-8.6	-0.5	9.9	19.0	14.4

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TABLE B6 - BALANCE SHEET (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets in Operation	410,378	438,486	488,472	500,480	530,687	562,740	596,729	632,772	670,992	711,520	754,497	800,071	848,397	899,643
Accumulated Depreciation	135,643	161,089	188,181	217,147	247,972	280,659	315,320	352,075	381,050	432,379	476,204	522,676	571,956	624,212
Net Fixed Assets	274,635	277,417	280,291	283,333	282,715	282,081	281,409	280,697	279,942	279,142	278,293	277,394	276,441	275,431
Work In Progress	28,108	29,886	31,988	30,227	32,053	33,989	36,043	38,220	40,529	42,977	45,573	48,326	51,246	54,342
Cash + Deposits	44,203	38,113	28,553	16,560	7,816	7,983	8,155	8,393	8,662	8,951	9,282	9,597	9,958	10,340
Accounts Receivable - Water	17,187	18,188	18,248	20,120	21,533	23,744	24,386	25,445	26,514	27,666	28,888	30,197	31,587	33,074
Reserve of Bad Debt Provision, Water	(303)	(325)	(344)	(364)	(381)	(408)	(450)	(482)	(482)	(502)	(524)	(547)	(572)	(598)
Past Connection Fees Pul To Balance St	466	466	466	466	466	466	466	466	466	466	466	466	466	466
Receivable - Credited New Connections	(1)	(1)	(1)	1	(1)	1	(1)	1	(1)	1	(1)	1	(1)	1
Inventories	1,544	1,638	1,735	1,832	1,935	2,043	2,158	2,276	2,401	2,533	2,672	2,818	2,974	3,138
Other Receivable	173	183	193	203	215	228	239	252	266	281	298	312	329	348
Total Current Assets	83,270	88,263	93,847	98,819	103,582	108,038	112,951	117,372	122,326	126,897	131,080	135,846	140,240	145,270
Installation Inventory	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024
Other Assets	1,544	1,544	1,544	1,544	1,544	1,544	1,544	1,544	1,544	1,544	1,544	1,544	1,544	1,544
TOTAL ASSETS	388,830	426,234	466,694	500,927	534,918	566,774	598,970	631,857	660,865	694,083	727,485	761,135	795,195	829,111
Accounts Payable	2,231	2,411	2,586	2,785	2,928	3,094	3,269	3,456	3,650	3,855	4,071	4,299	4,540	4,795
Other Payable	1,383	1,437	1,517	1,600	1,688	1,781	1,879	1,982	2,091	2,208	2,327	2,455	2,590	2,733
Other Current Liabilities (Cust. Deposit)	1,328	1,391	1,454	1,459	1,484	1,488	1,473	1,478	1,482	1,487	1,492	1,497	1,502	1,507
Tax Payable	14,540	14,031	13,812	11,749	10,993	12,449	13,108	13,748	14,289	14,769	15,186	15,587	15,948	16,292
Current Matur Long-Term Debt	12,949	12,949	12,949	12,949	12,231	11,640	11,512	11,512	11,512	11,512	11,512	11,512	11,512	11,512
Total Current Liabilities	32,410	32,219	32,328	30,522	29,301	30,432	31,239	32,176	33,025	33,830	34,599	35,351	36,093	36,840
Deferred Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meter Reserve Fund	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Other Liabilities	908	971	1,037	1,108	1,138	1,182	1,270	1,350	1,432	1,518	1,601	1,688	1,776	1,866
Long Term Debt - Net	199,650	186,701	173,752	160,803	148,573	136,933	125,420	113,908	102,396	90,883	79,371	67,858	55,346	44,833
Total Liabilities	232,974	219,896	207,122	192,437	179,014	168,552	157,935	147,439	136,858	126,234	115,576	104,933	94,220	83,544
Assets Revaluation Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reserves + "Net" Retained Earnings	59,751	66,604	73,810	74,493	80,105	91,510	99,010	107,540	116,084	124,805	133,659	142,669	151,818	161,130
Local Gov't Equity	46,062	49,890	53,818	58,154	59,955	62,769	68,182	73,034	78,079	83,200	88,417	93,719	99,113	104,593
Central Gov't Equity (Inc'l Not Yet Hande	28,844	29,844	29,844	29,844	29,844	29,844	29,844	29,844	29,844	29,844	29,844	29,844	29,844	29,844
Total Equity	135,657	146,338	157,572	162,491	169,904	184,123	197,035	210,417	224,007	237,849	251,919	266,232	280,775	295,587
TOTAL EQUITY AND LIABILITIES	388,830	426,234	466,694	500,927	534,918	566,774	598,970	631,857	660,865	694,083	727,485	761,135	795,195	829,111
Current Ratio	2.0	1.7	1.5	1.3	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.3
Working Capital, exclud. cash	(394)	880	1,915	4,886	6,896	7,281	7,070	7,315	7,652	8,129	8,712	9,411	10,203	11,102
Debt Equity Ratio (70/30 = 233%)	157%	138%	118%	107%	96%	81%	69%	60%	51%	43%	36%	30%	24%	19%
Total Assets/Total Debt	1.7	1.8	1.9	2.0	2.2	2.4	2.8	2.8	3.1	3.5	4.0	4.6	5.4	6.5
# Days Accounts Receivable	71	71	71	71	71	71	71	71	71	71	71	71	71	71
% Debt/(Net Fixed Assets + WIP)	70%	65%	60%	55%	51%	47%	43%	39%	36%	32%	28%	24%	21%	17%
Cash = # Month Operating Expenses	10.9	8.2	6.0	3.3	1.5	1.4	1.4	1.3	1.3	1.3	1.2	1.2	1.2	1.2

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TABLE B7 - FINANCING PLAN		1996 - 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(CURRENT RP MILLION)	% CAP EXP.	TOTAL	Audited	Audited	Audited	Actual							
Income before Depreciation	46.4%	140,729	3,955	5,473	8,958	11,841	8,404	15,800	15,359	32,265	38,491	37,815	48,659
Non-Operating Income (Loss) - Net	2.3%	7,123	1,192	1,235	522	856	1,157	1,130	1,747	464	998	2,786	4,588
Gross Internal Cash Generation	48.6%	147,853	5,147	6,708	9,480	12,698	9,562	16,930	17,105	32,728	40,487	40,601	53,247
Minus:													
Loan Amortization	4.3%	12,857	0	0	0	0	2,233	2,591	2,591	2,591	2,591	2,591	12,949
Operational Interest	3.5%	10,514	1,594	1,434	3,715	1,975	2,733	2,658	2,380	2,107	1,824	1,548	21,624
Total Debt Service	7.7%	23,471	1,594	1,434	3,715	1,975	4,968	5,249	4,971	4,698	4,415	4,137	34,573
Working Capital Needs	-2.3%	(7,054)	0	185	528	8,915	2,432	(686)	(1,781)	(3,170)	(1,623)	205	3,879
Other Assets/Liabil. Changes	-0.2%	(888)	0	1,304	788	(2,534)	1,781	(74)	(118)	(117)	(187)	(191)	(118)
Kotamadya Share of Net Income	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	1.3%	4,077	0	0	0	0	338	127	596	811	1,337	1,407	1,184
Income Tax	6.4%	19,350	0	0	0	387	2,434	592	2,824	2,886	8,353	8,685	5,825
Net Internal Cash Generation	35.9%	108,697	3,552	5,184	4,449	3,843	(2,391)	11,722	10,814	27,811	30,191	28,359	8,105
Cash Increase (Decrease)	20.7%	82,858	16,517	(1,304)	(510)	4,259	(484)	11,202	(23,313)	9,666	32,544	32,759	(11,006)
Investments:													
Proposed WSSP Projects	79.8%	241,983	0	0	0	0	0	3,725	133,323	79,745	21,749	3,420	0
Committed/Other Projects	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0.0%	0	0	9,517	3,977	7,640	0	0	0	0	0	0	0
PDAM Replacement/Connection Programme	1.3%	3,953	0	0	0	0	166	179	190	201	214	3,189	26,345
Interest Accumulated	18.9%	57,245	0	0	0	0	0	3,079	5,753	12,737	16,746	18,929	0
Total Capital Expenditures	100.0%	303,180	0	9,517	3,977	7,640	166	6,983	138,268	92,864	38,709	25,519	26,345
NET TO BE FINANCED:	84.9%	257,322	14,965	4,728	(981)	7,956	2,073	6,463	105,340	74,538	41,062	29,919	7,234
FINANCED BY:													
Proposed Loan	55.9%	143,374	0	0	0	0	0	2,608	93,328	55,822	15,224	2,394	0
Committed Loan	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0.0%	0	14,965	5,129	(981)	7,956	0	0	0	0	0	0	0
Interest Accumulated	18.9%	57,245	0	0	0	0	0	3,079	5,753	12,737	16,746	18,929	0
Total Borrowing	74.8%	220,619	14,965	5,129	(981)	7,956	0	5,688	99,079	68,559	31,970	21,324	0
GOI Construction Grant	0.0%	0	0	(401)	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	93.6%	283,864	0	(401)	0	0	0	0	0	0	0	0	0
RG Equity (Land)	1.9%	5,780	0	0	0	0	0	0	2,620	2,247	922	0	0
Other RG Equity/Advance	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
Reinvestment by Kotamadya	8.2%	24,913	0	0	0	0	2,073	776	3,640	3,732	8,169	8,595	7,234
Total Equity	10.1%	30,703	0	0	0	0	2,073	776	6,260	5,978	9,091	8,595	7,234
TOTAL EXTERNAL FINANCE	84.9%	257,322	14,965	4,728	(981)	7,956	2,073	6,463	105,340	74,538	41,062	29,919	7,234

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TABLE B7 - FINANCING PLAN (CURRENT RP MILLION)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Income before Depreciation	51,093	52,458	53,912	48,584	52,468	60,288	58,872	61,144	62,449	63,939	65,542	67,312	69,227	71,000
Non-Operating Income (Loss) - Net	3,982	3,493	3,048	2,632	1,973	1,492	1,500	1,510	1,523	1,538	1,554	1,571	1,590	1,609
Gross Internal Cash Generation	55,075	55,951	56,960	51,216	54,440	61,770	61,172	62,654	63,972	65,477	67,096	68,883	70,816	72,939
Minus:														
Loan Amortization	12,949	12,949	12,949	12,949	12,949	12,231	11,640	11,512	11,512	11,512	11,512	11,512	11,512	11,512
Operational Interest	21,397	20,125	18,858	17,586	16,317	15,047	13,919	12,807	11,709	10,611	9,512	8,414	7,315	6,217
Total Debt Service	34,346	33,074	31,805	30,535	29,266	27,278	25,559	24,320	23,221	22,123	21,025	19,926	18,828	17,729
Working Capital Needs	1,801	1,274	1,035	2,771	2,010	565	(211)	248	337	477	583	699	793	898
Other Assets/Liabil. Changes	(59)	(63)	(68)	(69)	(29)	(46)	(89)	(79)	(80)	(84)	(85)	(87)	(88)	(90)
Kotamadya Share of Net Income	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Profit Sharing	595	628	659	683	295	481	866	794	826	838	854	868	883	897
Income Tax	2,819	2,970	3,128	3,289	1,391	2,181	4,205	3,769	3,919	3,978	4,052	4,119	4,190	4,258
Net Internal Cash Generation	15,575	18,089	20,400	13,997	21,508	31,322	30,822	33,608	35,752	38,145	40,068	43,359	46,211	49,246
Cash Increase (Decrease)	(8,900)	(8,090)	(7,580)	(11,983)	(8,744)	147	192	238	209	289	311	304	359	385
Investments:														
Proposed WSSP Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed/Other Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Past Projects/Master Plan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDAM Replacement/Connection Program	28,108	29,986	31,988	30,227	32,053	33,989	36,043	38,220	40,529	42,977	45,573	48,326	51,246	54,342
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Expenditures	28,108	29,986	31,988	30,227	32,053	33,989	36,043	38,220	40,529	42,977	45,573	48,326	51,246	54,342
NET TO BE FINANCED:	3,633	3,828	4,028	4,237	1,801	2,815	5,412	4,852	5,045	5,121	5,217	5,302	5,394	5,480
FINANCED BY:														
Proposed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ongoing Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Accumulated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Borrowing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Construction Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feasibility Study Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOI Technical Assistance Grant (APBN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other GOI Grant (PPN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RG Equity (Land)														
Other RG Equity/Advance														
Reinvestment by Kotamadya	3,633	3,828	4,028	4,237	1,801	2,815	5,412	4,852	5,045	5,121	5,217	5,302	5,394	5,480
Total Equity	3,633	3,828	4,028	4,237	1,801	2,815	5,412	4,852	5,045	5,121	5,217	5,302	5,394	5,480
TOTAL EXTERNAL FINANCE	3,633	3,828	4,028	4,237	1,801	2,815	5,412	4,852	5,045	5,121	5,217	5,302	5,394	5,480

PDAM KABUPATEN BANDUNG

TABLE B8 - MONITORING INDICATORS

	Audited	Audited	Audited	Actual								
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
SUPPLY AND DEMAND												
Population - 000	2,135	2,35	2,147	2,180	2,181	2,203	2,225	2,248	2,270	2,283	2,316	
% Population Served	10%	12%	12%	13%	13%	13%	13%	18%	19%	19%	20%	
Number of Connections - 000	35.8	41.3	43.2	46.1	48.4	46.8	48.9	59.7	72.5	78.5	80.6	
Increase in Connections - 000		5.7	1.9	2.9	0.3	0.3	0.3	12.7	12.8	4.0	4.0	
Consumption M3/Month/Connec	18.0	17.5	18.7	18.0	17.8	17.8	17.2	15.7	18.4	17.8	17.9	
Forecast Volume Sold - 000 M3	7,893	8,700	9,723	9,953	9,798	9,876	9,868	11,248	14,262	16,330	17,333	
% Unaccounted-for Water	53%	47%	44%	45%	45%	45%	45%	44%	42%	41%	40%	
PDAM Production- 000 M3	16,498	16,308	17,330	17,942	17,863	17,805	17,425	20,017	24,717	27,708	28,942	
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	
MANAGEMENT:												
# Days Accounts Receivable	111	88	109	88	75	74	74	73	72	71	71	
Number of Employees	347	342	336	328	348	344	340	422	506	528	558	
Employees Per 1000 Connections	10	8	8	7	7	7	7	7	7	7	7	
% Increase # of employees		-1%	-2%	-2%	6%	-1%	-1%	24%	20%	4%	5%	
PROJECT DEVELOPMENT												
Cumulative Project Cost (Rp Miltpr)	0	0	0	0	0	3,725	137,049	218,794	238,542	241,983	241,983	
Cumulative Project Cost (US \$000)	0	0	0	0	0	0	14	21	23	24	24	
Cumulative Project Loan (US \$000)	0	0	0	0	0	286	9,482	14,849	18,273	18,491	18,491	
Disbursement Profile	0%	0%	0%	0%	0%	2%	58%	80%	98%	100%	100%	
FINANCIAL												
Average tariff (current Rp/M3)	1,367	1,412	1,726	2,198	2,335	3,213	3,380	3,815	4,024	4,248	4,819	
Average nominal tariff increase		3%	22%	27%	8%	38%	5%	13%	5%	5%	14%	
Cash Balance to Min. Cash Requirement	3	2	1	1	1	6	(5)	(0)	9	17	8	
Contribution to investment - Ave of 3 years		0%	40%	100%	3239%	126%	14%	30%	92%	118%	90%	
R o R on Revalued Assets excl Int	-3%	0%	3%	11%	2%	19%	18%	16%	10%	8%	2%	
% Debt on Debt plus Equity	76%	97%	80%	106%	82%	77%	254%	282%	228%	206%	180%	
CONSTANT PRICE ANALYSIS: 2004 base year												
Tariff (2005 Rp/M3)	1,881	1,720	1,953	2,337	2,335	3,000	3,000	3,200	3,200	3,200	3,443	
Annual Real Tariff Increase		-9%	0	20%	0%	28%	0%	7%	0	0%	8%	
Real Tariff Increase From Base Year	-3%	-12%	0	20%	20%	54%	54%	64%	1	64%	76%	
Salary (2005 Rp 000)/employee/month	1,582	1,912	2,159	2,259	1,908	1,908	1,908	1,908	1,908	1,908	1,908	
Operating Costs (2005Rp/M3 Sold)	1,849	1,888	1,531	1,765	1,717	1,732	1,815	2,154	2,114	1,884	1,826	
CRITICAL FINANCIAL INDICATORS 1995 - 2005												
	2005 - 2015							2005 - 2015				
	MINIMUM	MAXIMUM	AVERAGE				VARIABLE OR INDICATOR	MINIMUM	MAXIMUM	AVERAGE		
Cash	(10,880)	84,109	25,058				DSCR (ADB and Perpamsi, Net revenues)	1.5	9.8	3.9		
Cash = # Month Operating Expenses	(7)	19	7				Conlr to invest. - Ave 3 Years	14%	3238%	380%		
Tariff Increase, constant prices	-5%	28%	2%				Days Accounts Receivable	71	75	72		
R o R on Revalued Assets excl Int	1%	15%	8%				Debt/(debt + equity)	77%	282%	185%		

PDAM KABUPATEN BANDUNG

TABLE B8 - MONITORING IND

Maximum Cash and PFC	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUPPLY AND DEMAND														
Population - 000	2,339	2,362	2,386	2,410	2,434	2,458	2,483	2,508	2,533	2,558	2,583	2,609	2,635	2,662
% Population Served	21%	22%	22%	22%	22%	22%	22%	22%	22%	21%	21%	21%	21%	21%
Number of Connections - 000	84.6	88.6	92.7	93.0	93.2	93.5	93.8	94.1	94.4	94.8	95.1	95.4	95.7	96.0
Increase in Connections - 000	4.0	4.0	4.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Consumption M3/Month/Connec.	17.9	18.1	18.1	18.7	18.7	18.8	18.7	18.7	18.7	18.7	18.6	18.6	18.5	18.5
Forecast Volume Sold - 000 M3	18,191	18,274	20,137	20,831	20,975	21,059	21,104	21,189	21,195	21,209	21,222	21,235	21,248	21,261
% Unaccounted-for Water	39%	38%	36%	35%	34%	34%	34%	34%	34%	33%	33%	32%	32%	31%
PDAM Production - 000 M3	29,878	31,127	32,032	32,282	32,540	32,893	32,774	32,907	32,907	32,907	32,907	32,907	32,907	32,907
Net Water Purchased - 0000 M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MANAGEMENT														
# Days Accounts Receivable	71	71	71	71	71	71	71	71	71	71	7	71	71	71
Number of Employees	583	611	639	641	643	645	647	649	651	653	656	658	660	662
Employees Per 1000 Connections	7	7	7	7	7	7	7	7	7	7	7	7	7	7
% Increase # of employees	5%	5%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PROJECT DEVELOPMENT														
Cumulative Project Cost (Rp Million)	241,963	241,963	241,963	241,963	241,963	241,963	241,963	241,963	241,963	241,963	241,963	241,963	241,963	241,963
Cumulative Project Cost (US \$000)	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Cumulative Project Loan (US \$000)	16,491	16,491	16,491	16,491	16,491	16,491	16,491	16,491	16,491	16,491	16,491	16,491	16,491	16,491
Disbursement Profile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
FINANCIAL														
Average tariff (current Rp/M3)	4,926	4,921	4,983	5,038	5,353	5,879	6,025	6,264	6,523	6,802	7,098	7,415	7,751	8,111
Average nominal tariff increase	2%	0%	1%	1%	6%	10%	2%	4%	4%	4%	4%	4%	5%	5%
Cash Balance to Min. Cash Requirement	6	5	4	2	1	1	1	1	1	1	1	1	1	1
Contribution to investment - Ave of 3 year	67%	73%	67%	47%	43%	56%	65%	65%	65%	65%	65%	65%	65%	65%
R o R on Revalued Assets excl. Int.	2%	3%	3%	1%	2%	4%	4%	4%	4%	4%	4%	4%	5%	5%
% Debt on Debt plus Equity	157%	136%	118%	107%	85%	81%	69%	60%	51%	43%	36%	30%	24%	19%
CONSTANT PRICE ANALYSIS:														
Tariff (2005 Rp/M3)	3,336	3,158	3,032	2,904	2,926	3,046	2,959	2,916	2,878	2,845	2,814	2,786	2,761	2,739
Annual Real Tariff Increase	-3%	-5%	-4%	-4%	1%	4%	-3%	-1%	-1%	-1%	-1%	-1%	-1%	-1%
Real Tariff Increase From Base Year	71%	62%	55%	49%	50%	56%	51%	49%	47%	46%	44%	43%	41%	40%
Salary (2005 Rp 000)/employee/month	1,908	1,908	1,908	1,908	1,908	1,908	1,908	1,908	1,908	1,908	1,908	1,908	1,908	1,908
Operating Costs (2005Rp/M3 Sold)	1,804	1,759	1,735	1,689	1,682	1,680	1,682	1,679	1,680	1,682	1,684	1,685	1,687	1,689
CRITICAL FINANCIAL INDICATORS 19														
Cash														
Cash * # Month Operating Expenses														
Tariff increase, constant prices														
R o R on Revalued Assets excl. Int.														

PERHITUNGAN KEMAMPUAN MEMINJAM PEMDA												
Keterangan	Tahun Anggaran											
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta
Inflasi	13.5%	7.7%	6.3%	6.4%	7.1%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Faktor Inflasi	0.723	0.821	0.884	0.940	1.000	1.071	1.130	1.192	1.258	1.327	1.400	1.480
FORECASTS (HARGA DASAR 2005)												
Penerimaan												
Local Revenues (PADS)	139,259	150,239	168,501	176,901	194,590	211,482	229,841	249,794	271,479	295,047	320,660	350,000
Pajak Bumi dan Bangunan	46,533	53,786	55,310	63,018	68,705	75,459	82,878	91,026	99,975	109,803	120,598	132,598
Hak Atas Tanah dan Bang.	19,536	26,753	37,177	42,667	58,859	76,891	100,449	131,224	171,427	223,948	292,559	385,559
Bagi hasil pajak penghasilan	25,787	26,170	31,486	26,866	29,687	30,616	31,573	32,561	33,579	34,629	35,712	36,812
Bantuan Dana Dekonsentrasi	0	0	0	0	0	0	0	0	0	0	0	0
Bagi Hasil Pajak Lain Lain	22,066	29,182	63,420	92,826	120,674	156,876	203,939	265,121	344,657	448,054	582,471	750,000
Bagi Hasil Bukan Pajak Pub	19,756	16,033	15,887	17,853	16,010	15,516	15,038	14,575	14,126	13,690	13,268	12,846
Other/Lainya Pendapatan	5,496	45,088	5,252	0	0	0	0	0	0	0	0	0
Total	278,433	347,250	377,034	420,130	488,524	566,841	663,719	784,300	935,243	1,125,172	1,365,269	1,600,000
Dana/Funds												
DAU/General	663,333	635,695	578,695	629,730	626,864	626,864	626,864	626,864	626,864	626,864	626,864	626,864
DAK/Special	0	0	1,131	5,299	5,299	5,299	5,299	5,299	5,299	5,299	5,299	5,299
Dana/EMergency	35	0	0	0	0	0	0	0	0	0	0	0
Reboisasi/Reforestation	0	0	0	0	0	0	0	0	0	0	0	0
Total	663,368	635,695	579,827	635,029	632,162	632,162	632,162	632,162	632,162	632,162	632,162	632,162
Penerimaan Total	941,800	982,945	956,861	1,055,159	1,120,686	1,199,003	1,295,881	1,416,462	1,567,405	1,757,334	1,997,431	2,232,162
Belanja												
Belanja Pegawai Aparatur	352,467	352,542	425,100	468,118	514,093	570,348	632,760	702,001	778,820	864,044	958,594	1,058,594
Belanja Pegawai Publik	10,242	10,245	12,353	14,272	15,674	17,642	19,856	22,349	25,154	28,312	31,866	35,712
Modal	207,772	292,879	136,570	198,782	209,001	209,001	209,001	209,001	209,001	209,001	209,001	209,001
Debt Service	0	0	0	0	0	0	0	0	0	0	0	0
Other	207,299	342,924	334,734	358,815	237,010	407,012	434,263	483,111	554,430	655,977	797,971	958,594
Total	777,761	998,589	908,758	1,037,987	975,777	1,199,003	1,295,881	1,416,462	1,567,405	1,757,334	1,997,431	2,232,162
Cash Flow												
Surplus/(Defisit)	164,019	(15,643)	48,103	17,172	(144,909)	0	0	0	0	0	0	0
Pembiayaan/Transfers	(1,157)	(3,254)	150,990	127,737	144,909	0	0	0	0	0	0	0
Saldo Perhitungan Akhir T	162,862	(18,898)	199,093	144,909	0	0	0	0	0	0	0	0
di harga berlaku	117,745	(15,610)	175,960	136,192	0	0	0	0	0	0	0	0
Working Capital (Rulan)	9.4	-0.7	7.1	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAXIMUM DEBT 75% (UU 33/04 Pasal 54)												
Previous Year Revenue		680,899	806,763	845,678	991,691	1,120,686	1,284,133	1,464,222	1,668,493	1,971,188	2,331,598	2,750,000
Less DAK		0	0	(1,000)	(4,980)	(5,299)	(5,675)	(5,987)	(6,316)	(6,664)	(7,030)	(7,400)
Less Dana Darurat		(25)	0	0	0	0	0	0	0	0	0	0
Less Loans		0	0	0	0	0	0	0	0	0	0	0
Less Dana Dekonsentrasi dan Bantuan		0	0	0	0	0	0	0	0	0	0	0
Less Dana Bagi Hasil Reboisasi Hutan		0	0	0	0	0	0	0	0	0	0	0
Total		680,874	806,763	844,678	986,711	1,115,388	1,278,458	1,458,235	1,662,177	1,964,524	2,324,567	2,742,600
Bisa (75%)		510,656	605,072	633,508	740,033	836,541	958,843	1,093,876	1,261,633	1,473,393	1,743,426	2,050,000
Harga Berlaku												
Bisa (75%)		419,126	534,765	595,403	740,033	895,935	1,083,402	1,303,717	1,586,645	1,954,871	2,440,367	2,990,000
Less Actual Debt (From Balance Sheet)												
Allowed New Debt		419,126	534,765	595,403	740,033	895,935	1,083,402	1,303,717	1,586,645	1,954,871	2,440,367	2,990,000
Annual Debt Payment Calculated With Allowed/Taken Principal												
Kapan SLAP	9%	20	years		81,068	98,147	118,693	142,818	173,811	214,149	267,334	335,000
Kapan Lainnya	12%	11	years		124,633	150,889	182,462	219,566	267,215	329,230	410,995	515,000
MAXIMUM DSCR 2.5 (UU 33/04 Pasal 54b; KMK 35/03 Pasal 5d)												
Penerimaan Included in Calculation												
PAD	139,259	150,239	168,501	176,901	194,590	211,482	229,841	249,794	271,479	295,047	320,660	350,000
DAU	663,333	635,695	578,695	629,730	626,864	626,864	626,864	626,864	626,864	626,864	626,864	626,864
Pajak Bumi dan Bangunan	46,533	53,786	55,310	63,018	68,705	75,459	82,878	91,026	99,975	109,803	120,598	132,598
Hak Atas Tanah dan Bang.	19,536	26,753	37,177	42,667	58,859	76,891	100,449	131,224	171,427	223,948	292,559	385,559
Bagi hasil pajak penghasilan	25,787	26,170	31,486	26,866	29,687	30,616	31,573	32,561	33,579	34,629	35,712	36,812
DBH, Natural Resources	19,756	16,033	15,887	17,853	16,010	15,516	15,038	14,575	14,126	13,690	13,268	12,846
Less, Dana Bagi Hasil Reb.	0	0	0	0	0	0	0	0	0	0	0	0
Total Included	914,203	908,676	887,057	957,034	994,714	1,036,828	1,086,643	1,146,043	1,217,449	1,303,981	1,409,662	1,530,000
Obligatory Expenditure												
Belanja Pegawai Aparatur	358,931	359,481	440,193	485,660	514,093	570,348	632,760	702,001	778,820	864,044	958,594	1,058,594
Belanja Pegawai Publik	11,261	11,338	14,732	17,269	15,674	17,642	19,856	22,349	25,154	28,312	31,866	35,712
Debt Service												
"Available" for Debt Service	902,942	897,338	872,325	939,765	979,039	1,019,187	1,066,787	1,123,594	1,192,295	1,275,669	1,368,202	1,476,698
"Allowed"												
Harga Dasar 2005	361,177	358,935	348,930	375,906	391,616	407,675	426,715	449,477	476,918	510,268	550,821	598,594
Harga Berlaku	261,122	294,599	308,386	353,295	391,616	436,620	482,147	535,799	599,778	677,013	774,712	898,594
Pinjaman Bisa Ada (Harga Berlaku)												
Kapan SLAP					3,574,882	3,985,702	4,401,301	4,891,070	5,475,100	6,180,148	7,042,579	8,115,579
Kapan Lainnya					2,325,296	2,592,516	2,852,844	3,181,416	3,561,301	4,019,902	4,598,649	5,340,000

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta
5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
00	1.477	1.558	1.644	1.734	1.829	1.930	2.036	2.148	2.266	2.391	2.522	2.661	2.808	2.962
60	348.497	378.751	411.631	447.365	486.202	528.410	574.282	624.136	678.319	737.205	801.203	870.756	946.348	1.028.502
98	132.454	145.476	159.778	175.488	192.738	211.687	232.498	255.355	280.459	308.031	338.314	371.574	408.104	448.226
59	382.192	499.285	652.253	852.066	1.113.142	1.454.179	1.899.701	2.481.719	3.242.051	4.235.329	5.532.921	7.228.061	9.442.547	12.335.492
12	36.829	37.981	39.169	40.394	41.658	42.960	44.304	45.690	47.119	48.592	50.112	51.680	53.296	54.963
71	757.212	984.375	1.279.886	1.663.594	2.162.673	2.811.473	3.654.917	4.751.322	6.176.810	8.029.653	10.438.606	13.570.451	17.641.586	22.934.652
66	12.859	12.463	12.079	11.707	11.346	10.996	10.657	10.329	10.011	9.702	9.403	9.113	8.833	8.560
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	1.670.044	2.058.332	2.554.598	3.190.632	4.007.758	5.059.707	6.416.359	8.168.521	10.434.768	13.368.712	17.170.762	22.101.636	28.500.714	36.809.804
64	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864
99	5.299	5.299	5.299	5.299	5.299	5.299	5.299	5.299	5.299	5.299	5.299	5.299	5.299	5.299
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	632.162	632.162	632.162	632.162	632.162	632.162	632.162	632.162	632.162	632.162	632.162	632.162	632.162	632.162
31	2.302.296	2.690.494	3.186.760	3.822.795	4.639.921	5.691.869	7.048.521	8.800.783	11.066.930	14.000.875	17.802.924	22.733.798	29.132.876	37.441.956
94	1.053.490	1.179.865	1.308.975	1.452.213	1.611.125	1.787.426	1.983.019	2.200.016	2.440.758	2.707.843	3.004.156	3.332.892	3.697.602	4.102.221
66	35.866	40.368	45.436	51.139	57.559	64.784	72.917	82.070	92.372	103.968	117.019	131.708	148.242	166.850
01	209.001	209.001	209.001	209.001	209.001	209.001	209.001	209.001	209.001	209.001	209.001	209.001	209.001	209.001
71	993.849	1.261.260	1.623.349	2.110.442	2.762.236	3.630.658	4.783.585	6.309.857	8.324.800	10.980.063	14.472.749	19.060.196	25.078.031	32.963.894
31	2.302.296	2.690.494	3.186.760	3.822.795	4.639.921	5.691.869	7.048.521	8.800.783	11.066.930	14.000.875	17.802.924	22.733.798	29.132.876	37.441.956
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98	2.795.913	3.399.761	4.191.685	5.237.916	6.628.917	8.488.378	10.985.540	14.352.151	18.905.700	25.081.360	33.475.844	44.907.633	60.499.708	81.793.182
00	(7.417)	(7.825)	(8.255)	(8.709)	(9.188)	(9.693)	(10.227)	(10.789)	(11.382)	(12.009)	(12.669)	(13.366)	(14.101)	(14.876)
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	2.798.496	3.391.937	4.183.431	5.229.207	6.619.729	8.478.683	10.975.314	14.341.342	18.894.317	25.069.351	33.463.175	44.894.268	60.485.607	81.778.305
26	4.001.072	2.643.552	3.137.573	3.921.905	4.964.797	6.359.612	8.231.485	10.758.022	14.170.738	18.002.013	23.097.281	30.670.701	41.944.205	57.333.729
67	3.088.414	3.963.380	5.167.070	6.800.779	9.082.712	12.273.154	16.760.895	23.105.912	32.115.624	44.955.282	63.307.801	89.605.247	127.364.106	181.670.986
67	3.088.414	3.963.380	5.167.070	6.800.779	9.082.712	12.273.154	16.760.895	23.105.912	32.115.624	44.955.282	63.307.801	89.605.247	127.364.106	181.670.986
34	338.325	434.174	564.939	745.001	994.979	1.344.481	1.836.097	2.531.171	3.518.153	4.924.693	6.935.146	9.815.939	13.952.289	19.901.416
95	520.137	667.494	868.530	1.145.356	1.529.669	2.066.988	2.822.793	3.891.361	5.408.766	7.571.162	10.662.009	15.090.904	21.450.077	30.596.193
60	348.497	378.751	411.631	447.365	486.202	528.410	574.282	624.136	678.319	737.205	801.203	870.756	946.348	1.028.502
64	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864	626.864
98	132.454	145.476	159.778	175.488	192.738	211.687	232.498	255.355	280.459	308.031	338.314	371.574	408.104	448.226
59	382.192	499.285	652.253	852.066	1.113.142	1.454.179	1.899.701	2.481.719	3.242.051	4.235.329	5.532.921	7.228.061	9.442.547	12.335.492
12	36.829	37.981	39.169	40.394	41.658	42.960	44.304	45.690	47.119	48.592	50.112	51.680	53.296	54.963
68	12.859	12.463	12.079	11.707	11.346	10.996	10.657	10.329	10.011	9.702	9.403	9.113	8.833	8.560
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	1.535.896	1.700.820	1.901.773	2.153.902	2.471.949	2.875.096	3.368.306	4.044.302	4.884.822	5.965.724	7.398.817	9.158.048	11.485.991	14.502.606
94	1.063.490	1.179.865	1.308.975	1.452.213	1.611.125	1.787.426	1.983.019	2.200.016	2.440.758	2.707.843	3.004.156	3.332.892	3.697.602	4.102.221
66	35.866	40.368	45.436	51.139	57.559	64.784	72.917	82.070	92.372	103.968	117.019	131.708	148.242	166.850
02	440.339	480.585	547.363	650.549	803.266	1.022.886	1.332.370	1.762.807	2.351.692	3.153.912	4.237.643	5.693.448	7.640.147	10.233.535
21	176.136	192.234	218.945	260.220	321.306	409.154	532.948	704.823	940.577	1.261.585	1.695.057	2.277.379	3.056.059	4.093.414
12	260.107	299.494	359.869	451.234	587.605	789.685	1.085.185	1.514.545	2.131.888	3.016.380	4.275.759	6.060.614	8.580.162	12.124.724
79	2.374.396	2.733.944	3.285.079	4.119.110	5.365.805	7.208.572	9.906.161	13.821.534	19.461.035	27.535.158	39.031.457	55.324.591	78.324.398	110.681.096
49	1.344.415	1.778.105	2.136.793	2.679.292	3.490.209	4.888.909	6.443.502	8.989.547	12.650.508	17.910.354	25.388.168	35.985.102	50.946.419	71.992.962

PERHITUNGAN KEMAMPUAN MEMINJAM PEMDA											
Keterangan	Tahun Anggaran						Tahun Proyeksi				
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta
Inflasi	13.5%	7.7%	6.3%	6.4%	7.1%	5.9%	5.5%	5.5%	5.5%	5.5%	5.5%
Faktor Inflasi	0.723	0.821	0.884	0.940	1.000	1.071	1.130	1.192	1.258	1.327	1.400
FORECASTS (HARGA DASAR 2005)											
Penerimaan											
Local Revenues (PADs)	5,473	7,836	10,182	8,245	11,245	13,054	15,152	17,589	20,417	23,700	27,510
Pajak Bumi dan Bangunan	9,881	11,104	11,768	12,778	13,945	15,151	16,461	17,885	19,431	21,112	22,937
Hak Atas Tanah dan Bangi	1,164	1,308	1,386	1,505	1,642	1,784	1,938	2,106	2,288	2,486	2,701
Bagi hasil pajak penghasil	422	474	553	545	624	685	751	824	904	991	1,087
Bantuan Dana Dekoncentr	0	0	0	0	0	0	0	0	0	0	0
Bagi Hasil Pajak Lain Lain	217	627	1,107	2,783	3,617	4,703	5,114	7,046	10,332	13,431	17,461
Bagi Hasil Bukan Pajak Pu	69	962	1,365	1,482	2,389	2,964	3,690	4,569	5,672	7,041	8,741
Other/Lainnya Pendapatan	0	0	11,282	7,236	0	0	0	0	0	0	0
Total	17,226	22,311	37,622	34,573	33,462	36,341	44,097	50,920	59,044	68,761	80,438
Dana/Funds											
DAU/General	115,491	132,814	136,693	133,435	144,543	150,988	157,720	164,752	172,098	179,771	187,786
DAU/Special	1,257	30	5,715	13,130	13,130	13,130	13,130	13,130	13,130	13,130	13,130
Danurak/Emergency	1,962	0	0	0	0	0	0	0	0	0	0
Reboisasi/Reforestation	0	0	0	0	0	0	0	0	0	0	0
Total	119,709	132,844	142,408	146,565	157,673	164,118	170,850	177,882	185,227	192,900	200,916
Penerimaan Total	135,935	155,156	180,031	181,138	191,136	202,458	214,947	228,801	244,271	261,661	281,353
Belanja											
Belanja Pegawai Aparatur	19,264	18,647	22,323	26,883	28,939	32,563	36,641	41,229	46,392	52,201	58,737
Belanja Pegawai Publik	53,642	51,924	62,161	61,423	66,121	70,113	74,347	78,836	83,597	88,645	93,997
Modal *)	46,768	50,672	45,594	65,283	57,079	57,079	57,079	57,079	57,079	57,079	57,079
Debt Service	0	0	0	0	0	0	0	0	0	0	0
Other	10,745	15,595	29,101	25,769	39,006	42,691	46,867	51,643	57,187	63,719	71,519
Total	130,418	136,838	159,179	199,359	191,146	202,447	214,934	228,787	244,255	261,644	281,333
Cash Flow											
Surplus/(Defisit)	5,517	18,317	20,851	(18,221)	10	12	13	14	16	18	20
Pembiayaan/Transfers	0	(1,755)	17,733	18,407	186	196	208	221	235	251	269
Saldo Perhitungan Akhir T	6,517	16,552	38,585	186	196	208	221	235	251	269	289
di harga berlaku	4,711	13,586	34,101	175	196	223	249	280	316	357	404
Working Capital (Bulan)	7.3	12.7	15.9	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
MAXIMUM DEBT 75% (UU 33/04 Pasal 54)											
Previous Year Revenue		99,001	127,345	158,112	170,243	191,136	218,833	242,869	272,743	307,198	347,167
Less DAK		(909)	(25)	(5,051)	(12,340)	(13,130)	(14,062)	(14,835)	(15,651)	(16,512)	(17,420)
Less Dana Darurat		(1,418)	0	0	0	0	0	0	0	0	0
Less Loans		0	0	0	0	0	0	0	0	0	0
Less Dana Dekonsentrasi dan Bantuan		0	0	0	0	0	0	0	0	0	0
Less Dana Bagi Hasil Reboisasi Hutan		0	0	0	0	0	0	0	0	0	0
Total		96,674	127,321	154,061	157,903	178,006	202,771	228,034	257,091	290,686	329,747
Bisa (75%)		72,505	95,491	115,546	118,427	133,504	152,078	171,025	192,818	218,014	247,310
Harga Berlaku											
Bisa (75%)		59,509	84,395	108,595	118,427	142,983	171,834	203,871	242,491	289,257	346,174
Less Actual Debt (From Balance Sheet)											
Allowed New Debt		59,509	84,395	108,595	118,427	142,983	171,834	203,871	242,491	289,257	346,174
Annual Debt Payment Calculated With Allowed/Taken Principal											
Kapan SLAP	9%	20	years		12,973	15,663	18,824	22,333	26,564	31,687	37,922
Kapan Lainnya	12%	11	years		19,945	24,081	28,939	34,335	40,839	48,715	58,301
MAXIMUM DSCR 2.5 (UU 33/04 Pasal 54b; KMK 35/03 Pasal 5d)											
Penerimaan Included in Calculation											
PAD	5,473	7,836	10,182	8,245	11,245	13,054	15,152	17,589	20,417	23,700	27,510
DAU	116,491	132,814	136,693	133,435	144,543	150,988	157,720	164,752	172,098	179,771	187,786
Pajak Bumi dan Bangunan	9,881	11,104	11,768	12,778	13,945	15,151	16,461	17,885	19,431	21,112	22,937
Hak Atas Tanah dan Bangi	1,164	1,308	1,386	1,505	1,642	1,784	1,938	2,106	2,288	2,486	2,701
Bagi hasil pajak penghasil	422	474	553	545	624	685	751	824	904	991	1,087
DBH, Natural Resources	69	962	1,365	1,482	2,389	2,964	3,690	4,569	5,672	7,041	8,741
Less, Dana Bagi Hasil Reb	0	0	0	0	0	0	0	0	0	0	0
Total Included	133,499	154,498	161,947	157,990	174,388	184,626	195,703	207,724	220,809	235,100	250,762
Obligatory Expenditure											
Belanja Pegawai Aparatur	19,790	19,573	24,693	29,255	28,939	32,563	36,641	41,229	46,392	52,201	58,737
Belanja Pegawai Publik	54,046	52,634	63,977	63,032	66,121	70,113	74,347	78,836	83,597	88,645	93,997
Debt Service											
"Available" for Debt Service	79,454	101,864	97,970	94,958	108,267	114,512	121,356	128,883	137,212	146,456	156,765
"Allowed"	DSCR =	2.5									
Harga Dasar 2005	31,782	40,746	39,188	37,983	43,307	45,805	48,542	51,555	54,885	58,582	62,706
Harga Berlaku	22,977	33,442	34,634	35,699	43,307	49,057	54,848	61,456	69,024	77,726	87,773
Pinjaman Bisa Ada (Harga Berlaku)											
Kapan SLAP					395,330	447,820	530,686	561,006	630,089	705,524	801,241
Kapan Lainnya					257,144	291,287	325,673	364,908	402,644	461,513	521,171

2012 Rp. Juta	2013 Rp. Juta	2014 Rp. Juta	2015 Rp. Juta	2016 Rp. Juta	2017 Rp. Juta	2018 Rp. Juta	2019 Rp. Juta	2020 Rp. Juta	2021 Rp. Juta	2022 Rp. Juta	2023 Rp. Juta	2024 Rp. Juta	2025 Rp. Juta
5.5% 1,477	5.5% 1,558	5.5% 1,644	5.5% 1,734	5.5% 1,829	5.5% 1,930	5.5% 2,036	5.5% 2,148	5.5% 2,266	5.5% 2,391	5.5% 2,522	5.5% 2,661	5.5% 2,808	5.5% 2,962
31,933	37,068	43,028	49,946	57,977	67,299	78,120	90,681	105,262	122,187	141,833	164,638	191,110	221,838
24,921	27,076	29,418	31,962	34,726	37,729	40,991	44,536	48,388	52,572	57,118	62,058	67,425	73,255
2,935	3,189	3,464	3,764	4,089	4,443	4,827	5,245	5,698	6,191	6,726	7,308	7,940	8,627
1,193	1,308	1,435	1,574	1,727	1,894	2,077	2,278	2,499	2,741	3,007	3,298	3,618	3,968
22,699	29,309	38,362	49,870	64,831	84,281	109,565	142,434	185,154	240,714	312,926	406,806	528,846	687,502
10,851	13,470	16,722	20,759	25,771	31,993	39,717	49,305	61,208	75,985	94,330	117,103	145,374	180,470
0	0	0	0	0	0	0	0	0	0	0	0	0	0
94,532	111,620	132,429	157,876	189,121	227,638	275,298	334,480	408,219	500,390	615,942	761,211	944,314	1,175,661
196,158	204,904	214,040	223,583	233,552	243,965	254,842	266,205	278,073	290,472	303,422	316,951	331,082	345,844
13,130	13,130	13,130	13,130	13,130	13,130	13,130	13,130	13,130	13,130	13,130	13,130	13,130	13,130
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
209,288	218,034	227,170	236,713	246,682	257,095	267,972	279,334	291,203	303,601	316,552	330,081	344,212	358,974
303,820	329,654	359,599	394,589	435,803	484,733	543,270	612,814	699,423	803,991	932,494	1,091,292	1,288,526	1,534,634
66,092	74,369	83,681	94,159	105,950	119,217	134,146	150,943	169,844	191,112	215,043	241,971	272,271	306,364
99,673	105,691	112,073	118,841	126,017	133,626	141,695	150,251	159,323	168,944	179,145	189,962	201,433	213,596
57,079	57,079	57,079	57,079	57,079	57,079	57,079	57,079	57,079	57,079	57,079	57,079	57,079	57,079
80,952	92,488	106,734	124,473	146,714	174,760	210,230	255,489	313,089	386,749	481,095	602,116	757,541	957,342
303,797	329,628	359,568	394,553	435,760	484,683	543,209	613,742	699,335	803,884	932,362	1,091,128	1,288,333	1,534,381
23	27	31	36	42	50	60	72	88	107	132	163	203	253
289	312	339	369	405	448	498	558	630	718	826	958	1,121	1,323
312	339	369	405	448	498	558	630	718	826	958	1,121	1,323	1,576
461	527	607	703	819	961	1,136	1,354	1,628	1,974	2,416	2,983	3,715	4,668
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
393,825	448,683	513,589	591,054	684,236	797,268	935,554	1,106,202	1,316,586	1,585,125	1,922,329	2,352,204	2,904,170	3,617,653
(18,378)	(19,369)	(20,456)	(21,581)	(22,766)	(24,020)	(25,341)	(26,735)	(28,205)	(29,756)	(31,393)	(33,120)	(34,941)	(36,863)
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
375,447	429,274	493,133	569,474	651,469	773,248	910,213	1,079,467	1,290,380	1,556,369	1,890,936	2,319,094	2,869,229	3,580,790
261,265	321,356	363,656	421,105	496,101	579,936	682,860	809,600	967,785	1,166,527	1,418,202	1,739,313	2,151,922	2,685,592
415,828	501,594	607,903	740,622	907,579	1,119,300	1,390,028	1,739,170	2,193,325	2,789,145	3,577,395	4,628,701	6,041,715	7,954,746
415,828	501,594	607,903	740,622	907,579	1,119,300	1,390,028	1,739,170	2,193,325	2,789,145	3,577,395	4,628,701	6,041,715	7,954,746
45,653	54,948	66,594	81,133	99,422	122,615	152,273	190,520	240,271	305,541	391,891	507,058	661,849	871,414
70,932	84,476	102,380	124,732	152,850	188,507	234,102	292,303	369,390	468,735	602,488	779,544	1,017,518	1,339,702
31,933	37,068	43,028	49,946	57,977	67,299	78,120	90,681	105,262	122,187	141,833	164,638	191,110	221,838
196,158	204,904	214,040	223,583	233,552	243,965	254,842	266,205	278,073	290,472	303,422	316,951	331,082	345,844
24,921	27,076	29,418	31,962	34,726	37,729	40,991	44,536	48,388	52,572	57,118	62,058	67,425	73,255
2,935	3,189	3,464	3,764	4,089	4,443	4,827	5,245	5,698	6,191	6,726	7,308	7,940	8,627
1,193	1,308	1,435	1,574	1,727	1,894	2,077	2,278	2,499	2,741	3,007	3,298	3,618	3,968
10,851	13,470	16,722	20,759	25,771	31,993	39,717	49,305	61,208	75,985	94,330	117,103	145,374	180,470
0	0	0	0	0	0	0	0	0	0	0	0	0	0
267,591	287,015	308,107	331,589	357,842	387,323	420,575	458,750	501,129	550,148	606,437	671,356	746,548	834,002
66,092	74,369	83,681	94,159	105,950	119,217	134,146	150,943	169,844	191,112	215,043	241,971	272,271	306,364
99,673	105,691	112,073	118,841	126,017	133,626	141,695	150,251	159,323	168,944	179,145	189,962	201,433	213,596
168,318	181,324	196,034	212,748	231,825	253,697	278,880	308,400	341,805	381,204	427,292	481,394	545,116	620,406
67,327	72,530	78,414	85,099	92,730	101,479	111,552	123,300	136,722	152,482	170,917	192,557	218,046	248,163
99,425	112,998	128,884	147,566	169,642	195,858	227,142	264,656	308,859	364,581	431,135	512,438	612,185	735,059
907,604	1,031,510	1,176,527	1,347,065	1,548,589	1,787,899	2,073,474	2,415,924	2,828,554	3,328,096	3,935,637	4,677,816	5,588,354	6,710,023
590,355	670,950	765,277	876,204	1,007,286	1,162,946	1,348,699	1,571,447	1,839,844	2,164,773	2,559,951	3,042,704	3,634,967	4,364,562

PERHITUNGAN KEMAMPUAN MEMINJAM PEMDA											
Keterangan	Realisasi Anggaran					Tahun Proyeksi					
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta
Inflasi	13.5%	7.7%	6.3%	6.4%	7.1%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Faktor Inflasi	0.723	0.821	0.884	0.940	1.000	1.071	1.130	1.192	1.258	1.327	1.400
FORECASTS (HARGA DASAR 2005)											
Penerimaan											
Local Revenues (PADS)	108,879	100,573	112,876	116,595	118,716	122,586	126,583	130,710	134,971	139,372	143,915
Pajak Bumi dan Bangunan	46,540	44,642	50,178	55,825	68,349	76,733	86,144	96,710	108,572	121,889	136,839
Hak Atas Tanah dan Bang.	20,318	10,498	14,507	16,550	13,985	13,582	13,191	12,812	12,443	12,085	11,738
Bagi hasil pajak penghasil	16,447	17,008	18,970	10,087	10,633	9,458	8,258	7,209	6,294	5,495	4,798
Bantuan Dana Dekonsentr.	0	0	0	35	0	0	0	0	0	0	0
Bagi Hasil Pajak Lain Lain	36,045	33,716	75,395	124,659	130,892	137,436	144,308	151,523	159,100	167,055	175,407
Bagi Hasil Bukan Pajak Pu	8,969	11,038	11,611	12,368	13,828	14,638	15,494	16,401	17,360	18,376	19,451
Other/Lainnya Pendapatan	5,218	11,629	89,149	59,294	0	0	0	0	0	0	0
Total	242,416	229,105	352,685	405,412	356,603	374,433	393,978	415,365	438,741	464,272	492,148
Dana/Funds											
DAU/General	1,015,351	802,959	821,720	805,751	861,445	861,445	861,445	861,445	861,445	861,445	861,445
DAK/Special	0	0	1,131	0	0	0	0	0	0	0	0
Danurau/Emergency	0	0	0	0	0	0	0	0	0	0	0
Reboisasi/Reforestation	0	0	0	0	0	0	0	0	0	0	0
Total	1,015,351	802,959	822,852	805,751	861,445	861,445	861,445	861,445	861,445	861,445	861,445
Penerimaan Total											
Total	1,257,767	1,032,064	1,175,537	1,211,163	1,218,049	1,235,878	1,255,424	1,278,811	1,300,186	1,325,717	1,353,594
Belanja											
Belanja Pegawai Aparatur	150,328	118,415	134,808	152,261	144,187	146,630	149,114	151,640	154,209	156,821	159,478
Belanja Pegawai Publik	570,206	449,157	573,171	577,539	579,036	595,608	612,653	630,184	648,218	666,768	685,848
Modal *)	282,056	331,016	76,402	152,517	210,497	210,497	210,497	210,497	210,497	210,497	210,497
Debt Service	0	0	0	0	0	0	0	0	0	0	0
Other	135,746	135,258	318,463	321,461	284,469	282,772	282,754	284,045	286,776	291,101	297,191
Total	1,138,336	1,033,847	1,102,843	1,203,778	1,218,192	1,235,508	1,255,018	1,276,366	1,299,700	1,325,187	1,353,015
Cash Flow											
Surplus/(Defisit)	119,431	(1,783)	72,694	7,386	143	370	406	444	486	530	579
Pembayaan/Transfers	(10,346)	(148)	0	17,779	25,164	25,307	25,678	26,084	26,528	27,014	27,545
Saldo Perhitungan Akhir Tz	109,084	(1,931)	72,694	25,164	25,307	25,678	26,084	26,528	27,014	27,545	28,124
di harga berlaku	78,865	(1,585)	64,248	23,651	25,307	27,501	29,472	31,623	33,973	36,546	39,366
Working Capital (Bulan)	9.6	-0.2	2.7	0.9	1.1	1.1	1.1	1.1	1.1	1.1	1.1
MAXIMUM DEBT 75% (UU 33/04 Pasal 54)											
Previous Year Revenue		809,336	847,077	1,038,945	1,138,311	1,218,049	1,323,626	1,418,509	1,522,022	1,635,130	1,758,937
Less DAK		0	0	(1,000)	0	0	0	0	0	0	0
Less Dana Darurat		0	0	0	0	0	0	0	0	0	0
Less Loans		0	0	0	0	0	0	0	0	0	0
Less Dana Dekonsentrasi dan Bantuan		0	0	0	33	0	0	0	0	0	0
Less Dana Bagi Hasil Reboisasi Hutan		0	0	0	0	0	0	0	0	0	0
Total		809,336	847,077	1,037,945	1,138,344	1,218,049	1,323,626	1,418,509	1,522,022	1,635,130	1,758,937
Bisa (75%)		606,002	635,308	778,459	853,758	913,536	992,719	1,063,882	1,141,516	1,226,348	1,319,202
Harga Berlaku											
Bisa (75%)		558,759	561,488	731,634	853,758	978,397	1,121,679	1,268,200	1,435,585	1,627,095	1,846,559
Less Actual Debt (From Balance Sheet)											
Allowed New Debt		559,759	561,488	731,634	853,758	978,397	1,121,679	1,268,200	1,435,585	1,627,095	1,846,559
Annual Debt Payment Calculated With Allowed/Taken Principal											
Kapan SLAP	9%	20	years	1	93,526	107,180	122,876	138,927	157,263	178,243	202,284
Kapan Lainnya	12%	11	years	3	140,786	164,777	188,908	213,584	241,775	274,028	310,989
MAXIMUM DSCR 2.5 (UU 33/04 Pasal 54b, KMK 35/03 Pasal 5d)											
Penerimaan Included in Calculation											
PAO	108,879	100,573	112,876	116,595	118,716	122,586	126,583	130,710	134,971	139,372	143,915
DAU	1,015,351	802,959	821,720	805,751	861,445	861,445	861,445	861,445	861,445	861,445	861,445
Pajak Bumi dan Bangunan	46,540	44,642	50,178	55,825	68,349	76,733	86,144	96,710	108,572	121,889	136,839
Hak Atas Tanah dan Bang.	20,318	10,498	14,507	16,550	13,985	13,582	13,191	12,812	12,443	12,085	11,738
Bagi hasil pajak penghasil	16,447	17,008	18,970	10,087	10,633	9,458	8,258	7,209	6,294	5,495	4,798
DBH, Natural Resources	8,969	11,038	11,611	12,368	13,828	14,638	15,494	16,401	17,360	18,376	19,451
Less, Dana Bagi Hasil Reb	0	0	0	0	0	0	0	0	0	0	0
Total Included	1,216,503	986,719	1,029,862	1,027,176	1,087,157	1,098,442	1,111,116	1,125,287	1,141,087	1,158,663	1,178,187
Obligatory Expenditure											
Belanja Pegawai Aparatur	154,012	123,352	145,907	162,389	144,187	146,630	149,114	151,640	154,209	156,821	159,478
Belanja Pegawai Publik	572,063	451,644	580,416	582,642	578,038	595,608	612,653	630,184	648,218	666,768	685,848
Debt Service											
"Available" for Debt Service	644,441	535,074	449,446	444,534	508,118	502,834	498,463	495,103	492,869	491,895	492,339
"Allowed" DSCR =		2.5									
Harga Dasar 2005	257,776	214,030	179,778	177,814	203,247	201,134	199,325	198,041	197,147	196,758	196,935
Harga Berlaku	186,366	175,667	158,889	167,118	203,247	215,414	225,286	236,075	247,935	261,055	275,561
Pinjaman Bisa Ada (Harga Berlaku)											
Kapan SLAP					1,855,353	1,966,417	2,056,537	2,155,021	2,263,287	2,383,051	2,516,386
Kapan Lainnya					1,206,822	1,279,064	1,337,683	1,401,742	1,472,164	1,550,065	1,636,793

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta
5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
00	1.477	1.558	1.644	1.734	1.829	1.930	2.036	2.148	2.266	2.391	2.522	2.661	2.808	2.962
15	148,607	153,452	158,455	163,621	168,955	174,463	180,151	186,025	192,089	198,352	204,818	211,496	218,391	225,511
39	153,623	172,466	193,619	217,368	244,029	273,960	307,563	345,287	387,638	435,183	488,560	548,484	615,759	691,284
38	11,400	11,072	10,753	10,444	10,143	9,852	9,568	9,293	9,025	8,766	8,514	8,269	8,031	7,800
96	4,189	3,657	3,193	2,788	2,434	2,125	1,855	1,620	1,414	1,235	1,078	941	822	717
07	154,178	193,386	203,056	213,209	223,869	235,082	246,816	259,159	272,114	285,720	300,006	315,005	330,756	347,294
51	20,589	21,794	23,059	24,419	25,848	27,360	28,961	30,656	32,450	34,348	36,358	38,486	40,737	43,121
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	522,586	555,827	592,146	631,648	675,278	722,823	774,914	832,036	894,730	963,604	1,039,334	1,122,682	1,214,496	1,315,728
45	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445
94	384,031	1,417,273	1,453,591	1,493,293	1,536,724	1,584,268	1,636,360	1,693,431	1,756,176	1,825,049	1,900,780	1,984,127	2,075,941	2,177,173
78	162,179	164,927	167,721	170,562	173,452	176,390	179,378	182,417	185,507	188,650	191,846	195,096	198,401	201,762
48	705,474	725,662	746,428	767,788	789,760	812,360	835,606	859,518	884,114	909,415	935,439	962,207	989,742	1,018,055
57	210,497	210,497	210,497	210,497	210,497	210,497	210,497	210,497	210,497	210,497	210,497	210,497	210,497	210,497
191	305,248	315,495	328,190	343,621	362,113	384,034	409,795	439,652	474,754	515,056	561,425	614,595	675,393	744,746
115	383,399	1,416,582	1,452,837	1,492,468	1,535,821	1,583,281	1,635,277	1,692,295	1,754,873	1,823,618	1,899,206	1,982,396	2,074,034	2,175,070
79	632	691	755	825	902	988	1,082	1,187	1,303	1,431	1,573	1,732	1,908	2,103
45	28,124	28,756	29,447	30,201	31,026	31,929	32,916	33,999	35,186	36,488	37,919	39,493	41,224	43,132
24	28,756	29,447	30,201	31,026	31,929	32,916	33,999	35,186	36,488	37,919	39,493	41,224	43,132	45,235
66	42,465	45,877	49,640	53,801	58,411	63,530	69,228	75,595	82,654	90,684	99,620	109,707	121,097	133,987
11	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.7
137	1,894,699	2,043,856	2,208,056	2,389,194	2,589,445	2,811,317	3,057,703	3,331,544	3,637,909	3,980,081	4,363,660	4,794,691	5,280,205	5,828,393
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1,894,699	2,043,856	2,208,056	2,389,194	2,589,445	2,811,317	3,057,703	3,331,544	3,637,909	3,980,081	4,363,660	4,794,691	5,280,205	5,828,393
12	1,211,724	1,532,892	1,656,042	1,791,896	1,942,084	2,108,488	2,293,277	2,496,958	2,728,437	2,985,061	3,272,745	3,596,018	3,960,154	4,371,295
59	1,098,484	2,388,186	2,721,953	3,107,236	3,552,893	4,069,468	4,669,555	5,368,222	6,183,538	7,137,227	8,255,454	9,569,807	11,118,490	12,947,809
59	1,098,484	2,388,186	2,721,953	3,107,236	3,552,893	4,069,468	4,669,555	5,368,222	6,183,538	7,137,227	8,255,454	9,569,807	11,118,490	12,947,809
84	229,882	261,517	298,160	340,387	389,207	445,795	511,533	588,070	677,385	781,858	904,356	1,048,339	1,217,991	1,418,387
89	353,417	402,207	458,419	523,306	598,362	685,361	786,425	904,091	1,041,603	1,202,019	1,390,346	1,611,703	1,872,525	2,180,611
15	148,607	153,452	158,455	163,621	168,955	174,463	180,151	186,025	192,089	198,352	204,818	211,496	218,391	225,511
45	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445	861,445
39	153,623	172,466	193,619	217,368	244,029	273,960	307,563	345,287	387,638	435,183	488,560	548,484	615,759	691,284
38	11,400	11,072	10,753	10,444	10,143	9,852	9,568	9,293	9,025	8,766	8,514	8,269	8,031	7,800
96	4,189	3,657	3,193	2,788	2,434	2,125	1,855	1,620	1,414	1,235	1,078	941	822	717
51	20,589	21,794	23,059	24,419	25,848	27,360	28,961	30,656	32,450	34,348	36,358	38,486	40,737	43,121
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87	199,854	1,223,886	1,250,535	1,280,085	1,312,855	1,349,205	1,389,544	1,434,225	1,484,052	1,539,329	1,600,774	1,669,121	1,745,185	1,829,879
78	162,179	164,927	167,721	170,562	173,452	176,390	179,378	182,417	185,507	188,650	191,846	195,096	198,401	201,762
48	705,474	725,662	746,428	767,788	789,760	812,360	835,606	859,518	884,114	909,415	935,439	962,207	989,742	1,018,055
39	494,379	498,224	504,107	512,297	523,095	536,844	553,939	574,807	599,547	629,915	665,335	706,914	755,443	811,814
35	197,752	199,290	201,643	204,919	209,238	214,735	221,575	229,623	239,979	251,986	266,134	282,765	302,177	324,726
61	292,026	310,485	331,430	355,339	382,785	414,454	451,170	493,916	543,872	602,446	671,320	752,502	848,389	961,839
85	565,792	2,834,281	3,025,475	3,243,729	3,494,270	3,783,364	4,118,523	4,508,738	4,964,762	5,499,454	6,129,172	6,869,249	7,744,562	8,780,196
93	733,975	1,843,569	1,967,932	2,109,897	2,272,862	2,460,905	2,678,910	2,932,726	3,229,350	3,577,142	3,986,094	4,468,130	5,037,481	5,711,114

PERHITUNGAN KEMAMPUAN MEMINJAM PEMDA												
Keterangan	Tahun Anggaran						Tahun Proyeksi					
	2001 Rp. Juta	2002 Rp. Juta	2003 Rp. Juta	2004 Rp. Juta	2005 Rp. Juta	2006 Rp. Juta	2007 Rp. Juta	2008 Rp. Juta	2009 Rp. Juta	2010 Rp. Juta	2011 Rp. Juta	2012 Rp. Juta
Inflasi	13.5%	7.7%	6.3%	8.4%	7.1%	6.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Faktor Inflasi	0.723	0.821	0.884	0.940	1.000	1.071	1.130	1.192	1.258	1.327	1.400	1.478
FORECASTS (HARGA DASAR 2005)												
Penerimaan												
Local Revenues(PADS)	3,937	6,058	6,148	7,235	9,042	10,868	13,064	15,704	18,877	22,691	27,276	32,766
Pajak Bumi dan Bangunan	10,255	9,114	11,536	14,745	15,639	17,854	20,384	23,272	26,570	30,334	34,632	39,532
Hak Atas Tanah dan Bang.	1,136	1,194	1,238	1,583	1,653	1,833	2,032	2,253	2,498	2,770	3,071	3,401
Bagi hasil pajak penghasilan	683	823	1,407	1,798	2,580	3,639	5,133	7,239	10,210	14,400	20,310	28,110
Bantuan Dana Dekonsentr.	0	0	0	0	0	0	0	0	0	0	0	0
Bagi Hasil Pajak Lain Lain	7,083	6,588	9,419	9,161	13,585	16,021	18,893	22,280	26,273	30,983	36,538	43,116
Bagi Hasil Bukan Pajak Pu.	959	1,007	1,759	906	906	906	906	906	906	906	906	906
Other/Lainnya Pendapatan	16,025	5,223	10,553	13,332	0	0	0	0	0	0	0	0
Total	40,078	30,006	42,061	48,761	43,405	51,121	60,412	71,654	85,334	102,085	122,733	147,800
Dana/Funds												
DAU/General	145,855	150,272	146,062	143,445	143,445	143,445	143,445	143,445	143,445	143,445	143,445	143,445
DAK/Special	981	303	7,673	12,991	12,991	12,991	12,991	12,991	12,991	12,991	12,991	12,991
Darurat/Emergency	0	0	7,920	0	0	0	0	0	0	0	0	0
Reboisasi/Reforestation	0	0	0	0	0	0	0	0	0	0	0	0
Total	146,836	150,575	161,655	156,437	156,437	156,437	156,437	156,437	156,437	156,437	156,437	156,437
Penerimaan Total	186,914	180,581	203,716	205,198	199,841	207,558	216,849	228,091	241,771	258,522	279,170	303,233
Belanja												
Belanja Pegawai Aparatur	20,564	19,232	21,094	24,002	24,310	25,700	27,170	28,724	30,367	32,103	33,939	35,875
Belanja Pegawai Publik	58,446	54,660	59,952	68,217	69,090	73,042	77,219	81,636	86,305	91,241	96,459	101,969
Modal (*)	54,110	65,949	103,333	71,156	73,637	73,637	73,637	73,637	73,637	73,637	73,637	73,637
Debt Service	0	0	0	0	0	0	0	0	0	0	0	0
Other	21,791	31,368	34,603	54,115	8,582	35,179	38,822	44,094	51,463	61,540	75,134	92,401
Total	154,912	171,209	218,982	217,491	175,619	207,558	216,849	228,091	241,771	258,522	279,170	303,233
Cash Flow												
Surplus/(Defisit)	32,002	9,372	(15,266)	(12,293)	(24,223)	0	0	0	0	0	0	0
Pembayaan/Transfers	0	0	0	36,516	24,223	0	0	0	0	0	0	0
Saldo Perhitungan Akhir T.	32,002	9,372	(15,266)	24,223	0	0	0	0	0	0	0	0
di harga berlaku	23,137	7,692	(13,492)	22,766	0	0	0	0	0	0	0	0
Working Capital (Bulan)	17.6	3.6	-5.3	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAXIMUM DEBT 75% (UU 33/04 Pasal 54)												
Previous Year Revenue		135,134	148,214	180,045	192,855	199,841	222,295	245,018	271,896	304,054	343,002	390,000
Less DAK		(709)	(249)	(6,781)	(12,210)	(12,991)	(13,914)	(14,679)	(15,486)	(16,338)	(17,237)	(18,181)
Less Dana Darurat		0	0	(7,000)	0	0	0	0	0	0	0	0
Less Loans		0	0	0	0	0	0	0	0	0	0	0
Less Dana Dekonsentrasi dan Bantuan		0	0	0	0	0	0	0	0	0	0	0
Less Dana Bagi Hasil Reboisasi Hutan		0	0	0	0	0	0	0	0	0	0	0
Total		134,425	147,965	166,264	180,645	186,850	208,381	230,339	256,410	287,716	325,765	371,819
Bisa (75%)		100,819	110,974	124,698	135,484	140,137	156,286	172,754	192,307	215,787	244,324	280,118
Harga Berlaku												
Bisa (75%)		82,748	98,079	117,197	135,484	150,087	176,588	205,932	241,847	286,302	341,993	409,933
Less Actual Debt (From Balance Sheet)												
Allowed New Debt		82,748	98,079	117,197	135,484	150,087	176,588	205,932	241,847	286,302	341,993	409,933
Annual Debt Payment Calculated With Allowed/Taken Principal												
Kapan SLAP	9%	20	years		14,842	16,442	19,345	22,559	26,494	31,363	37,464	45,116
Kapan Lainnya	12%	11	years		22,818	25,277	29,740	34,682	40,731	48,218	57,597	69,000
MAXIMUM DSCR 2.5 (UU 33/04 Pasal 54b; KMK 35/03 Pasal 5d)												
Penerimaan Included in Calculation												
PAU	3,937	6,058	6,148	7,235	9,042	10,868	13,064	15,704	18,877	22,691	27,276	32,766
DAU	145,855	150,272	146,062	143,445	143,445	143,445	143,445	143,445	143,445	143,445	143,445	143,445
Pajak Bumi dan Bangunan	10,255	9,114	11,536	14,745	15,639	17,854	20,384	23,272	26,570	30,334	34,632	39,532
Hak Atas Tanah dan Bang.	1,136	1,194	1,238	1,583	1,653	1,833	2,032	2,253	2,498	2,770	3,071	3,401
Bagi hasil pajak penghasilan	683	823	1,407	1,798	2,580	3,639	5,133	7,239	10,210	14,400	20,310	28,110
OBH, Natural Resources	959	1,007	1,759	906	906	906	906	906	906	906	906	906
Less Dana Bagi Hasil Reb	0	0	0	0	0	0	0	0	0	0	0	0
Total Included	162,825	168,467	168,150	169,713	173,255	178,546	184,964	192,820	202,506	214,547	229,641	247,800
Obligatory Expenditure												
Belanja Pegawai Aparatur	21,089	20,358	22,201	26,927	24,310	25,700	27,170	28,724	30,367	32,103	33,939	35,875
Belanja Pegawai Publik	58,785	55,387	60,705	70,105	69,090	73,042	77,219	81,636	86,305	91,241	96,459	101,969
Debt Service												
"Available" for Debt Service	104,040	113,081	107,445	99,607	104,174	105,504	107,745	111,184	116,201	123,306	133,181	144,000
"Allowed"	DSCR = 2.5											
Harga Dasar 2005	41,616	45,232	42,978	39,843	41,670	42,202	43,038	44,474	46,480	49,322	53,273	58,116
Harga Berlaku	30,087	37,125	37,984	37,446	41,670	45,198	48,697	53,015	58,454	65,440	74,569	86,116
Pinjaman Bisa Ada (Harga Berlaku)												
Kapan SLAP					380,383	412,591	444,529	483,947	533,604	597,372	680,702	786,000
Kapan Lainnya					247,422	268,371	289,146	314,785	347,085	388,583	442,765	514,000

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta
5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
400	1.477	1.558	1.644	1.734	1.829	1.930	2.036	2.148	2.266	2.391	2.522	2.661	2.808	2.962
276	32.788	39.412	47.376	56.948	68.455	82.287	98.913	118.899	142.923	171.801	206.514	248.241	298.399	358.692
632	39.539	45.142	51.538	58.840	67.177	76.695	87.562	99.968	114.133	130.304	148.766	169.845	193.910	221.384
071	3.405	3.775	4.186	4.641	5.146	5.705	6.326	7.014	7.777	8.623	9.561	10.601	11.753	13.032
310	28.645	40.401	58.982	80.368	113.351	159.871	225.483	318.022	448.540	632.623	892.254	1.258.438	1.774.906	2.503.336
538	43.087	50.812	59.920	70.662	83.329	98.267	115.882	136.658	161.154	190.043	224.111	264.286	311.663	367.532
906	906	906	906	906	906	906	906	906	906	906	906	906	906	906
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
733	118.371	180.448	220.908	272.365	338.364	423.731	535.073	681.466	875.432	1.134.299	1.482.111	1.952.316	2.591.538	3.464.882
445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445
991	12.991	12.991	12.991	12.991	12.991	12.991	12.991	12.991	12.991	12.991	12.991	12.991	12.991	12.991
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
437	156.437	156.437	156.437	156.437	156.437	156.437	156.437	156.437	156.437	156.437	156.437	156.437	156.437	156.437
170	334.807	336.885	377.345	428.802	494.801	580.168	691.509	837.902	1.031.869	1.290.736	1.638.548	2.108.753	2.747.974	3.621.319
839	35.881	37.933	40.102	42.396	44.820	47.384	50.094	52.959	55.988	59.190	62.575	66.154	69.938	73.938
459	101.976	107.809	113.975	120.493	127.385	134.670	142.373	150.515	159.124	168.225	177.846	188.018	198.771	210.140
637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637	73.637
134	33.314	117.507	149.631	192.276	248.959	324.477	425.406	560.791	743.720	989.684	1.324.489	1.780.944	2.405.628	3.263.604
170	334.807	336.885	377.345	428.802	494.801	580.168	691.509	837.902	1.031.869	1.290.736	1.638.548	2.108.753	2.747.974	3.621.319
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
002	390.769	450.122	524.854	620.222	743.564	905.200	1.119.748	1.408.047	1.799.969	2.338.559	3.086.127	4.133.215	5.611.862	7.715.186
237	(18.185)	(19.185)	(20.240)	(21.353)	(22.528)	(23.767)	(25.074)	(26.453)	(27.908)	(29.443)	(31.062)	(32.771)	(34.573)	(36.475)
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
765	372.585	430.537	504.614	593.869	721.036	881.433	1.094.674	1.381.534	1.772.541	2.309.117	3.055.064	4.100.444	5.577.289	7.678.711
324	279.438	323.202	378.460	449.152	540.777	681.075	821.006	1.036.190	1.329.045	1.731.837	2.291.290	3.075.333	4.122.047	5.559.024
993	412.658	503.537	622.056	778.852	989.310	1.275.902	1.671.726	2.225.938	3.012.061	4.140.793	5.779.768	8.184.148	11.744.057	17.058.303
993	412.658	503.537	622.056	778.852	989.310	1.275.902	1.671.726	2.225.938	3.012.061	4.140.793	5.779.768	8.184.148	11.744.057	17.058.303
464	45.205	55.161	68.144	85.320	108.375	139.771	183.132	243.844	329.861	453.609	633.153	896.545	1.286.520	1.868.677
597	69.498	84.803	104.764	131.171	166.615	214.881	281.544	374.882	507.277	697.373	973.422	1.378.337	1.977.880	2.872.861
276	32.788	39.412	47.376	56.948	68.455	82.287	98.913	118.899	142.923	171.801	206.514	248.241	298.399	358.692
445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445	143.445
632	39.539	45.142	51.538	58.840	67.177	76.695	87.562	99.968	114.133	130.304	148.766	169.845	193.910	221.384
071	3.405	3.775	4.186	4.641	5.146	5.705	6.326	7.014	7.777	8.623	9.561	10.601	11.753	13.032
310	28.645	40.401	58.982	80.368	113.351	159.871	225.483	318.022	448.540	632.623	892.254	1.258.438	1.774.906	2.503.336
906	906	906	906	906	906	906	906	906	906	906	906	906	906	906
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
641	218.729	273.082	304.433	345.149	398.481	468.910	562.635	688.255	857.724	1.087.702	1.401.445	1.831.476	2.423.320	3.240.795
935	35.881	37.933	40.102	42.396	44.820	47.384	50.094	52.958	55.988	59.190	62.575	66.154	69.938	73.938
459	101.976	107.809	113.975	120.493	127.385	134.670	142.373	150.515	159.124	168.225	177.846	188.018	198.771	210.140
181	146.752	165.273	190.458	224.656	271.096	334.240	420.263	537.739	698.500	919.477	1.223.600	1.643.458	2.224.549	3.030.655
273	58.701	66.109	76.183	89.862	108.438	133.596	168.105	215.066	279.440	367.791	489.440	657.283	889.820	1.212.262
568	80.686	102.996	125.219	155.826	198.380	258.038	342.284	462.055	633.304	879.381	1.234.606	1.749.443	2.498.249	3.590.730
702	751.317	940.202	1.143.065	1.422.461	1.810.917	2.355.515	3.124.651	4.217.924	5.791.145	8.027.471	11.270.153	15.989.874	22.805.379	32.778.142
785	514.715	611.558	743.511	925.245	1.177.918	1.632.151	2.032.442	2.743.605	3.760.370	5.221.500	7.330.716	10.387.668	14.833.850	21.320.674

PERHITUNGAN KEMAMPUAN MEMINJAM PEMDA												
Keterangan	Tahun Anggaran					Tahun Proyeksi						
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Rp
	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp
Inflasi	13.5%	7.7%	6.3%	6.4%	7.1%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	
Faktor Inflasi	0.723	0.821	0.884	0.940	1.000	1.071	1.130	1.192	1.258	1.327	1.400	
FORECASTS (HARGA DASAR 2005)												
Penerimaan												
Local Revenues (PADS)	65,021	73,610	69,996	72,262	74,975	77,000	79,079	81,214	83,406	85,658	87,971	
Pajak Bumi dan Bangunan	20,879	21,945	28,908	28,964	34,081	38,647	43,826	49,699	56,358	63,910	72,473	
Hak Atas Tanah dan Bangunan	11,935	5,542	7,768	14,648	11,818	12,998	14,297	15,725	17,296	19,024	20,924	
Bagi hasil pajak penghasilan	11,359	18,484	18,968	12,853	16,610	17,282	17,981	18,709	19,466	20,254	21,073	
Bantuan Dana Dekonsentrasi	0	0	0	0	0	0	0	0	0	0	0	
Bagi Hasil Pajak Lain Lain	10,253	22,628	44,630	35,962	36,322	36,685	37,062	37,423	37,797	38,175	38,551	
Bagi Hasil Bukan Pajak Pusat	120	442	691	635	642	648	654	661	668	674	681	
Other/Lainnya Pendapatan Daerah	10,564	26,215	25,979	23,641	21,624	20,535	19,501	18,518	17,585	16,700	15,858	
Total	130,132	168,867	195,940	188,966	196,072	203,795	212,390	221,948	232,576	244,394	257,536	
Dana/Funds												
DAU/General	337,932	322,041	370,851	369,151	383,917	399,273	415,244	431,854	449,128	467,093	485,777	
DAK/Special	0	0	2,263	5,320	5,320	5,320	5,320	5,320	5,320	5,320	5,320	
Darurat/Emergency	0	0	0	0	0	0	0	0	0	0	0	
Reboisasi/Reforestation	0	0	0	0	0	0	0	0	0	0	0	
Total	337,932	322,041	373,114	374,471	389,237	404,593	420,564	437,174	454,448	472,413	491,097	
Penerimaan Total	468,064	490,908	570,054	553,436	585,308	608,389	632,954	659,122	687,024	716,807	748,635	
Belanja												
Belanja Pegawai Aparatur (inc)	63,465	58,712	74,205	78,066	84,413	91,951	100,163	109,107	118,851	129,464	141,025	
Belanja Pegawai Publik	196,921	182,172	230,244	227,294	245,774	262,661	280,708	299,995	320,608	342,636	366,179	
Modal	127,052	146,345	111,226	103,732	122,089	122,089	122,089	122,089	122,089	122,089	122,089	
Debt Service	0	0	0	0	0	0	0	0	0	0	0	
Other	49,455	54,792	154,708	155,029	131,549	130,122	128,328	126,156	123,585	120,598	117,183	
Total	436,894	442,022	570,383	564,121	583,825	606,824	631,288	657,347	685,132	714,788	746,476	
Cash Flow												
Surplus/(Defisit)	31,170	46,887	(329)	(694)	1,483	1,565	1,666	1,775	1,892	2,020	2,158	
Perbiayaan/Transfers	10,564	26,215	44,519	38,895	38,210	39,694	41,259	42,825	44,699	46,592	48,611	
Saldo Perhitungan Akhir Tahun di harga berlaku	41,734	75,102	44,190	38,210	39,694	41,259	42,825	44,699	46,592	48,611	50,770	
Working Capital (Bulan)	10.1	16.4	3.4	3.0	3.6	3.8	4.0	4.3	4.5	4.8	5.2	
MAXIMUM DEBT 75% (UU 33/04 Pasal 54)												
Previous Year Revenue		338,399	402,918	503,817	529,546	585,308	651,584	718,178	785,706	864,010	951,046	
Less DAK		0	0	(2,000)	(5,000)	(5,320)	(5,699)	(6,011)	(6,342)	(6,690)	(7,058)	
Less Dana Darurat		0	0	0	0	0	0	0	0	0	0	
Less Loans		0	0	0	0	0	0	0	0	0	0	
Less Dana Dekonsentrasi dan Bantuan		0	0	0	0	0	0	0	0	0	0	
Less Dana Bagi Hasil Reboisasi Hutan		0	0	0	0	0	0	0	0	0	0	
Total		338,399	402,918	501,817	524,546	579,988	645,887	709,167	779,364	857,320	943,986	
Bisa (75%)		253,799	302,188	376,362	393,409	434,991	484,415	531,875	584,524	642,990	707,591	
Harga Berlaku												
Bisa (75%)		208,308	267,075	353,724	393,409	465,875	547,343	634,022	735,104	853,107	991,013	
Less Actual Debt (From Balance Sheet)												
Allowed New Debt		208,308	267,075	353,724	393,409	465,875	547,343	634,022	735,104	853,107	991,013	
Annual Debt Payment Calculated With Allowed/Taken Principal												
Kapan SLAP	9%	20 years			43,097	51,035	59,959	69,455	80,528	93,455	108,552	
Kapan Lainnya	12%	11 years			66,256	78,461	92,181	106,779	123,803	143,676	166,902	
MAXIMUM DSCR 2.5 (UU 33/04 Pasal 54b; KMK 35/03 Pasal 5d)												
Penerimaan Included In Calculation												
PAD	65,021	73,610	69,996	72,262	74,975	77,000	79,079	81,214	83,406	85,658	87,971	
DAU	337,932	322,041	370,851	369,151	383,917	399,273	415,244	431,854	449,128	467,093	485,777	
Pajak Bumi dan Bangunan	20,879	21,945	28,908	28,964	34,081	38,647	43,826	49,699	56,358	63,910	72,473	
Hak Atas Tanah dan Bangunan	11,935	5,542	7,768	14,648	11,818	12,998	14,297	15,725	17,296	19,024	20,924	
Bagi hasil pajak penghasilan	11,359	18,484	18,968	12,853	16,610	17,282	17,981	18,709	19,466	20,254	21,073	
DBM, Natural Resources	120	442	691	635	642	648	654	661	668	674	681	
Less, Dana Bagi Hasil Reboisasi	0	0	0	0	0	0	0	0	0	0	0	
Total Included	447,247	442,065	497,183	498,513	522,042	545,849	571,081	597,861	626,322	656,613	688,905	
Obligatory Expenditure												
Belanja Pegawai Aparatur (inc)	63,935	59,429	76,533	81,106	84,413	91,951	100,163	109,107	118,851	129,464	141,025	
Belanja Pegawai Publik	197,535	183,111	233,291	229,116	245,774	262,661	280,708	299,995	320,608	342,636	366,179	
Debt Service												
Available for Debt Service	185,777	199,525	187,359	188,291	191,854	191,236	190,210	188,758	186,863	184,512	181,695	
Allowed	DSCR =	2.5										
Harga Dasar 2005	74,311	79,810	74,944	75,316	76,742	76,494	76,084	75,503	74,745	73,805	72,676	
Harga Berlaku	53,725	65,505	66,236	70,786	76,742	81,926	85,968	90,004	94,001	97,923	101,732	

2012 Juta	2013 Rp. Juta	2014 Rp. Juta	2015 Rp. Juta	2016 Rp. Juta	2017 Rp. Juta	2018 Rp. Juta	2019 Rp. Juta	2020 Rp. Juta	2021 Rp. Juta	2022 Rp. Juta	2023 Rp. Juta	2024 Rp. Juta	2025 Rp. Juta
5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
1.477	1.558	1.644	1.734	1.829	1.930	2.036	2.141	2.266	2.391	2.522	2.661	2.808	2.962
90,346	92,785	95,290	97,863	100,505	103,218	106,005	108,867	111,807	114,825	117,925	121,109	124,379	127,737
82,185	93,197	105,685	119,846	135,905	154,116	174,767	198,181	224,741	254,855	289,005	327,731	371,645	421,444
23,014	25,313	27,842	30,624	33,683	37,048	40,749	44,812	49,296	54,221	59,638	65,595	72,148	79,355
21,926	22,813	23,737	24,697	25,697	26,737	27,819	28,941	30,116	31,334	32,602	33,922	35,295	36,723
35,942	39,332	39,705	40,122	40,523	40,929	41,338	41,751	42,159	42,591	43,016	43,447	43,881	44,320
688	695	702	709	716	723	730	737	745	752	760	767	775	783
15,060	14,301	13,581	12,897	12,247	11,630	11,044	10,485	9,960	9,458	8,982	8,529	8,100	7,692
272,161	286,436	306,561	326,757	349,276	374,400	402,452	433,791	468,833	508,037	551,928	601,100	656,222	718,053
505,208	525,416	546,433	568,290	591,022	614,663	639,249	664,819	691,412	719,069	747,831	777,745	808,854	841,209
5,320	5,320	5,320	5,320	5,320	5,320	5,320	5,320	5,320	5,320	5,320	5,320	5,320	5,320
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
510,528	530,736	551,753	573,610	596,342	619,983	644,569	670,119	696,732	724,389	753,151	783,065	814,174	846,528
782,689	819,173	858,314	900,368	945,618	994,383	1,047,021	1,103,912	1,165,565	1,232,425	1,305,079	1,384,164	1,470,396	1,564,582
153,619	167,337	182,281	198,559	216,290	235,605	256,645	279,545	304,529	331,723	361,347	393,615	428,765	467,055
391,338	418,227	446,963	477,673	510,493	545,569	583,054	623,115	665,929	711,684	760,583	812,841	868,691	928,378
122,089	122,089	122,089	122,089	122,089	122,089	122,089	122,089	122,089	122,089	122,089	122,089	122,089	122,089
113,333	109,045	104,328	99,195	93,677	87,813	81,663	75,365	68,839	62,395	56,134	50,255	45,003	40,673
780,379	816,698	855,660	897,516	942,549	991,076	1,043,451	1,100,072	1,161,385	1,227,891	1,300,152	1,378,801	1,464,548	1,558,195
2,309	2,474	2,654	2,852	3,069	3,307	3,570	3,861	4,180	4,534	4,927	5,363	5,848	6,387
50,770	53,079	55,554	58,208	61,060	64,129	67,436	71,005	74,865	79,045	83,579	88,506	93,869	99,717
53,079	55,554	58,208	61,060	64,129	67,436	71,005	74,865	79,045	83,579	88,506	93,869	99,717	106,105
78,384	86,550	95,674	105,881	117,318	130,154	144,581	160,824	179,142	199,836	223,255	249,807	279,965	314,283
5.6	6.1	6.7	7.4	8.2	9.2	10.4	11.9	13.8	16.1	18.9	22.4	26.6	31.3
947,905	1,155,828	1,276,239	1,410,768	1,561,283	1,729,935	1,919,200	2,131,937	2,371,448	2,641,560	2,946,707	3,292,045	3,683,570	4,128,271
(7,447)	(7,856)	(8,289)	(8,744)	(9,225)	(9,733)	(10,269)	(10,833)	(11,428)	(12,057)	(12,720)	(13,420)	(14,158)	(14,936)
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
949,550	1,147,972	1,267,951	1,402,623	1,552,657	1,720,222	1,908,932	2,121,142	2,360,020	2,629,593	2,933,987	3,278,620	3,669,412	4,113,334
700,545	960,979	950,963	1,051,518	1,164,043	1,290,152	1,431,699	1,590,825	1,770,015	1,972,127	2,200,490	2,458,969	2,752,059	3,085,001
152,365	1,341,372	1,563,050	1,823,384	2,129,527	2,490,045	2,915,216	3,417,352	4,011,445	4,715,321	5,550,707	6,543,865	7,726,655	9,137,797
152,365	1,341,372	1,563,050	1,823,384	2,129,527	2,490,045	2,915,216	3,417,352	4,011,445	4,715,321	5,550,707	6,543,865	7,726,655	9,137,797
126,238	146,943	171,227	199,745	233,282	272,776	319,352	374,383	439,440	516,547	608,060	716,857	846,428	1,001,013
194,076	225,908	263,242	307,086	358,645	418,362	490,967	575,541	675,589	794,133	934,824	1,102,088	1,301,288	1,538,946
90,346	92,785	95,290	97,863	100,505	103,218	106,005	108,867	111,807	114,825	117,925	121,109	124,379	127,737
505,208	525,416	546,433	568,290	591,022	614,663	639,249	664,819	691,412	719,069	747,831	777,745	808,854	841,209
82,185	93,197	105,685	119,846	135,905	154,116	174,767	198,181	224,741	254,855	289,005	327,731	371,645	421,444
23,014	25,313	27,842	30,624	33,683	37,048	40,749	44,812	49,296	54,221	59,638	65,595	72,148	79,355
21,926	22,813	23,737	24,697	25,697	26,737	27,819	28,941	30,116	31,334	32,602	33,922	35,295	36,723
688	695	702	709	716	723	730	737	745	752	760	767	775	783
0	0	0	0	0	0	0	0	0	0	0	0	0	0
723,367	760,220	799,689	842,029	887,527	936,504	989,319	1,046,312	1,108,117	1,175,057	1,247,761	1,326,869	1,413,096	1,507,251
153,619	167,337	182,281	198,559	216,290	235,605	256,645	279,545	304,529	331,723	361,347	393,615	428,765	467,055
391,338	418,227	446,963	477,673	510,493	545,569	583,054	623,115	665,929	711,684	760,583	812,841	868,691	928,378
178,409	174,656	170,445	165,797	160,744	155,331	149,620	143,854	137,659	131,850	125,832	120,412	115,640	111,818
71,364	69,862	68,178	66,319	64,296	62,132	59,848	57,475	55,064	52,660	50,333	48,165	46,256	44,727
105,386	108,843	112,061	115,000	117,628	119,918	121,862	123,473	124,793	125,909	126,964	128,177	129,667	132,483

PERHITUNGAN KEMAMPUAN MEMINJAM PEMDA											
Keterangan	Tahun Anggaran					Tahun Proyeksi					
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta
Inflasi	13.5%	7.7%	6.3%	6.4%	7.1%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Faktor Inflasi	0.723	0.821	0.884	0.940	1.000	1.071	1.130	1.192	1.258	1.327	1.400
FORECASTS (HARGA DASAR 2005)											
Penerimaan											
Local Revenues (PADS)	0	0	7,621	9,998	7,496	9,087	11,014	13,350	19,614	19,614	23,774
Pajak Bumi dan Bangunan	0	0	3,384	9,698	8,743	10,598	12,845	15,570	18,873	22,876	27,728
Hak Atas Tanah dan Bangi	0	0	1,642	1,721	1,804	1,890	1,981	2,077	2,177	2,282	2,392
Bagi hasil pajak penghasilan	0	0	832	574	574	574	574	574	574	574	574
Bantuan Dana Dekoncentr	0	0	0	0	0	0	0	0	0	0	0
Bagi Hasil Pajak Lain Lain	0	0	2,640	4,859	4,957	5,056	5,157	5,260	5,365	5,473	5,582
Bagi Hasil Bukan Pajak Pu	0	0	1,064	1,292	1,569	1,905	2,312	2,808	3,409	4,139	5,026
Other/Lainya Pendapatan	0	0	4,310	3,843	3,427	3,056	2,725	2,430	2,167	1,932	1,723
Total	0	0	21,491	31,985	28,569	32,155	36,609	42,058	52,179	56,889	66,796
Dana/Funds											
DAU/General	0	0	51,584	93,446	96,249	99,137	102,111	105,174	108,329	111,579	114,927
DAK/Special	0	0	8,515	5,852	5,852	5,852	5,852	5,852	5,852	5,852	5,852
Danuat/Emergency	0	0	0	0	0	0	0	0	0	0	0
Reboisasi/Reforestation	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	60,099	99,298	102,101	104,989	107,963	111,026	114,181	117,431	120,779
Penerimaan Total	0	0	61,591	131,283	130,670	137,153	144,572	153,095	166,360	174,320	187,577
Belanja											
Belanja Pegawai Aparatur	0	0	24,775	37,015	39,278	41,580	44,229	46,934	49,805	52,850	56,082
Belanja Pegawai Publik	0	0	25,727	38,437	40,788	43,282	45,929	48,738	51,718	54,881	58,237
Modal *)	0	0	12,778	26,086	9,716	9,716	9,716	9,716	9,716	9,716	9,716
Debt Service	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	16,677	30,016	41,159	42,475	44,697	47,707	51,121	56,873	63,541
Total	0	0	79,957	131,554	130,941	137,153	144,572	153,095	166,360	174,320	187,577
Cash Flow											
Surplus/(Defisit)	0	0	1,633	(271)	271	0	0	0	0	0	0
Pembiayaan/Transfers	0	0	0	0	(271)	0	0	0	0	0	0
Saldo Perhitungan Akhir T	0	0	1,633	(271)	0	0	0	0	0	0	0
di harga berlaku	0	0	1,443	(255)	0	0	0	0	0	0	0
Working Capital (Bulan)	#DIV/0!	#DIV/0!	1.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAXIMUM DEBT 75% (UU 33/04 Pasal 54)											
Previous Year Revenue	0	0	0	72,110	123,386	130,670	146,891	163,352	182,496	209,216	231,285
Less DAK	0	0	0	(7,526)	(5,500)	(5,852)	(6,267)	(6,612)	(6,976)	(7,360)	(7,764)
Less Dana Danuat	0	0	0	0	0	0	0	0	0	0	0
Less Loans	0	0	0	0	0	0	0	0	0	0	0
Less Dana Dekoncentrasi dan Bantuan	0	0	0	0	0	0	0	0	0	0	0
Less Dana Bagi Hasil Reboisasi Hutan	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	64,584	117,886	124,818	140,624	156,740	175,520	201,857	223,521
Bisa (75%)	0	0	0	48,438	88,415	93,614	105,468	117,555	131,541	151,392	167,641
Harga Berlaku											
Bisa (75%)	0	0	0	45,525	88,415	100,260	119,168	140,131	165,553	200,865	234,656
Less Actual Debt (From Balance Sheet)	0	0	0	0	0	0	0	0	0	0	0
Allowed New Debt	0	0	0	45,525	88,415	100,260	119,168	140,131	165,553	200,865	234,656
Annual Debt Payment Calculated With Allowed/Taken Principal											
Kapan SLAP	9%	20	years		9,685	10,983	13,054	15,351	18,136	22,004	25,706
Kapan Lainnya	12%	11	years		14,890	15,885	20,070	23,600	27,882	33,829	39,520
MAXIMUM DSCR 2.5 (UU 33/04 Pasal 54b; KMK 35/03 Pasal 5d)											
Penerimaan Included in Calculation											
PAD	0	0	7,621	9,998	7,496	9,087	11,014	13,350	19,614	19,614	23,774
DAU	0	0	51,584	93,446	96,249	99,137	102,111	105,174	108,329	111,579	114,927
Pajak Bumi dan Bangunan	0	0	3,384	9,698	8,743	10,598	12,845	15,570	18,873	22,876	27,728
Hak Atas Tanah dan Bangi	0	0	1,642	1,721	1,804	1,890	1,981	2,077	2,177	2,282	2,392
Bagi hasil pajak penghasil	0	0	832	574	574	574	574	574	574	574	574
DBH, Natural Resources	0	0	1,064	1,292	1,569	1,905	2,312	2,808	3,409	4,139	5,026
Less Dana Bagi Hasil Reb	0	0	0	0	0	0	0	0	0	0	0
Total Included	0	0	66,125	115,728	116,435	123,189	130,838	139,553	152,976	161,064	174,420
Obligatory Expenditure											
Belanja Pegawai Aparatur	0	0	26,457	41,106	39,278	41,580	44,229	46,934	49,805	52,850	56,082
Belanja Pegawai Publik	0	0	26,928	38,609	40,788	43,282	45,929	48,738	51,718	54,881	58,237
Debt Service											
"Available" for Debt Service	0	0	40,098	78,121	75,647	79,907	84,909	90,815	101,257	106,182	116,182
"Allowed"	DSCR =	2.5									
Harga Dasar 2005	0	0	16,039	31,248	30,259	31,963	33,964	36,326	40,503	42,473	46,473
Harga Berlaku	0	0	14,176	29,369	30,259	34,232	38,376	43,302	50,937	56,352	65,051
Pinjaman Bisa Ada (Harga Berlaku)											
Kapan SLAP					276,219	312,492	350,313	395,287	464,981	514,415	593,818
Kapan Lainnya					179,669	203,261	227,862	257,116	302,449	334,603	386,252

2012 Rp. Juta	2013 Rp. Juta	2014 Rp. Juta	2015 Rp. Juta	2016 Rp. Juta	2017 Rp. Juta	2018 Rp. Juta	2019 Rp. Juta	2020 Rp. Juta	2021 Rp. Juta	2022 Rp. Juta	2023 Rp. Juta	2024 Rp. Juta	2025 Rp. Juta
5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
1.477	1.558	1.644	1.734	1.829	1.930	2.036	2.148	2.266	2.391	2.522	2.661	2.808	2.962
28.817	34.930	42.339	51.319	62.204	75.399	91.392	110.777	134.274	162.755	197.277	239.122	289.842	351.321
33.609	40.738	49.379	59.853	72.549	87.937	106.589	129.198	156.602	189.820	230.082	278.885	338.040	409.742
2.507	2.627	2.754	2.887	3.026	3.171	3.324	3.484	3.652	3.828	4.012	4.205	4.408	4.620
574	574	574	574	574	574	574	574	574	574	574	574	574	574
5.694	5.808	5.924	5.042	6.163	6.286	6.412	6.540	6.671	6.804	6.941	7.076	7.221	7.365
6.102	7.409	8.995	10.922	13.261	16.101	19.549	23.736	28.819	34.991	42.485	51.584	62.632	76.045
1.537	1.370	1.222	1.090	972	866	773	689	614	548	488	436	388	346
78.839	93.455	111.186	132.686	158.748	190.334	228.613	273.999	331.207	399.320	481.860	581.885	703.105	850.014
118.374	121.926	125.583	129.351	133.231	137.228	141.345	145.596	149.953	154.452	159.085	163.858	168.774	173.837
5.852	5.852	5.852	5.852	5.852	5.852	5.852	5.852	5.852	5.852	5.852	5.852	5.852	5.852
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
124.226	127.778	131.435	135.203	139.083	143.080	147.197	151.438	155.805	160.304	164.937	169.710	174.626	179.689
203.065	221.233	242.622	267.889	297.831	333.415	375.810	426.485	487.012	559.623	646.797	751.595	877.730	1.029.702
59.512	63.152	67.014	71.112	75.461	80.076	84.973	90.169	95.683	101.535	107.744	114.334	121.326	128.745
61.799	65.578	69.589	73.844	78.360	83.153	88.238	93.614	99.360	105.437	111.885	118.727	125.968	133.692
9.716	9.716	9.716	9.716	9.716	9.716	9.716	9.716	9.716	9.716	9.716	9.716	9.716	9.716
72.038	82.787	96.303	113.217	134.294	160.471	192.883	232.966	282.252	342.936	417.452	508.819	620.701	757.549
203.065	221.233	242.622	267.889	297.831	333.415	375.810	426.485	487.012	559.623	646.797	751.595	877.730	1.029.702
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
262.562	299.875	344.673	398.785	464.533	544.859	643.504	765.211	916.062	1.103.731	1.338.050	1.631.536	2.000.162	2.464.307
(8.191)	(8.642)	(9.117)	(9.619)	(10.148)	(10.706)	(11.295)	(11.916)	(12.571)	(13.263)	(13.997)	(14.782)	(15.613)	(16.490)
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
154.374	159.233	165.555	172.387	179.665	187.434	195.734	204.615	214.125	224.308	235.208	246.874	259.359	272.717
190.776	218.425	251.667	291.875	340.789	400.615	474.157	564.988	677.512	817.852	993.043	1.217.581	1.488.442	1.835.908
281.729	340.297	413.651	506.126	623.447	773.204	965.475	1.213.629	1.535.709	1.955.469	2.504.938	3.226.949	4.178.934	5.437.974
281.729	340.297	413.651	506.126	623.447	773.204	965.475	1.213.629	1.535.709	1.955.469	2.504.938	3.226.949	4.178.934	5.437.974
30.862	37.278	45.314	55.444	68.296	84.702	105.764	132.894	168.231	214.215	274.407	353.501	457.788	595.711
47.448	57.511	69.665	85.239	104.998	130.219	162.601	204.402	258.637	329.331	421.870	543.468	703.797	915.839
28.817	34.930	42.339	51.319	62.204	75.399	91.392	110.777	134.274	162.755	197.277	239.122	289.842	351.321
18.374	121.926	125.583	129.351	133.231	137.228	141.345	145.596	149.953	154.452	159.085	163.858	168.774	173.837
33.609	40.738	49.379	59.853	72.549	87.937	106.589	129.198	156.602	189.820	230.082	278.885	338.040	409.742
2.507	2.627	2.754	2.887	3.026	3.171	3.324	3.484	3.652	3.828	4.012	4.205	4.408	4.620
574	574	574	574	574	574	574	574	574	574	574	574	574	574
6.102	7.409	8.995	10.922	13.261	16.101	19.549	23.736	28.819	34.991	42.485	51.584	62.632	76.045
0	0	0	0	0	0	0	0	0	0	0	0	0	0
89.983	208.203	229.624	254.905	284.845	320.410	362.773	413.33	473.874	546.419	633.516	738.228	864.269	1.016.139
59.512	63.152	67.014	71.112	75.461	80.076	84.973	90.169	95.683	101.535	107.744	114.334	121.326	128.745
61.799	65.578	69.589	73.844	78.360	83.153	88.238	93.614	99.360	105.437	111.885	118.727	125.968	133.692
28.184	142.625	160.036	181.061	206.484	237.258	274.535	319.72	374.514	440.983	521.631	619.501	738.281	882.446
51.274	57.050	64.014	72.424	82.584	94.903	109.814	127.82	149.806	176.393	208.653	247.801	295.313	352.979
75.718	88.882	105.217	125.587	151.099	183.167	223.603	274.77	339.510	421.753	526.323	659.452	829.117	1.045.525
91.195	811.361	960.478	1.146.431	1.379.313	1.672.046	2.041.169	2.507.85	3.099.231	3.849.988	4.804.565	6.019.842	7.568.629	9.544.124
49.591	527.753	624.747	745.701	897.180	1.087.589	1.327.667	1.631.24	2.015.907	2.504.240	3.125.149	3.915.630	4.973.045	6.208.014

PERHITUNGAN KEMAMPUAN MEMINJAM PEMDA

Keterangan	Tahun Anggaran						Tahun Proyeksi				
	2001 Rp. Juta	2002 Rp. Juta	2003 Rp. Juta	2004 Rp. Juta	2005 Rp. Juta	2006 Rp. Juta	2007 Rp. Juta	2008 Rp. Juta	2009 Rp. Juta	2010 Rp. Juta	2011 Rp. Juta
Inflasi	13.5%	7.7%	6.3%	6.4%	7.1%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Faktor Inflasi	0.723	0.821	0.884	0.940	1.000	1.071	1.130	1.192	1.258	1.327	1.398
FORECASTS (HARGA BERLAKU)											
Penerimaan											
Local Revenues (PADS)	7.605	10.921	10.496	15.663	18.400	22.763	28.159	34.836	43.095	53.312	65.125
Pajak Bumi dan Bangunan	4.432	6.243	7.546	8.118	10.592	12.943	15.817	19.328	23.619	28.863	35.125
Hak Atas Tanah dan Bangunan	922	1.137	1.290	1.857	2.196	2.743	3.427	4.280	5.347	6.679	8.125
Bagi hasil pajak penghasilan	483	1.262	1.043	812	1.194	1.369	1.570	1.801	2.065	2.369	2.750
Bantuan Dana Dekonsentrasi	0	0	0	0	0	0	0	0	0	0	0
Bagi Hasil Pajak Lain	0	101	1.733	594	594	594	594	594	594	594	594
Bagi Hasil Bukan Pajak Pusat	321	251	923	1.375	4.543	6.767	10.079	15.013	22.361	33.306	49.125
Other/Lainya Pendapatan Daerah	0	0	0	0	0	0	0	0	0	0	0
Total	13.764	19.815	23.032	28.416	37.519	47.180	59.647	75.852	97.082	125.123	162.125
Dana/Funds											
DAU/General	102.243	130.100	148.213	161.991	195.037	226.847	263.847	306.881	356.934	415.150	482.125
DAK/Special	330	29	5.649	12.140	12.140	12.140	12.140	12.140	12.140	12.140	12.140
Danurut/Emergency	1.000	0	0	0	0	0	0	0	0	0	0
Reboisasi/Reforestation	0	0	0	0	0	0	0	0	0	0	0
Total	103.573	130.129	153.861	174.131	207.177	238.987	275.987	319.021	369.074	427.290	494.265
Penerimaan Total	117.337	149.944	176.893	202.549	244.696	286.167	335.633	394.873	466.155	552.413	657.125
Belanja											
Belanja Pegawai Aparatur (incl D)	58.921	75.083	96.333	111.355	142.385	176.693	219.267	272.100	337.664	419.025	519.125
Belanja Pegawai Publik	8.255	10.519	13.497	502	642	284	126	56	25	11	11
Modal *)	31.807	31.705	38.589	35.159	33.815	33.815	33.815	33.815	33.815	33.815	33.815
Debt Service	0	0	0	0	0	0	0	0	0	0	0
Other	24.255	33.620	57.489	61.279	75.967	75.375	82.426	88.902	94.652	99.562	103.125
Total	123.238	150.927	203.907	208.295	252.809	286.167	335.633	394.873	466.155	552.413	657.125
Cash Flow											
Surplus/(Defisit)	(5.901)	(983)	(27.014)	(5.746)	8.113	0	0	0	0	0	0
Pembayaran/Transfers	0	(6.280)	0	(2.367)	(8.113)	0	0	0	0	0	0
Saldo Perhitungan Akhir Tahun di harga berlaku	(6.901)	(5.263)	(27.014)	(8.113)	0	0	0	0	0	0	0
Working Capital (Bulan)	-3.4	-1.9	-5.6	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAXIMUM DEBT 75% (UU 33/04 Pasal 54)											
Previous Year Revenue		117.337	149.944	176.893	202.549	244.696	286.167	335.633	394.873	466.155	552.413
Less DAK		(330)	(29)	(5.649)	(12.140)	(12.140)	(12.140)	(12.140)	(12.140)	(12.140)	(12.140)
Less Dana Darurat		(1.000)	0	0	0	0	0	0	0	0	0
Less Loans		0	(2.000)	0	0	0	0	0	0	0	0
Less Dana Dekonsentrasi dan Bantuan		0	0	0	0	0	0	0	0	0	0
Less Dana Bagi Hasil Reboisasi Hutan		0	0	0	0	0	0	0	0	0	0
Total		116.007	147.915	171.244	190.409	232.556	274.027	323.493	382.733	454.015	540.273
Bisa (75%)		87.005	102.027	128.433	142.807	174.417	205.520	242.620	287.050	340.511	405.140
Harga Berlaku											
Bisa (75%)		71.410	98.046	120.708	142.807	186.801	232.218	289.215	360.997	451.784	567.125
Less Actual Debt (From Balance Sheet)											
Allowed New Debt		71.410	98.046	120.708	142.807	186.801	232.218	289.215	360.997	451.784	567.125
Annual Debt Payment Calculated With Allowed/Taken Principal											
Kapan SLAP	9%	20	years		15.644	20.463	25.439	31.683	39.546	49.491	62.125
Kapan Lainnya	12%	11	years		24.051	31.480	39.109	48.708	60.798	76.087	95.125
MAXIMUM DSCR 2.5 (UU 33/04 Pasal 54b; KMK 35/03 Pasal 5d)											
Penerimaan included in Calculation											
PAD	7.605	10.921	10.496	15.663	18.400	22.763	28.159	34.836	43.095	53.312	65.125
DAU	102.243	130.100	148.213	161.991	195.037	226.847	263.847	306.881	356.934	415.150	482.125
Pajak Bumi dan Bangunan	4.432	6.243	7.546	8.118	10.592	12.943	15.817	19.328	23.619	28.863	35.125
Hak Atas Tanah dan Bangunan	922	1.137	1.290	1.857	2.196	2.743	3.427	4.280	5.347	6.679	8.125
Bagi hasil pajak penghasilan	483	1.262	1.043	812	1.194	1.369	1.570	1.801	2.065	2.369	2.750
DBH, Natural Resources	321	251	923	1.375	4.543	6.767	10.079	15.013	22.361	33.306	49.125
Less: Dana Bagi Hasil Reboisasi	0	0	0	0	0	0	0	0	0	0	0
Total Included	116.007	149.915	169.511	189.815	231.982	273.433	322.899	382.139	453.421	539.679	644.125
Obligatory Expenditure											
Belanja Pegawai Aparatur (incl D)	59.682	76.015	97.618	112.960	142.385	176.693	219.267	272.100	337.664	419.025	519.125
Belanja Pegawai Publik	8.530	10.856	13.961	503	642	284	126	56	25	11	11
Debt Service											
"Available" for Debt Service	107.477	139.080	155.551	189.312	231.320	273.149	322.773	382.083	453.296	539.668	644.125
"Allowed"											
DSCR =		2.5									
Harga Dasar 2005	59.464	67.771	70.400	80.571	92.528	102.016	114.266	128.210	144.299	162.700	184.125
Harga Berlaku	42.991	55.624	62.220	75.725	92.528	109.259	129.109	152.833	181.358	215.867	257.125
Pinjaman Bisa Ada (Harga Berlaku)											
Kapan SLAP					844.645	957.380	1.178.581	1.395.145	1.655.539	1.970.554	2.354.125
Kapan Lainnya					549.403	648.750	766.612	907.477	1.076.252	1.281.755	1.531.125

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta
1.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
1400	1477	1558	1644	1734	1829	1930	2036	2148	2266	2391	2522	2661	2808	2962
65,952	81,589	100,933	124,863	154,467	191,089	236,394	292,441	361,776	447,550	553,660	684,927	847,316	1,048,207	1,298,727
35,270	43,100	52,669	64,361	78,649	96,110	117,446	143,519	175,381	214,316	261,895	320,036	391,084	477,906	584,002
8,343	10,422	13,019	16,263	20,316	25,377	31,701	39,599	49,466	61,792	77,188	96,421	120,446	150,457	187,946
2,716	3,115	3,573	4,097	4,699	5,389	6,180	7,088	8,128	9,322	10,691	12,260	14,061	16,125	18,493
594	594	594	594	594	594	594	594	594	594	594	594	594	594	594
49,608	73,890	110,057	163,926	244,163	363,673	541,680	806,816	1,201,727	1,789,936	2,666,054	3,971,004	5,914,688	8,809,744	13,121,841
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
162,186	212,712	280,845	374,108	502,889	682,234	933,987	1,290,059	1,797,075	2,523,510	3,570,082	5,085,244	7,288,190	10,503,035	15,209,604
482,862	561,618	653,219	759,760	883,679	1,027,809	1,185,446	1,390,426	1,617,208	1,880,978	2,187,769	2,544,599	2,959,628	3,442,350	4,003,805
12,140	12,140	12,140	12,140	12,140	12,140	12,140	12,140	12,140	12,140	12,140	12,140	12,140	12,140	12,140
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
495,002	573,758	665,359	771,900	895,819	1,039,949	1,207,586	1,402,566	1,629,348	1,893,118	2,199,909	2,556,739	2,971,768	3,454,490	4,015,945
657,688	786,470	946,204	1,146,006	1,398,708	1,722,182	2,141,583	2,692,625	3,426,422	4,416,628	5,769,991	7,641,983	10,259,959	13,957,525	19,225,549
519,990	645,284	800,767	993,714	1,233,153	1,530,285	1,899,013	2,356,586	2,924,413	3,629,060	4,503,494	5,588,626	6,935,223	8,606,288	10,680,001
5	2	1	0	0	0	0	0	0	0	0	0	0	0	0
33,815	33,815	33,815	33,815	33,815	33,815	33,815	33,815	33,815	33,815	33,815	33,815	33,815	33,815	33,815
103,678	107,369	111,621	118,477	131,739	158,082	208,756	302,224	468,194	753,753	1,232,682	2,019,542	3,290,921	5,317,422	8,511,733
657,688	786,470	946,204	1,146,006	1,398,708	1,722,182	2,141,583	2,692,625	3,426,422	4,416,628	5,769,991	7,641,983	10,259,959	13,957,525	19,225,549
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
552,113	657,488	786,470	946,204	1,146,006	1,398,708	1,722,182	2,141,583	2,692,625	3,426,422	4,416,628	5,769,991	7,641,983	10,259,959	13,957,525
(12,140)	(12,140)	(12,140)	(12,140)	(12,140)	(12,140)	(12,140)	(12,140)	(12,140)	(12,140)	(12,140)	(12,140)	(12,140)	(12,140)	(12,140)
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
544,771	645,284	774,130	934,064	1,135,866	1,386,568	1,710,042	2,129,643	2,680,485	3,414,282	4,404,488	5,757,851	7,629,843	10,247,819	13,945,385
405,005	484,011	580,747	700,548	850,400	1,039,926	1,282,532	1,597,083	2,010,364	2,560,712	3,303,366	4,318,386	5,722,502	7,605,604	10,459,035
56,187	714,758	904,782	1,151,455	1,474,636	1,902,464	2,475,339	3,251,969	4,318,631	5,803,428	7,698,290	10,893,076	15,228,535	21,578,758	30,979,754
56,187	714,758	904,782	1,151,455	1,474,636	1,902,464	2,475,339	3,251,969	4,318,631	5,803,428	7,698,290	10,893,076	15,228,535	21,578,758	30,979,754
62,133	78,299	99,116	126,138	161,541	208,408	271,165	356,242	473,091	635,745	865,230	1,193,298	1,668,232	2,363,877	3,393,723
95,523	120,376	152,379	193,923	248,351	320,404	416,885	547,682	727,324	977,387	1,320,194	1,834,562	2,564,720	3,634,195	5,217,468
65,952	81,589	100,933	124,863	154,467	191,089	236,394	292,441	361,776	447,550	553,660	684,927	847,316	1,048,207	1,298,727
48,286	561,618	653,219	759,760	883,679	1,027,809	1,185,446	1,390,426	1,617,208	1,880,978	2,187,769	2,544,599	2,959,628	3,442,350	4,003,805
35,270	43,100	52,669	64,361	78,649	96,110	117,446	143,519	175,381	214,316	261,895	320,036	391,084	477,906	584,002
8,343	10,422	13,019	16,263	20,316	25,377	31,701	39,599	49,466	61,792	77,188	96,421	120,446	150,457	187,946
2,716	3,115	3,573	4,097	4,699	5,389	6,180	7,088	8,128	9,322	10,691	12,260	14,061	16,125	18,493
49,608	73,890	110,057	163,926	244,163	363,673	541,680	806,816	1,201,727	1,789,936	2,666,054	3,971,004	5,914,688	8,809,744	13,121,841
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
644,753	773,734	933,469	1,133,271	1,385,972	1,709,447	2,128,848	2,678,890	3,413,687	4,403,893	5,757,256	7,629,247	10,247,224	13,944,789	19,212,813
519,990	645,284	800,767	993,714	1,233,153	1,530,285	1,899,013	2,356,586	2,924,413	3,629,060	4,503,494	5,588,626	6,935,223	8,606,288	10,680,001
5	2	1	0	0	0	0	0	0	0	0	0	0	0	0
644,748	773,732	933,468	1,133,271	1,385,972	1,709,447	2,128,848	2,678,890	3,413,687	4,403,893	5,757,256	7,629,247	10,247,224	13,944,789	19,212,813
184,246	209,578	239,664	275,794	319,708	373,768	441,203	525,451	635,642	777,272	963,162	1,209,790	1,540,228	1,966,727	2,594,568
257,999	309,493	373,387	453,308	554,389	683,779	851,539	1,071,956	1,355,475	1,761,557	2,302,902	3,061,699	4,098,889	5,577,916	7,685,125
2,354,243	2,825,220	3,408,482	4,138,045	5,060,764	6,241,906	7,772,315	9,785,400	12,464,799	16,080,455	21,022,149	27,857,573	37,418,899	50,918,259	70,154,018
1,531,327	1,837,676	2,217,061	2,691,608	3,291,794	4,060,073	5,056,184	6,364,952	8,107,771	10,459,596	13,673,941	18,120,070	24,337,972	33,119,986	45,631,952

PERHITUNGAN KEMAMPUAN MEMINJAM PEMDA												
Keterangan	Tahun Anggaran						Tahun Proyeksi					
	2001 Rp. Juta	2002 Rp. Juta	2003 Rp. Juta	2004 Rp. Juta	2005 Rp. Juta	2006 Rp. Juta	2007 Rp. Juta	2008 Rp. Juta	2009 Rp. Juta	2010 Rp. Juta	2011 Rp. Juta	Rp.
Inflasi	13.5%	7.7%	6.3%	6.4%	7.1%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	
Faktor Inflasi	0.723	0.821	0.884	0.940	1.000	1.071	1.130	1.192	1.258	1.327	1.400	
FORECASTS (HARGA DASAR 2005)												
Penerimaan												
Local Revenues (PADS)	5,621	5,938	5,191	5,516	7,001	7,396	7,813	8,254	8,720	9,212	9,732	
Pajak Bumi dan Bangunan	6,560	7,128	9,353	12,864	15,361	19,318	24,295	30,554	38,425	48,325	60,774	
Hak Atas Tanah dan Bang.	1,113	1,058	1,163	1,382	1,412	1,521	1,639	1,765	1,901	2,048	2,206	
Bagi hasil pajak penghasilan	512	608	745	0	0	0	0	0	0	0	0	
Bantuan Dana Dekonsentrasi	0	0	0	0	0	0	0	0	0	0	0	
Bagi Hasil Pajak Lain Lain	3,021	2,866	2,643	2,771	2,621	2,577	2,534	2,491	2,449	2,408	2,367	
Bagi Hasil Bukan Pajak Pu	536	1,204	1,015	1,292	1,294	1,340	1,388	1,437	1,488	1,542	1,597	
Other/Lainya Pendapatan	0	0	0	0	0	0	0	0	0	0	0	
Total	17,363	18,802	20,110	23,824	27,689	32,152	37,668	44,501	52,984	63,534	76,675	
Dana/Funds												
DAU/General	120,894	163,886	160,420	155,982	163,782	171,971	180,569	189,598	199,077	209,031	219,483	
DAK/Special	4,255	10,357	8,748	9,353	9,353	9,353	9,353	9,353	9,353	9,353	9,353	
Darurat/Emergency	8,015	0	0	0	0	0	0	0	0	0	0	
Reboisasi/Reforestation	0	0	0	0	0	0	0	0	0	0	0	
Total	133,165	174,242	169,168	165,335	173,134	181,323	189,922	198,950	208,430	218,384	228,835	
Penerimaan Total	150,527	193,044	189,278	189,159	200,823	213,475	227,590	243,451	261,414	281,917	305,511	
Belanja												
Belanja Pegawai Aparatur	41,668	30,332	36,594	37,237	34,897	34,379	33,868	33,365	32,870	32,382	31,901	
Belanja Pegawai Publik	74,344	54,119	65,292	71,271	66,791	67,200	67,612	68,026	68,442	68,851	69,283	
Modal	32,477	61,870	56,280	42,140	48,192	48,192	48,192	48,192	48,192	48,192	48,192	
Debt Service	0	0	0	0	0	0	0	0	0	0	0	
Other	28,323	30,875	54,817	32,469	58,152	63,705	77,918	93,869	111,910	132,483	156,135	
Total	176,812	177,195	212,963	183,117	208,032	213,475	227,590	243,451	261,414	281,917	305,511	
Cash Flow												
Surplus/(Defisit)	(26,285)	15,848	(23,705)	6,042	7,209	0	0	0	0	0	0	
Pembiayaan/Transfers	10,188	25,839	12,542	(13,251)	(7,209)	0	0	0	0	0	0	
Saldo Perhitungan Akhir T	(16,097)	41,688	(11,163)	(7,209)	0	0	0	0	0	0	0	
di harga berlaku	(11,638)	34,216	(9,866)	(6,776)	0	0	0	0	0	0	0	
Working Capital (Bulan)	-6.8	16.2	-2.4	-2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAXIMUM DEBT 75% (UU 33/04 Pasal 54)												
Previous Year Revenue		108,828	158,443	167,285	177,781	200,823	228,632	257,155	290,206	328,757	374,043	
Less DAK		(3,076)	(8,600)	(7,731)	(8,790)	(9,353)	(10,017)	(10,568)	(11,149)	(11,762)	(12,409)	
Less Dana Darurat		(5,795)	0	0	0	0	0	0	0	0	0	
Less Loans		0	0	0	0	0	0	0	0	0	0	
Less Dana Dekonsentrasi dan Bantuan		0	0	0	0	0	0	0	0	0	0	
Less Dana Bagi Hasil Reboisasi Hutan		0	0	0	0	0	0	0	0	0	0	
Total		99,956	149,843	159,554	169,001	191,470	218,615	246,587	279,057	317,035	361,634	
Bisa (75%)		74,967	112,457	119,552	126,743	143,603	163,962	184,941	209,293	237,747	271,226	
Harga Berlaku												
Bisa (75%)		61,530	99,390	112,467	126,743	153,799	185,261	220,458	263,210	315,438	379,649	
Less Actual Debt (From Balance Sheet)												
Allowed New Debt		61,530	99,390	112,467	126,743	153,799	185,261	220,458	263,210	315,438	379,649	
Annual Debt Payment Calculated With Allowed/Taken Principal												
Kapan SLAP	9%	20	years		13,884	16,848	20,295	24,150	28,834	34,555	41,589	
Kapan Lainnya	12%	11	years		21,345	25,902	31,201	37,129	44,329	53,125	63,939	
MAXIMUM DSCR 2.5 (UU 33/04 Pasal 54b; KMK 35/03 Pasal 5d)												
Penerimaan Included in Calculation												
PAD	5,621	5,938	5,191	5,516	7,001	7,396	7,813	8,254	8,720	9,212	9,732	
DAU	120,894	163,886	160,420	155,982	163,782	171,971	180,569	189,598	199,077	209,031	219,483	
Pajak Bumi dan Bangunan	6,560	7,128	9,353	12,864	15,361	19,318	24,295	30,554	38,425	48,325	60,774	
Hak Atas Tanah dan Bang.	1,113	1,058	1,163	1,382	1,412	1,521	1,639	1,765	1,901	2,048	2,206	
Bagi hasil pajak penghasilan	512	608	745	0	0	0	0	0	0	0	0	
DBH, Natural Resources	536	1,204	1,015	1,292	1,294	1,340	1,388	1,437	1,488	1,542	1,597	
Less, Dana Bagi Hasil Reb	0	0	0	0	0	0	0	0	0	0	0	
Total Included	135,235	179,821	177,867	177,036	188,849	201,546	215,703	231,608	249,612	270,157	293,791	
Obligatory Expenditure												
Belanja Pegawai Aparatur	44,283	32,409	41,280	41,068	34,897	34,379	33,868	33,365	32,870	32,382	31,901	
Belanja Pegawai Publik	74,967	54,613	66,407	71,259	66,791	67,200	67,612	68,026	68,442	68,851	69,283	
Debt Service												
"Available" for Debt Service	60,269	125,208	111,480	105,677	122,058	134,346	148,092	163,582	181,170	201,296	224,508	
"Allowed"												
DSCR =	2.5											
Harga Dasar 2005	24,107	50,083	44,592	42,271	48,823	53,738	59,237	65,433	72,468	80,518	89,803	
Harga Berlaku	17,429	41,106	39,411	39,728	48,823	57,554	66,932	77,999	91,137	106,830	125,703	
Pinjaman Bisa Ada (Harga Berlaku)												
Kapan SLAP					445,684	525,381	610,991	712,019	831,946	975,205	1,147,481	1.
Kapan Lainnya					289,697	341,736	397,422	463,136	541,142	634,326	746,384	

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta	Rp. Juta
	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%
	1.477	1.558	1.644	1.734	1.829	1.930	2.036	2.148	2.266	2.391	2.522	2.661	2.808	2.962
	10.281	10.861	11.474	12.121	12.805	13.527	14.291	15.097	15.949	16.849	17.800	18.804	19.865	20.986
	76.431	96.121	120.885	152.027	191.193	240.448	302.394	380.297	478.270	601.484	756.440	951.316	1.196.396	1.504.616
	2.376	2.559	2.756	2.969	3.198	3.445	3.710	3.997	4.305	4.637	4.995	5.380	5.795	6.242
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2.328	2.288	2.250	2.212	2.175	2.138	2.102	2.067	2.032	1.998	1.964	1.931	1.898	1.866
	1.654	1.713	1.774	1.837	1.903	1.970	2.041	2.114	2.189	2.267	2.348	2.432	2.519	2.609
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	93.069	113.542	139.138	171.166	211.273	261.529	324.537	403.571	502.745	627.234	783.546	979.862	1.226.473	1.536.318
	230.457	241.980	254.079	266.783	280.122	294.128	308.834	324.276	340.490	357.515	375.390	394.180	413.868	434.561
	9.353	9.353	9.353	9.353	9.353	9.353	9.353	9.353	9.353	9.353	9.353	9.353	9.353	9.353
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	239.810	251.332	263.431	276.135	289.475	303.481	318.187	333.629	349.843	366.867	384.743	403.512	423.220	443.914
	332.878	364.875	402.569	447.301	500.748	565.010	642.725	737.200	852.588	994.101	1.168.289	1.383.375	1.649.694	1.980.232
	31.428	30.961	30.502	30.049	29.603	29.163	28.730	28.304	27.883	27.470	27.062	26.660	26.264	25.874
	69.707	70.134	70.563	70.995	71.430	71.867	72.307	72.750	73.195	73.643	74.094	74.548	75.004	75.463
	48.192	48.192	48.192	48.192	48.192	48.192	48.192	48.192	48.192	48.192	48.192	48.192	48.192	48.192
	83.552	215.588	253.313	298.066	351.523	415.788	493.495	587.954	703.317	844.797	1.018.941	1.233.975	1.500.233	1.830.702
	332.878	364.875	402.569	447.301	500.748	565.010	642.725	737.200	852.588	994.101	1.168.289	1.383.375	1.649.694	1.980.232
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	27.640	491.575	568.460	661.683	775.643	916.079	1.090.492	1.308.711	1.583.541	1.932.248	2.376.879	2.946.992	3.681.469	4.631.664
	(13.091)	(13.811)	(14.571)	(15.372)	(16.218)	(17.110)	(18.051)	(19.044)	(20.091)	(21.196)	(22.362)	(23.592)	(24.889)	(26.258)
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	414.549	477.763	551.890	646.311	759.425	898.969	1.072.441	1.289.668	1.563.550	1.911.052	2.354.517	2.923.400	3.656.579	4.605.406
	310.912	358.173	415.417	484.733	569.569	674.227	804.331	967.251	1.172.662	1.433.269	1.765.888	2.192.552	2.742.435	3.455.054
	459.136	558.253	682.800	840.551	1.041.982	1.301.285	1.637.773	2.077.832	2.657.644	3.426.969	4.454.427	5.834.866	7.699.633	10.230.936
	459.136	558.253	682.800	840.551	1.041.982	1.301.285	1.637.773	2.077.832	2.657.644	3.426.969	4.454.427	5.834.866	7.699.633	10.230.936
	50.257	61.155	74.798	92.079	114.145	142.551	179.412	227.619	291.136	375.412	487.967	639.189	843.468	1.120.763
	77.326	94.018	114.994	141.562	175.486	219.157	275.826	349.939	447.588	577.154	750.194	982.681	1.298.737	1.723.047
	10.281	10.861	11.474	12.121	12.805	13.527	14.291	15.097	15.949	16.849	17.800	18.804	19.865	20.986
	230.457	241.980	254.079	266.783	280.122	294.128	308.834	324.276	340.490	357.515	375.390	394.180	413.868	434.561
	76.431	96.121	120.885	152.027	191.193	240.448	302.394	380.297	478.270	601.484	756.440	951.316	1.196.396	1.504.616
	2.376	2.559	2.756	2.969	3.198	3.445	3.710	3.997	4.305	4.637	4.995	5.380	5.795	6.242
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1.654	1.713	1.774	1.837	1.903	1.970	2.041	2.114	2.189	2.267	2.348	2.432	2.519	2.609
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	321.198	353.234	390.967	435.737	489.220	553.519	631.270	725.781	841.203	982.751	1.156.972	1.372.091	1.638.443	1.969.013
	31.428	30.961	30.502	30.049	29.603	29.163	28.730	28.304	27.883	27.470	27.062	26.660	26.264	25.874
	69.707	70.134	70.563	70.995	71.430	71.867	72.307	72.750	73.195	73.643	74.094	74.548	75.004	75.463
	51.491	283.100	320.404	364.742	417.791	481.652	558.963	653.031	768.008	909.108	1.082.878	1.297.543	1.563.438	1.893.550
	100.596	113.240	128.162	145.897	167.116	192.661	223.585	261.212	307.203	363.643	433.151	519.017	625.375	757.420
	148.555	176.424	210.653	252.992	305.726	371.843	455.263	561.132	696.225	869.464	1.092.618	1.331.221	1.755.798	2.243.483
	1.356.090	1.610.491	1.922.953	2.309.452	2.790.836	3.394.389	4.155.885	5.127.320	6.355.522	7.936.945	9.974.013	12.608.539	16.027.881	20.479.741
	182.074	1.047.550	1.250.793	1.502.192	1.815.310	2.207.851	2.702.212	3.331.834	4.133.975	5.162.618	6.467.637	8.201.275	10.425.400	13.321.130

Appendix F:
Terms of Reference for Technical Assistance

DRAFT TERMS OF REFERENCE FOR DESIGN BUILD OPERATE (DBO) CONTRACT DOCUMENT PREPARATION

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I. BACKGROUND

1. The Water Supply and Sanitation Project (WSSP) will provide improved water supply and sanitation services in eight cities and towns within the Provinces of Banten, North Sumatra, South Sulawesi and West Java. The project will respond to the water supply and sanitation needs of these urban communities, including low income households, by optimizing existing assets, expanding coverage, improving governance and building the capacity of local institutions. The Project will provide an estimated 620,000 people with safe drinking water. It will raise the coverage of piped systems from 25% to 53% within the selected locations, during the five year period of the Project.

II. OBJECTIVES OF THE SERVICES

2. The overall objective of the DBO contract document preparation component is to prepare nine sets of bidding documents for water supply rehabilitation and expansion works. The each set of documents will include pre-qualification document and also a formal bid document. The documents must be in full accordance with GOI and ADB requirements. Documents are to cover the following water supply systems:

Table 1: Locations of Water Supply Systems

No.	Regional Government	Water supply system location
1	Kabupaten Serang	Serang
2	Kabupaten Tapanuli Tengah	Pandan
3	Kabupaten Barru	Barru
4	Kabupaten Jeneponto	Jeneponto
5	Kabupaten Maros	Maros
6	Kota Palopo	Palopo
7	Kabupaten Bandung	Soreang, Marghayu
8	Kabupaten Bogor	Bogor Timur
9		Bogor Tengah dan Barat

III. SCOPE OF ACTIVITIES

A. CONTRACT PACKAGING AND PROCUREMENT

3. The entire water supply works in each location will be constructed in a single Design, Procure, Build and Operate (DBO) contract. DBO implementation brings all three functions together into a single contract. The contractor will build new facilities which will be owned by the municipality, but which the contractor will commission and then operate. The period of operation of the water treatment plant will be two years during which time the Contractor will work jointly with the PDAM. The contractor will be required to both rehabilitate the current distribution system and develop the new distribution system working with the PDAM. In parallel with the rehabilitation and development of the distribution system the Contractor will be required to mount a joint marketing campaign with the PDAM so that a minimum of say 80% of the design assessment for new connections will be added to the system over the two year period of joint operation. The Contractor must bring UFW to an acceptable level and the operation of the system to a level whereby drinking water is supplied to customers on a 24 hour basis and with adequate pressure. The system would therefore be brought to the level required by PP16/2005. The DBO contract would include a bonus paid on achievement of the required level of operation. The contract will be procured on an ICB basis.

Table 2: DBO Contract Packaging and Scheduling – US\$ Millions

Contract	Type	Rp Million	US\$ 000
Kab. Serang WS DBO	ICB	106,699	\$10,074
Kab. Bandung WS DBO	ICB	209,887	\$19,774
Kab. Baru WS DBO	ICB	31,838	\$3,009
Bogor Timur WS DBO	ICB	93,021	\$8,775
Bogor T & B WS DBO	ICB	81,569	\$7,695
Kab. Maros WS DBO	ICB	51,030	\$4,794
Kab. Jeneponto WS DBO	ICB	31,603	\$2,992
Kota Palopo WS DBO	ICB	70,237	\$6,610
Kab. Tapteng WS DBO	ICB	36,968	\$3,480
Total DBO		712,851	\$67,203

B. SCOPE OF WATER SUPPLY WORKS

4. The following table provides key data on the scope of water supply expansion Sub-Projects currently proposed for inclusion in the WSSP.

Table 3: Scope of Project Water Supply System Expansions in WSSP

No	Regional Government	Production capacity (L/sec)		WS House Connections		Expansion %
		Existing	Proposed Expansion	Existing	Additional 2006-2010	
1	Kab Serang	439	240	25,835	22,182	86%
2	Kab Tapanuli Tengah	49	100	2,398	5,995	250%
3	Kab Baru	90	50	4,776	7,349	154%
4	Kab Jeneponto	50	75	4,625	8,816	191%
5	Kab Maros	90	150	5,700	12,791	224%
6	Kot Palopo	150	200	11,958	7,028	59%
7	Kab Bandung	700	500	48,204	32,409	70%
8	Kab Bogor	2,039	380	91,285	27,258	30%
	Totals	3,607	1,745	192,781	123,828	64%

KAB SERANG

- Rehabilitation
 - Rehabilitation of Production unit at Kasemen 10 l/sec,
 - Change of Distribution pump in Pontang and Kragilan, booster pump at Anyer
 - Rehabilitation of distribution pipe in Kota Serang,
 - Rehabilitation of customer water meter
- Expansion Kota Serang system
 - Land acquisition.
 - Intake and raw water transmission pipe 500 mm length 1,200 m.
 - WTP at Gelam for 200 l/sec.
 - Transmission pipe 19,800 m 450 - 600 mm dia.
 - Service reservoir 4,000 cu.m.
 - Distribution pipe 251,000 m 50 to 300 mm dia.
 - Additional house connections.

KAB TAPANULI TENGAH

- Expansion Pandan system
 - Transmission pipe 400mm length 400 m
 - Secondary and tertiary distribution pipe, diameter 50 – 400mm 72,602 m
 - Water intake at Aek Sialli
 - WTP 100 l/sec
 - Additional reservoir 1,000 m³
 - Additional house connections

KAB BARRU

- Rehabilitation:
 - PDAM office to be refurbished
 - In the existing distribution network, there are many old pipes to be changed and replacement of water meters is required
- System expansion
 - WTP 100 l/sec at Nepo kec. Malussetassi
 - Service reservoir 650 cu. m.
 - Raw water transmission pipe 1,100m 250mm dia. and transmission and distribution pipe dia. 50 – 300 mm, 87,908 m.
 - Additional house connections

KAB JENERONTO

- Rehabilitation:
 - PDAM office to be refurbished
 - Distribution network pipe replacement and replace 30% of water meters.

- System expansion
 - WTP 75 l/sec
 - Service reservoir 500 cu. m.
 - Raw water transmission pipe 400mm dia., 250m
 - Transmission pipe 300 - 350mm dia., 10,200m
 - Distribution pipe 50-200mm dia., 104,960m
 - Additional house connections

KAB MAROS

- System expansion
 - Raw water transmission 400 mm dia. 200 m.
 - WTP 150 l/sec
 - Service reservoir 5,000 cu m.
 - Transmission pipe 400mm dia., 20,000m.
 - Distribution pipe 50 - 300mm dia., 123,000m.
 - Additional house connections

KOT PALOPO

- Rehabilitation:
 - Rehabilitation of existing WTP
- System expansion
 - WTP 200 l/sec at Selo Bambali
 - Service reservoir 2,000 cu. m.
 - Raw water transmission pipe 400-450mm dia., 15,100m.
 - Transmission pipe 400 – 450 mm dia., 12,400m.
 - Distribution 75-300 mm dia, 89,340m.
 - Additional house connections

KAB BANDUNG

- System development and expansion:
 - Land acquisition
 - Intake at Cisanhuy river for 600 l/sec (100 l/sec for existing WTP)
 - WTP 500 l/sec
 - Raw water Transmission pipe 3,650 m 600 mm dia.
 - Treated water transmission pipe 52,317m, 300 – 600 mm dia
 - Service reservoir 9,000 cu m capacity.
 - Distribution pipe 360,960 m 75 to 250 mm dia.
 - Replacement of existing house water meters 3,790 units
 - Additional house connections

- PDAM branch office.

KAB BOGOR

- Bogor Timur expansion
 - Land acquisition
 - WTP at Desa Bojong Nangka – 150 l/sec
 - Additional service reservoirs 3,600 cu.m. at Bojong Nangka
 - Transmission pipe, 500 mm dia., 5,150 m
 - Distribution pipe 226,000 m 50 to 400 mm dia.
 - Additional house connections
- Bogor Tengah expansion
 - Land acquisition
 - WTP at Desa Sukahati, Kec. Cibinong 150 l/sec
 - Additional service reservoirs 3,000 cu.m. at Desa Sukahati, Kec. Cibinong
 - Transmission pipe dia 400 mm – 500 mm., 9,700 m.
 - Distribution pipe 50 to 300 mm dia., 187,000 m
 - Additional house connections
 - Rehabilitation transmission pipe, dia. 400 mm – 50 mm, 73,120 m
 - Replacement house water meter 15,000 units
 - Replacement of main water meter at WTP Cibinong
- Bogor Barat expansion
 - Land acquisition
 - Spring intake works At Binong Spring, Kec. Ciomas, 70 l/sec
 - Transmission pipe dia 200 – 400 mm, 9,100 m
 - Distribution pipe 50 to 300 mm dia., 54,190 m
 - Reservoir with capacity 710 m³
 - Break pressure tank 2 units
 - Transmission pipe 40 l/sec. from Binong Spring to Ciburial Reservoir (existing)
 - Transmission pipe 30 l/sec from Binong Spring to Ciampea Reservoir
 - Distribution pipe 50 l/sec from Kahuripan Spring System (existing) to Kec. Ciampea
 - Power supply and supporting facilities at Kec. Ciampea
 - Additional house connections

5. The Client will provide Sub-Project Appraisal Report for each Regional Government. Contained in these reports are the outline designs for the water supply systems. These outline designs are to be used as the basis for bidding.

C. DBO DOCUMENT PREPARATION

6. The basic tasks to be addressed by the Consultant include:
- Prepare pre-qualification documents and guidelines on short-listing of contractors.

- Prepare outline designs and general arrangement drawings for proposed water supply works.
- Prepare schedules of quantities based on outline designs. These schedules to be arranged for use:
 - a. in selection of the successful contractor during the bid evaluation process, and
 - b. in execution of the contract works on a schedule of rates basis.
- Schedules of quantities to include for:
 - a. Construction of the facilities.
 - b. Operation and maintenance of the WTP and distribution system for a two year period concurrent with development of the distribution system.
 - c. Training of PDAM staff in the operation and maintenance of the complete system.
 - d. House connection public campaign.
 - e. House connection installation costs for a contracted number of customers.
- Prepare performance based specifications for the works with salient criteria to include:
 - a. Area to be serviced and minimum number of connections to be added to the system (i.e. 80% of the WSSP design figure).
 - b. Drinking water quality.
 - c. 24 hour service.
 - d. Adequate pressure.
 - e. UFW reduced to target figure – 15% to 20% for new distribution area, 5% to 10% reduction on current figure (agreed during year 1) for existing distribution area.
- Compile bid documents to include:
 - a. Definition of the Contract Service Area including
 - i. Definition of boundary.
 - ii. Description of sites proposed for use in the Project.
 - iii. Details of any existing facilities.
 - b. Outline of the scope of works to be executed.
 - c. Performance criteria to be achieved.
 - d. General arrangement drawings.
 - e. Schedules of quantities and rates.
 - f. Technical standards to be observed in the construction of the works.

IV. MANAGEMENT OF THE SERVICES

7. The Executing Agency for the services shall be the Ministry of Public Works, Cipta Karya. The Bupati / Walikota in each participating local government will establish a Project Implementation Unit (PIU) or Working Group and appoint a Project Manager, who will lead the PIU. The Project Manager will be knowledgeable in water supply and sanitation affairs and the management of consulting services.

V. OVERALL SCHEDULE AND PROJECT BUDGET

8. The TA will be undertaken betweento The duration of the services is therefore five months. The estimated cost of the services is US\$250,000.

VI. INPUTS TO BE PROVIDED BY THE GOVERNMENT

9. All levels of Government and the PDAM will make relevant data and operational records available to the consultants. This includes information on water sources, documentation defining proposed water supply service areas, SPARs, information on existing facilities and available field survey data.

10. The PEMDA will provide one full time counterpart staff to facilitate conduct of the services. Pemda and the PDAM in each location will nominate specific staff to work with the consultant. Specialist staff will be available to brief the Consultant at short notice, while senior staff of the government will be available for consultation within one day of a request for such consultation.

VII. INPUTS TO BE PROVIDED BY THE CONSULTANTS

A. PERSONNEL AVAILABILITY AND LOCATION

11. The amount of expertise shall be distributed approximately as shown in the following table, and is expected to have skills as described in the next section.

Table 4: Expertise Required

No.	Expertise	International months	Local months
1	TL / Procurement Specialist	5	
2	DTL / Water Supply Engineer		5
3	Assistant Water Supply Engineer 1		5
4	Assistant Water Supply Engineer 2		5
5	Assistant Water Supply Engineer 3		5
6	Assistant Water Supply Engineer 4		5
7	Quantity Surveyor		2
8	UFW Reduction Specialist		2
9	Contract Document / Legal Specialist		2
	Total	5	31

12. The Consulting Team will be based in Jakarta. Support staff, office accommodation, communications and office supplies will be provided by the Consultant.

B. PERSONNEL QUALIFICATIONS

13. The qualifications of required of international experts are outline below:

14. **Team Leader/ Procurement Expert:** An international expert with at least 15 years post graduation experience with a second degree or 20 years otherwise. At least 10 years experience design, documentation and bidding in water supply infrastructure. Experience with designing and implementing turnkey and design / build contracts on an international basis. Will have recognizable leadership skills and at least 10 years of multi-disciplinary team leadership experience. Experienced in Indonesia or South East Asia. Familiar with current best practice trends in water supply infrastructure contracting.

15. Deputy Team Leader / Water Supply Engineer: At least 15 years post graduation experience in all aspects of design, construction, operation and maintenance of water supply systems for utilities. Preferably experienced in designing and implementing UFW programs.

16. Assistant Water Supply Engineer: At least 10 years post graduation experience in all aspects of design, construction, operation and maintenance of water supply systems for utilities.

17. Quantity Surveyor: At least 10 years post graduation experience in preparation of contract documents for international bidding.

18. UFW Reduction Specialist: At least 5 years post graduation experience in all aspects of unaccounted for water reduction in urban water supply systems in Asian countries.

19. Contract Document / Legal Specialist: At least 5 years post graduation experience in preparation and execution of contract documents used for international bidding for infrastructure works.

VIII. PROJECT DELIVERABLES AND SCHEDULE

20. Reporting and documentation provision is to consist of the following:

1. Inception Report: Covering workplan, initial findings, and details of approach. 10 copies in the English and Indonesian language by the end of Month 1.

2. Generic Bid Documents: A single generic set of bid documents which clearly defines the format and proposed contents of the proposed DBO bid documents by the end of Month 3. 10 copies in English language.

3. Draft Bid Documents: One complete set of bid documents for one of the proposed locations by the end of month 4. 10 copies in English and Indonesian dual language format.

4. Final Bid Documents: Presented at the end of the assignment complete sets of bid documents in hard copy, digital and pdf format. 10 copies in English and Indonesian dual language format.

DRAFT TERMS OF REFERENCE FOR PROJECT MANAGEMENT CONSULTANT

I.	BACKGROUND TO THE COMPONENT	1
II.	OBJECTIVES OF THE SERVICES	1
III.	SCOPE OF ACTIVITIES	1
IV.	MANAGEMENT OF THE SERVICES	2
V.	OVERALL SCHEDULE AND PROJECT BUDGET	3
VI.	INPUTS TO BE PROVIDED BY THE GOVERNMENT	4
VII.	INPUTS TO BE PROVIDED BY THE CONSULTANTS	4
A.	Personnel Availability and Location	4
B.	Personnel Qualifications	5
C.	Transfer of Knowledge and Skills	5
VIII.	PROJECT DELIVERABLES AND SCHEDULE	6
A.	Reports	6

I. BACKGROUND TO THE COMPONENT

1. The Water Supply and Sanitation Project (WSSP) will provide improved water supply and sanitation services in eight cities and towns within the Provinces of Banten, North Sumatra, South Sulawesi and West Java. The project will respond to the water supply and sanitation needs of these urban communities, including low income households, by optimizing existing assets, expanding coverage, improving governance and building the capacity of local institutions. The Project will provide an estimated 620,000 people with safe drinking water. It will raise the coverage of piped systems from 25% to 53% within the selected locations, during the five year period of the Project. City wide sanitation strategies will be developed in all eight Project locations. Improved sanitation facilities will be provided on a pilot project basis to 110,000 people and this will be supported by improved management of both the development and operation of urban sanitation systems. Improvements in sanitation will be further supported by public education programs in health and hygiene.

II. OBJECTIVES OF THE SERVICES

2. The overall objective of the Project Management (PM) Consultancy will be to provide engineering and project management advice and assistance, for the implementation of the WSSP, to the staff of the Project Management Unit (PMU), located centrally in the Directorate General of Human Settlements (DGHS), and to the Project Implementation Units (PIUs) located in each of the Project Locations of Kabupaten Serang, Kabupaten Tapanuli Tengah, Kabupaten Barru, Kabupaten Jeneponto, Kabupaten Maros, Kota Palopo, Kabupaten Bandung and Kabupaten Bogor.

III. SCOPE OF ACTIVITIES

3. The tasks to be addressed by the PM Consultants are as follows:

- Maintain a master schedule of all Project activities and monitor performance against progress, identifying problem areas and working with the PMU and PIU to solve these problems.
- Monitor financial performance of the Project and report to PMU as necessary.
- Coordinate the activities of the Stakeholder Committees, particularly with regard to the community based sanitation elements of the Project.

- Ensure compliance with quality and best practices of consultancy services and physical works carried out by contractors. This work would include design review and checking responsibilities.
- Advise on procurement related matters.
- Coordinate activities of all Consultants working on the Project to ensure optimal and effective utilization of resources.
- Coordinate activities with the Quality Control Consultants to ensure best practices in construction activities, Technical Assistance and project financial management.
- Review specific reports, with special regard to environmental and social development activities, and forward a copy to the ADB.
- Ensure that all relevant ADB policies and guidelines are complied with particularly procurement, financial management and safeguards against corruptive practices and negative social and environmental impacts.
- Carry out necessary surveys and gather data as is necessary and required as part of the PPMS.
- Monitor and report to PMU on compliance with Loan Covenants on a bi-annual basis.
- Prepare periodic reports, such as progress and audited financial reports, to the ADB as required.

IV. MANAGEMENT OF THE SERVICES

4. The Executing Agency for the services shall be the Ministry of Public Works, Directorate General of Human Settlements (Direktorat Jenderal Cipta Karya). At the national level, a Sub-Committee of the Steering Committee will be formed. Within the DGHS a PMU will be formed and this PM Consultant will work in close cooperation with the staff of the PMU.

5. The Bupati / Walikota in each participating local government will establish a Project Implementation Unit (PIU) or Working Group and appoint a Project Manager, who will lead the PIU. The Project Manager will be knowledgeable in water supply and sanitation affairs and the management of consulting services. He/she will have senior status within Pemda and shall facilitate access to key stakeholders, including the DPRD.

6. The Bupati / Walikota will also oversee the establishment and operationalization of a Water Supply and Sanitation Stakeholder Committee (WSSSC) which will be representative of all major local government stakeholders. The Committee shall in turn appoint its own Chairman. It is expected the Committee will also oversee the appointment of any subsequent stakeholder consultative or representative committees.

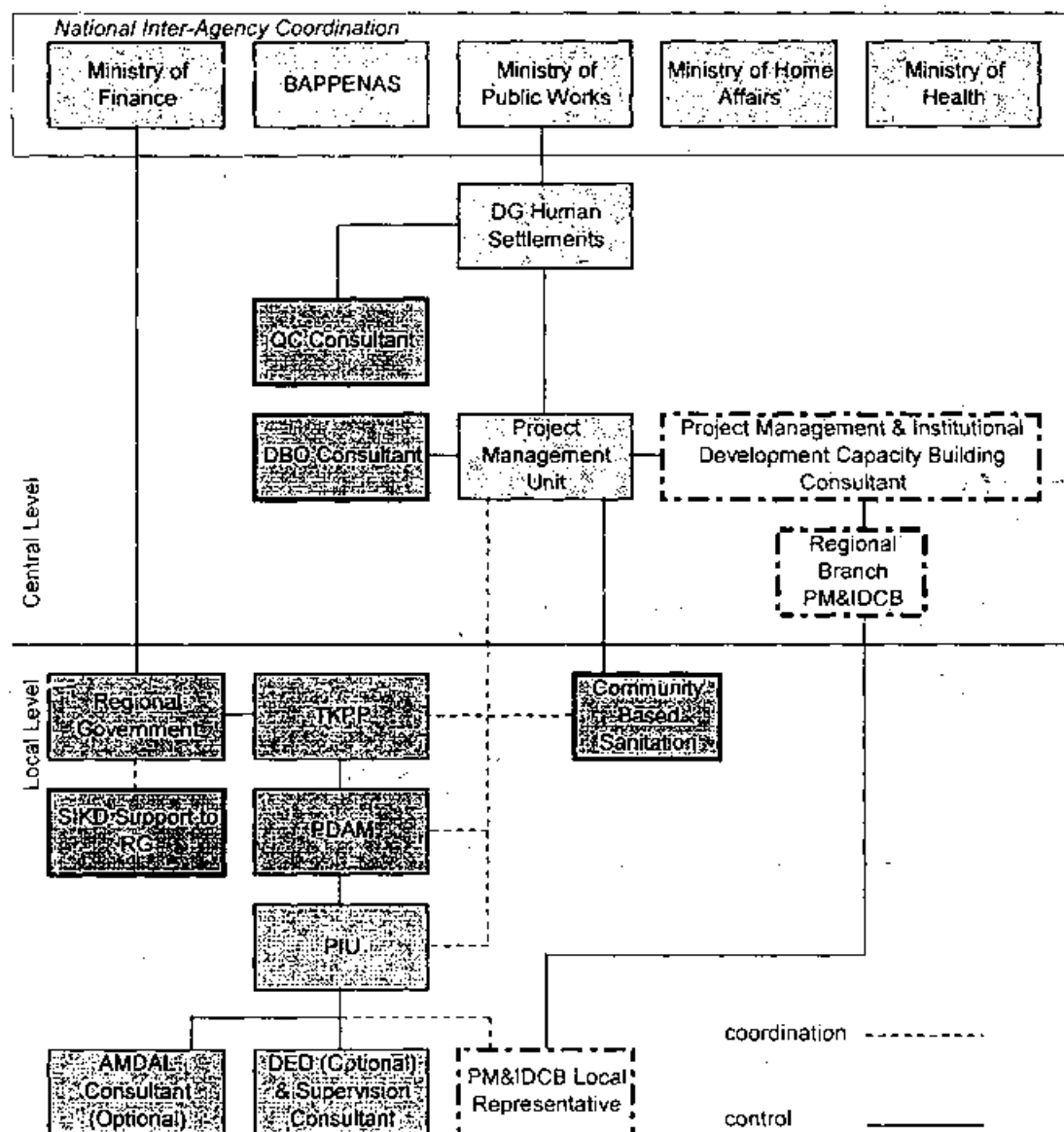
7. The PIU will be attached to the (to be advised). Membership of the PIU will be drawn from the PDAM, Bappeda and Biro Organisasi dan Tata Laksana and other sections of Pemda. It shall be primarily responsible for ensuring efficient and effective implementation of WSSP. The PIU will be funded by Pemda and report monthly to the Bupati / Walikota, WSSS Committee and central government on progress and critical issues.

8. The WSSP will also field Consultants for (i) institutional development and capacity building and (ii) quality control. This PM Consultant will act as the lead Consultant, coordinating the work of the other Consultants for the period of the assignment.

9. The WSSS Committee will agree with the Project Manager and consultants early in the first year of the assignment the key indicators of assignment success and meet no less than monthly with the consultants and Working Group thereafter. The Chairman will provide (generally within 2 weeks of the event) to the Head of WSSP in Jakarta the following: (i) the Minutes of all meetings of the Committee; (ii) all progress and other reports of the consultant accompanied by an

indication of the Committee's approval or otherwise of the reports' contents; (iii) the Committee's conclusions and recommendations relating to any issues raised by the PIU and consultant; (iv) the Committee's Impact Assessment Report on the services, reported within 1 month of the completion of the services (this is to serve as a basis for the PMUs Impact Assessment required by the ADB to be conducted after project completion).

Figure 1: Framework for Consulting Services for WSSP



10. The Head of the PMU in Jakarta report as routinely to the National Steering Committee, which includes (to be advised).

V. OVERALL SCHEDULE AND PROJECT BUDGET

11. The TA will be undertaken between to The duration of the services is therefore three calendar years. The estimated cost of the services is US\$3,500,000.

12. As described, activities under this TOR do not cover the procurement or actual conduct of specialized services, for example, leakage established the need for this work, it is difficult to estimate such costs. Besides, much of the IDCB component does not need physical investment but rather just time and commitment from personnel.

13. Contingent upon the demonstrable commitment of the key stakeholders, well developed plans, progress and the availability of funding throughout the project, financial assistance from central government, especially for sanitation works and IDCB activities, will be granted to implement the particular aspects of plan.

VI. INPUTS TO BE PROVIDED BY THE GOVERNMENT

14. All levels of Government and the PDAM will make relevant data and operational records available to the consultants. This includes BPKP audit reports, information generated by the any ongoing studies and data related to State Owned Enterprises in the project area.

15. The PEMDA will provide full time counterpart staff to facilitate conduct of the services. Pemda and the PDAM in each location will nominate specific staff to work on technical, financial and institutional matters with the consultant. As agreed between the Consultant and the Project Manager, these staff may be responsible for completing various tasks under the guidance of the Consultant.

16. Specialist staff will be available to brief the Consultant at short notice, while senior staff of the government will be available for consultation within one day of a request for such consultation.

VII. INPUTS TO BE PROVIDED BY THE CONSULTANTS

A. PERSONNEL AVAILABILITY AND LOCATION

17. The amount of expertise shall be distributed approximately as shown in the following table, and is expected to have skills as described in the next section.

Table 1: Expertise Required

Location	Expertise	International months	Local months
Core Consulting Team			
Jakarta	1 Team Leader	36	
	2 Deputy Team Leader		36
	3 Financial Specialist		36
Branch Consulting Team			
Makassar	1 Branch Team Leader	18	
	2 Deputy Branch Team Leader		36
	3 Financial Specialist		36
Local Consulting Team in Each Regional Government			
	1 Local PM Consultant / WS&S Engineer		288
	8 locations – 36 months per person		
	Grand Totals	54	432

18. A Core Consulting Team of expert staff will be based in Jakarta to coordinate and support the PM work in each location. This expert group needs to be closely involved, as they will provide expert guidance and draft materials in common across the local governments – such as a generic project management scheduling and programming - and so should set the overall technical and financial agendas for their local teams as much as possible.

19. Due to there being four Sub-Projects located in South Sulawesi and for reasons of travel, the PM Consultant will establish and operate a branch office in Makassar.

20. The consultant will base a Local Consulting Team in each participating local government. The services will be performed in each local government, overseen on a day to day basis by the Project Manager and coordinated by TKPP. Individual tasks may be performed elsewhere upon the explicit approval of the Manager.

21. Support staff, office accommodation, transport, communications and office supplies will be provided by the consultant in Jakarta and Makassar. In the Sub-Project locations support staff and office accommodation will be provided by the Regional Government, whereas communications, transport and office supplies will be provided by the Consultant.

B. PERSONNEL QUALIFICATIONS

22. The qualifications of required of experts are outline below:

23. **Team Leader/ Project Management Specialist:** An international expert with at least 15 years post graduation experience with a second degree or 20 years otherwise. At least 10 years experience in project management consulting for ADB or World Bank projects in water supply, sanitation, urban infrastructure or other public sector delivered service. Familiar with current best practice in Design Build or Turnkey type contracts. Will have recognizable leadership skills and at least 10 years of multi-disciplinary team leadership experience. Experienced in Indonesia and able to communicate effectively with government officials. (One position).

24. **Deputy Team Leader and Deputy Branch Team Leader / Project Management Specialist:** An expert with at least 15 years post graduation experience with a second degree or 20 years otherwise. At least 10 years experience in project management consulting for ADB or World Bank projects in water supply, sanitation, urban infrastructure or other public sector delivered service. Will have recognizable leadership skills and at least 10 years of multi-disciplinary team leadership experience. (Two positions).

25. **Branch Team Leader/ Project Management Specialist:** An international expert with at least 10 years post graduation experience with a second degree or 15 years otherwise. At least 5 years experience in project management consulting for ADB or World Bank projects in water supply, sanitation, urban infrastructure or other public sector delivered service. Familiar with current best practice in Design Build or Turnkey type contracts. Experienced in Indonesia and able to communicate effectively with government officials. (One position)

26. **Financial Specialist:** At least 10 years experience since acquiring a degree in finance or commerce. Minimum five years previous experience working on ADB or World Bank projects and good understanding of financial reporting for effective management of projects. (Two positions).

27. **Local Project Management Consultant / Water Supply and Sanitation Engineer:** Experienced Team Leader with strong leadership skills, a water and sanitation engineer or urban planning, with at least 15 years experience in the water and sanitation or urban infrastructure sector, at least 10 years of which should have been in the preparation of investment plans, including local institutional development action plans under the IUIDP approach. Policy and capacity analysis, development and implementation and planning favorably considered. Able to communicate with the highest local level is essential. (Eight positions).

C. TRANSFER OF KNOWLEDGE AND SKILLS

28. This should be achieved between members of the consulting team to Pemda, PDAM and provincial government staff. It will be further enhanced by training, discussion, desk to desk assistance and clarity of presentations and reporting.

VIII. PROJECT DELIVERABLES AND SCHEDULE

29. Reporting is to consist of the following:

1. **Inception Report:** Covering workplan, initial findings, and details of approach. 20 copies in the Indonesian language, with an Executive Summary in English incorporated in each copy. One for the Project at Week 6 and one for each city at the end of Month 2.
2. **Monthly Report:** Brief monthly reports in standardized format from each Sub-Project location, not more than 5 pages.
3. **Quarterly and Annual Reports:** Draft reports on progress for review and confirmation by the PMU. All in complete in accordance with ADB Guidelines for Progress Reports. Provide 20 copies in the English and Indonesian language, with an Executive Summary incorporated in each copy.
4. **Special Reports as Necessary:** From time to time and as necessary prepare special reports covering strategic matters such as the approach to DBO contract management, handover of facilities, confirmation of operation in accordance with PP16/2005 etc. These reports are to be prepared as requested by the PMU and at a reasonable frequency. Provide 20 copies in the English and Indonesian language, with an Executive Summary incorporated in each copy.
5. **Final Report:** Presented at the end of the assignment listing the inputs used and the outputs produced, evaluating the service's achievements, identifying the weaknesses of the process, suggesting follow up actions and assessing the impact of the services from the consultant's perspective. Provide 20 copies in the English and Indonesian language, with an Executive Summary incorporated in each copy.

DRAFT TERMS OF REFERENCE FOR INSTITUTIONAL DEVELOPMENT AND CAPACITY BUILDING COMPONENT

I.	BACKGROUND TO THE COMPONENT	1
II.	OBJECTIVES OF THE SERVICES	2
III.	SCOPE OF ACTIVITIES	2
A.	Locations, Staging and Expertise	2
B.	Agreement with Pemda on the IDCB Objectives and Process	3
C.	Local Institutional Development Action Plan (LIDAP)	4
D.	City Wide Sanitation Strategy	5
E.	Financial and Operational Performance Improvement Plan (FOPIP)	6
F.	Financial Management and Other Tasks	7
G.	Project Performance Monitoring System	7
H.	Training and Workshops	7
IV.	MANAGEMENT OF THE SERVICES	8
V.	OVERALL SCHEDULE AND PROJECT BUDGET	9
VI.	INPUTS TO BE PROVIDED BY THE GOVERNMENT	9
VII.	INPUTS TO BE PROVIDED BY THE CONSULTANTS	9
A.	Personnel Availability and Location	9
B.	Personnel Qualifications	11
C.	Transfer of Knowledge and Skills	13
VIII.	PROJECT DELIVERABLES AND SCHEDULE	14
A.	Reports	14
B.	Workshops	15

Attachment – Some Possible Actions under LIDAP and FOPIP

I. BACKGROUND TO THE COMPONENT

1. The Water Supply and Sanitation Project (WSSP) will provide improved water supply and sanitation services in eight cities and towns within the Provinces of Banten, North Sumatra, South Sulawesi and West Java. The project will respond to the water supply and sanitation needs of these urban communities, including low income households, by optimizing existing assets, expanding coverage, improving governance and building the capacity of local institutions. The Project will provide an estimated 620,000 people with safe drinking water. It will raise the coverage of piped systems from 25% to 53% within the selected locations, during the five year period of the Project. City wide sanitation strategies will be developed in all eight Project locations. Improved sanitation facilities will be provided on a pilot project basis to 110,000 people and this will be supported by improved management of both the development and operation of urban sanitation systems. Improvements in sanitation will be further supported by public education programs in health and hygiene.

2. Improving the performance in a sustainable manner of organizations providing water supply and sanitation services under the WSSP requires changes in the institutional set-up as well as capacity building within the local government organizations responsible for policy making, regulating and delivering the services. The Institutional Development and Capacity Building (IDCB) Component is designed to assist with these changes.

3. Under on-going decentralization, water supply and sanitation service delivery has been even more clearly defined as the responsibility of local government, who provide services – through local government owned enterprises known as Perusahaan Daerah Air Minum (PDAMs) in the case of water supply, and a range of agencies for sanitation. The quality of services from these providers is limited, both by the incentives that the overall institutional framework offers and by many of the usual obstacles facing state organizations – such as lack of stakeholder participation, poor operational systems and procedures and weak human resources. Overall, sector governance as well as governance of providers is poor, with attempts to improve specific

operations being limited by institutional obstacles, low appreciation of the need to invest in creation of both physical and non-physical assets, and lack of sustained capacity building interventions.

4. The national government is now making concerted efforts to improve the framework in which the services are provided. This effort accelerated with promulgation of a new water resources law (UU 7/2004) in 2004 and a Government Regulation (PP 16/2005) in March 2005 concerning water supply and sanitation services. The regulation, among other matters, outlines a legal and regulatory framework for water and sanitation in which policy making, regulatory and service provision roles are better delineated, the importance of planning highlighted and cost recovery moved centre-stage. Legislation is also being drafted to improve corporate governance of PDAMs and require improvement in local institutional arrangements, while a national level policy on capacity building is being formulated.

5. Against this background, institutional development and capacity building activities under the Project have been outlined during WSSP preparation and included in each SPAR, which the Consultant should use as the basic reference on which his work will build. Consulting services are now required to build on these efforts to ensure the benefits of the Project's physical investments are sustained in the long term.

II. OBJECTIVES OF THE SERVICES

6. The overall objective of the IDCB component is to ensure the attainment of the project's goals of responding to the water supply and sanitation needs of selected urban communities, including low income households.

7. The services' specific objective is to ensure that improved governance and capacity building leads to better decisions regarding project investments and their operation.

8. The institutional development and capacity building (IDCB) component of the Project supports attainment of Project objectives by addressing the major "non-physical" issues and obstacles to better performance posed by weak institutions and human capacity. IDCB will improve sustainability of the services provided under the physical investment by establishing a virtuous cycle of improved performance in delivery of services, increased willingness to pay and so greater allocation of resources to the sector. In summary, IDCB will begin reform of the governance of the sectors in each location as well as improve governance of the PDAM and service deliverers themselves, thereby opening the way for financial and operational performance improvements.

III. SCOPE OF ACTIVITIES

9. Activities in each sub-project will be conducted within a framework of (i) a Local Institutional Development Action Plan (LIDAP) for the water and sanitation sector and (ii) a Financial and Operational Performance Improvement Plan (FOPIP) for the PDAM. Establishing a process for producing these plans, implementing planned actions and then updating the plans each year is as an important outcome as production of the first set of plans.

A. LOCATIONS, STAGING AND EXPERTISE

10. The consultant will provide services to eight local governments (PEMDA) through the provision of experts resident in each local government plus back-up from a regional office in Makassar and the Jakarta head office for the contract. Wherever possible, generic materials (systems, procedures, tools techniques etc) will be developed by experts in the head or regional office and help and training provided to the resident experts to introduce the material to local government.

11. It is likely that each local government will set different objectives and suggest a different process and actions for achieving them – the result being that the consultants will be called on to

provide a wide range of skills at unpredictable times. This will reduce the effectiveness of the technical assistance. To lessen this risk, the consultant will, in a first stage, agree with PEMDA an overall program for IDCB which should consist of developing a LIDAP (plus FOPIP for the PDAM) in the first year and then implementing planned actions in each succeeding year. One mandatory action in each succeeding year will be the evaluation and update of the LIDAP and FOPIP. A continuous improvement cycle should thus be established.

12. A second key stage is establishing the Water Supply and Sanitation Stakeholder Committee (WSSSC). Improved governance of the sector requires improvements in the oversight arrangements of the sector. To this end, the participating local governments have agreed to establish a "Water Supply and Sanitation Stakeholder Committee" and to reconstitute the Supervisory Board (Badan Pengawas or BP) of their PDAM, if necessary. The second stage of the Services should target the establishment of suitably constituted WSSSC and BP within 6 months of Project launch.

13. A third stage expected to be complete by the end of the first year is the preparation of the LIDAP and FOPIP and some of the mandatory actions, one of which is the preparation of PEMDA a City Wide Sanitation Strategy (SS). Each of these plans will contain performance indicators and targets to support a project performance monitoring system. As noted, mandatory planning activity in succeeding years will focus on evaluating and updating the LIDAP, FOPIP and SS based on progress against targets.

14. Expertise is the primary input to be supplied by the consultant. Expertise required of the consultant should cover institutional and organizational development for water supply and sanitation, strategic planning, financial management, water supply and sanitation operations and capacity building and training. Specialist inputs related to legal drafting, human resources management systems, communications, corporate governance and community participation may also be needed. The consultant is not required to fund any performance improvement activity from the contract (other than to supply expertise and limited provision of training and equipment). Plans developed in conjunction with PEMDA will identify actions, budgets and sources of funding, which are expected to come from operational funds allocated by the providers. However, where additional Terms of Reference or procurement documents are required for the PEMDA to act on a plan, the consultant is expected to assist with their preparation.

B. AGREEMENT WITH PEMDA ON THE IDCB OBJECTIVES AND PROCESS

15. The participating local governments have agreed in general terms to instigate good governance practices and capacity building activities as a condition of the loan, but have not agreed in detail specific objectives for IDCB, nor the process for achieving the objectives. The consultant upon mobilization must therefore prepare materials explaining the role and function of the WSSSC and work with the appointed local implementing body (PIU) to agree the process for its establishment.

16. The PIU is expected to ensure the standard mechanism within PEMDA for inter-sectoral coordination and planning of projects (i.e. the Tim Koordinasi Perencanaan dan Pemantauan – TKPP – is activated and a process is designed and implemented for establishment and operationalizing the WSSSC. This stage should have been achieved by the end of the first month of project launch.

17. The WSSSC is, at a minimum, designed to provide advice to PEMDA and PDAM on WSSSC policy matters while matters of operational significant within the service provision agencies will be overseen by the Badan Pengawas for the PDAM, and the heads of the particular agency for sanitation matters. Preliminary discussions on the planning process to be followed and the performance indicators and targets should be reached also so that the WSSSC, once formed, has an expert input as the basis from which to develop their own, more detailed plans. In the case of PDAMs, for the BP to become more effective it first must be constituted to be more representative of stakeholders, if it has not already been re-constituted in accordance with Permendagri-7 / 1998. If needed, the consultant will assist TKPP and PIU achieve this reform

within 6 months of the project launch. Thus, by 6 months of project launch there should be in place a team from PEMDA ready to lead the IDCB component by preparing the overall LIDAP, plus a nascent WSSSC able to begin, among other activities, the preparation of the Sanitation Strategy plus a functional BP for overseeing the development and implementation of the FOPIP.

18. It is expected the consultant will spend the rest of the first year helping the PIU/TKPP, the WSSSC and the BP/PDAM with both designing and implementing the planning process and actual technical matters associated with developing the LIDAP, FOPIP and Sanitation Strategy.

19. Activity in the following years will concentrate on developing an annual cycle of review of progress towards LIDAP targets, plan adjustment and assistance to PEMDA to manage the implementation of IDCB activity.

C. LOCAL INSTITUTIONAL DEVELOPMENT ACTION PLAN (LIDAP)

20. Activities under the LIDAP will focus on institutional matters over which the PDAM or sanitation line agencies have little or no control but which enable better performance of these providers. The scope includes developing programs of activities under the broad headings of: (i) planning and implementing the restructuring of the sector at the local level; (ii) improving cost recovery through the tariff-setting processes; (iii) restructuring the PDAM /agency and owner relationship to improve not only autonomy but also accountability, (iv) introduction of performance agreements between the PEMDA and PDAM; (v) better governance through policy-regulatory-implementation role separation and clarification; (vi) revision of the underpinning local laws and regulations; and (vii) development of a core capacity among key people in the sector to play their role in a reformed institutional set-up.

21. The LIDAP should concentrate on ensuring the governance set-up of the water supply and sanitation sector can deliver integrated planning as intended in PP 16 / 2005, and the coordination needed between the various organizations in the sector considered essential for sustained improvement in services. The plan should be oriented to results as perceived by the key stakeholders, with strategic and specific objectives measured as much as possible by performance indicators, against which numerical targets have been agreed. Strategic objectives should ensure cost recovery and community satisfaction with services that are continually improving, while specific objectives will likely cover a range of elements concerning finances, regulation, industry structure and owner - implementer relationships.

22. The Consultant should assist the PIU / TKPP to prepare a discussion paper on how the institutional set-up of the sector in the PEMDA might be improved. The PIU / TKPP may delegate this to BAPPEDA or another "lead agency", or even take the lead and allocate elements of the paper to different organizations. The discussion paper should include an assessment of the existing performance, the main stakeholders and their interests, and the gap between current performance that expected by the main stakeholders. Strategies should be outlined based on the raising the level of cost recovery, separating policy making and regulation from implementation and strengthening regulatory activity, the introduction of more operators to service different segments of the community and greater involvement of other groups, such as the private sector and the community.

23. After the lead agency has collected data, studied the sector and drafted suggestions, the consultant will facilitate dissemination of this "Green Paper" for comment and then help the lead agency run a series of workshops where members of the TKPP, WSSSC and BP/PDAM will agree strategic and specific objectives for the sector and develop the LIDAP. Agreeing the objective at a high level is necessary before lower level improvement actions can be easily identified and prioritized. The first LIDAP should be available by the end of month 12 after project launch, and preferably by November, to ensure budget allocation for prioritized performance improvement actions can be allocated in the PEMDA and PDAM's budget for the coming year.

24. Actions included depend upon the objectives and priorities agreed between TKPP, WSSSC and the BP, with mandatory actions being: (i) Establishment and operationalizing the Water Supply and Sanitation Stakeholder Committee; (ii) Development of a City wide Sanitation

Strategy for the urban area targeted by the Project; (iii) adoption of the "Green Paper" (or its revision into a final "White Paper" through issue of a PERDA during Year 2; (iv) development and signing of a "performance contract" between PEMDA and the PDAM in Year 2, along with related institutional arrangements; (v) revision of PERDA(s) related to tariffs / service charges which ensure operators are able to recover the real cost of providing their services

25. Attachment 1 provides a long but not definitive list of actions which might be chosen for both water supply and sanitation. It is expected that routine capacity building of the WSSSC and BP would be included among prioritized actions.

26. Development of the PDAM performance contract should include agreement on the performance indicators and targets, and on who or what organization will be used to independently confirm performance. Performance indicators should as much as possible be comparable between PDAMs and so this end, use of the PERPAMSI Benchmarking System is encouraged. An independent "regulator" should act as the arbiter of any disputes concerning the performance that arise between the PDAM and PEMDA over the contract.

D. CITY WIDE SANITATION STRATEGY

27. A major component of that part of the LIDAP that deals with sanitation should be preparation of a strategy for improving sanitation and hygiene within the city, especially for the poor. Oversight of this task will be one of the main responsibilities of the Water Supply and Sanitation Stakeholder Committee (WSSSC). The consultant will assist local government agencies with this task, which should be completed by the end of the first year of the project to allow implementation to begin in the second year.

28. The consultant will first agree the process, objectives and allocation of work with the WSSSC and the relevant government agencies, which are expected to perform most of the work, under the consultant's guidance. The strategy may include actions to study further the feasibility of centralized sewerage systems, but will certainly include provision of community based sanitation systems (community sanitation centres – MCK++, simplified community sewerage systems and school sanitation centres). It will also include community and schools health education programs and proper establishment of water quality testing, both of water used by households and of water discharged to the environment.

29. The sanitation strategy will specifically target low income areas which are already served by piped water and areas proposed for water supply under the project, to widen the choice of sanitation options. "Sanitation maps" will be prepared highlighting the current state of sanitation in different areas along with information that will enable decisions to be made about which type of sanitation technology should be applied in different parts of the city. This physical assessment will be combined with a situational assessment begun under SPAR preparation (see Annex 1 of SPAR) and analyzed to produce recommendations for sanitation improvements, including performance indicators and possible targets.

30. As part of the situational assessment, neighborhood level women's organizations should be targeted to ensure that gender issues are fully accommodated in project design and implementation of community sanitation systems. The overall strategy will include objectives, criteria for selecting target locations and groups including the ratio of proposals accepted from gender-based groups to be approved in combination with or in addition to more common public and community works. The strategy should also specify the standards for physical works and include action plans to improve its sustainability and include sanitation awareness raising and hygiene promotion campaigns. One action plan will aim to increase the role women play in decision making concerning sanitation programs.

31. The consultant will design and implement with WSSSC a series of workshops to enable key stakeholders to consider the recommendations and develop a strategy for improving sanitation. In doing so, experience and learning from other ongoing projects working to produce similar strategies in other cities – such as the World Bank's USIEP, USAID's ESP and WSP's ISSDP – will be included.

32. A workable version of the Strategy should be available no later than 12 months after project launch to enable the first physical investments to begin in the second year. The strategy should be reviewed annually and refined as WSSP proceeds.

E. FINANCIAL AND OPERATIONAL PERFORMANCE IMPROVEMENT PLAN (FOPIP)

33. The Financial and Operational Performance Improvement Plan (FOPIP) will focus on the PDAM, unless in development of the Sanitation Strategy, the WSSSC decides to plan (and then implement) activities for improving the financial and operational improvement of PEMDA agencies responsible for sanitation services, in which case the WSSSC may suggest development of separate FOPIPs for sanitation providers. The FOPIP includes all activities the PDAM is able to control, including the quality of corporate governance provided by the Supervisory Board (the Badan Pengawas).

34. Activities under the PDAM's FOPIP will focus on matters over which top PDAM management have full control and can be held accountable for. To ensure rigor is introduced and economies of scale can be captured, the activities are to be conducted within the framework used in the SPAR – which is based on a recognized framework for organizational development, such as that offered by ISO 9000:2000, (Quality Management Systems) or local adaptation. An integrated approach will be used to ensure the PDAM as an organization develops its capacity by addressing enough issues to sustain a willingness to change. The FOPIP will include activities covering general leadership and management skills, financial management, customer relations, corporate governance, work systems, strategy and planning, processes and procedures, improved relationships with suppliers, the private sector and the community, information management and the raising the capacity of the people employed by the PDAM (see the FOPIP in each SPAR). Experience suggests that the FOPIP will not be sustained if there is not high level oversight, so the Badan Pengawas should approve and monitor the plan.

35. A mandatory program of improvements designed to kick-off the change and build confidence will include: (i) Preparation and progressive implementation of a plan of "good corporate governance", overseen by the Badan Pengawas; and (overseen by the Directors of the PDAM):- (ii) establishment and maintenance of an Internal Performance Improvement Team (iii) a revenue enhancement program (iv) Implementation and analysis of an annual customer satisfaction survey before each Annual Review (v) establishment and maintenance of a complaints receipt and processing function in the first year (vi) conduct of an Annual Review of the Corporate Plan and (up-dating as necessary) including of its indicators and targets (vii) implementation and analysis of an annual employee perception surveys before each Annual Review (viii) implementing a water loss reduction program (ix) annual collection and submission of performance benchmarking data to PERPAMSI; and (x) development of associated information system improvements.

36. PDAMs will also be able to choose specific performance improvement activities, so long as they can clearly demonstrate how the activity will help achieve the performance targets. The sporadic efforts at performance improvement of the past will be replaced by including the non-physical activities in the PDAM's annual planning procedures and orienting the planning to performance, as measured by achievement of targets agreed in a balanced set of key performance indicators developed during project preparation.

37. The process for development and annual review of the FOPIP will be agreed between the PIU, the Badan Pengawas of the PDAM and the consultant. After establishment of the Internal Performance Improvement Team of senior PDAM employees, the Corporate (ie Strategic) Plan of the PDAM will be updated by the PDAM with assistance by the consultant not later than 12 months after project launch.

38. Preparation of the "Plan for Good Corporate Governance" should be completed also by not later than 12 months after project launch using the "Good Corporate Governance Index" in the

SPAR as the basis for planning actions to improve governance, and the instrument to routinely assist progress.

39. Other mandatory activities besides the Plan for Good Corporate Governance and the Strategic Plan may start in parallel in the first year, or may be delayed until the second year, when the Corporate Plan will have prioritized them in the action plan (FOPIP), allocate budgets and assigned performance indicators.

40. The consultant will assist the BP and directors of the PDAM implement, monitor and adjust the Corporate as well as the Good Corporate Governance Plan each year. After the annual review of the plans, the FOPIP will be updated before November in order to ensure an allocation for FOPIP implementation funds for the following year.

F. FINANCIAL MANAGEMENT AND OTHER TASKS

41. An assessment of the financial management capacity during preparation of the SPAR indicated a range of weaknesses in all PEMDA and PDAM, especially those outside Java. The indicators of this capacity are listed in each SPAR. The consultant should upon mobilization assess participatively with PEMDA project staff, the financial management capacity and devise a plan to ensure it is adequate to enable proper control over project funds as well as the future operations of facilities constructed under the project.

42. Training as necessary will be provided and hands-on assistance provided to ensure project staff have the required capacity.

43. The consultant is expected to undertake various other tasks associated with the smooth implementation of WSSP which cannot yet be specified because of their specificity to location and information about local conditions. Major new tasks requested by PEMDA which are considered outside this TOR should be discussed with the client before major commitments are made.

G. PROJECT PERFORMANCE MONITORING SYSTEM

44. The consultants shall assist the client to design, establish and implement a project performance monitoring system based primarily on the performance indicators agreed between the GOI and the ADB at loan negotiations and included in the loan agreement. These indicators and associated targets should be explained to the participating local governments and used to guide the development of the LIDAP, the Sanitation Strategy and the PDAMs Good Governance and Corporate plan, on which the FOPIP will be based. It is expected that additional (low level) indicators will be developed locally to enable monitoring and evaluation of these plans, but that the plans will lead to improved performance as measured by the high level PPMS indicators.

45. Action plans should include the development and operation of information system to collect the information required to enable construction of all agreed indicators. Like other actions, the consultant will be expected to assist with the design of the PPMS and advise PEMDA on its implementation, but will not do the work, for example capture and process the data, himself.

46. Baselines data should be available at the end of the first year of the project and a full set of indicator results for each participating local government by the end of the second year after project launch.

H. TRAINING AND WORKSHOPS

47. The institutional development and capacity building component aim to bring new knowledge, attitudes and skills to the participating local governments. This will require the consultant to be aware of possible resistance and to design approaches to overcome it and to act as a change agent, particularly by providing training and other capacity building events, such as workshops and seminars. For this purposes a provisional sum of (to be advised) has been allocated in the contract.

48. The consultant is expected to determine needs by developing the assessments commenced during project preparation, prepare and provide training to PEMDA personnel in matters directly related to the project. At a minimum this includes (i) financial management for project implementation (ii) sector structure and services organization (iv) private sector participation (v) corporate / strategic planning for PDAMs based on stakeholder (including women's participation) (vi) strategic planning for sanitation improvements (vii) strategic human resources management and (viii) performance measurement and management and (ix) regulation in the communities interest. It is expected these course will be based on adult learning principles and rooted in the IDCB program. They should be oriented to solving the problems faced by the PEMDA, provide knowledge about the particular subject, illustrate its relevance to participants, enable practice of learning and ensure participants apply their learning to issues in the LIDAP and FOPIP through the development of part or all of the action plans. The consultant should seek to develop and deliver this material in cooperation with government agencies responsible to oversight of these matters and or organizations specializing in training in these matters.

49. The consultant may suggest other specialized training, be it classroom, on the job and distance ("e") learning. Training is expected to be mainly provided in the first two years of the contract, but more specialized activities may proposed for later years.

IV. MANAGEMENT OF THE SERVICES

50. The Executing Agency for the services shall be the Ministry of Public Works, Cipta Karya. At the national level, a Sub-Committee of the Steering Committee will be formed to guide the IDCB component. The Sub-Committee will comprise members from the Ministry of Home Affairs, BPKP, the Ministry of Health and the Ministry of Public Works, thus ensuring that central agencies with a stake in institutional matters are available for consultation by the project managers and the consultant.

51. The Bupati / Walikota in each participating local government will establish a Project Implementation Unit (PIU) or Working Group and appoint a Project Manager, who will lead the PIU. The Project Manager will be knowledgeable in water supply and sanitation affairs and the management of consulting services. He/she will have senior status within Pemda and shall facilitate access to key stakeholders, including the DPRD.

52. The Bupati / Walikota will also oversee the establishment and operationalization of a Water Supply and Sanitation Steering Committee which will be representative of all major local government stakeholders. The Committee shall in turn appoint its own Chairman. It is expected the Committee will also oversee the appointment of any subsequent stakeholder consultative or representative committees.

53. The PIU will be attached to (to be advised). Membership of the PIU will be drawn from the PDAM, Bappeda and Biro Organisasi dan Tata Laksana and other sections of Pemda. It shall be primarily responsible for ensuring efficient and effective implementation of WSSP. The PIU will be funded by Pemda and report monthly to the Bupati / Walikota, WSSS Committee and central government on progress and critical issues.

54. The WSSS Committee will agree with the Project Manager and consultants early in the first year of the assignment the key indicators of assignment success and meet no less than monthly with the consultants and Working Group thereafter. The Chairman will provide (generally within 2 weeks of the event) to the Head of WSSP in Jakarta the following: (i) the Minutes of all meetings of the Committee; (ii) all progress and other reports of the consultant accompanied by an indication of the Committee's approval or otherwise of the reports' contents; (iii) the Committee's conclusions and recommendations relating to any issues raised by the PIU and consultant; (iv) the Committee's Impact Assessment Report on the services, reported within 1 month of the completion of the services (this is to serve as a basis for the PMUs Impact Assessment required by the ADB to be conducted after project completion).

55. The Head of the PMU in Jakarta report as routinely to the National Steering Committee, which includes (to be advised).

56. Certain tasks will also be undertaken by PDAM or Working Group staff, in accordance with the agreed TOR or as agreed from time to time between the consultant and Project Manager. Progress on work will be reviewed regularly by PMU and further support given to the government where critical institutional decisions and actions are identified as being needed.

V. OVERALL SCHEDULE AND PROJECT BUDGET

57. The TA will be undertaken betweento The duration of the services is therefore 4 calendar years. The estimated cost of the services is (to be advised).

58. As described, activities under this TOR do not cover the procurement or actual conduct of specialized services, for example, leakage established the need for this work, it is difficult to estimate such costs. Besides, much of the IDCB component does not need physical investment but rather just time and commitment from personnel.

59. Contingent upon the demonstrable commitment of the key stakeholders, well developed plans, progress and the availability of funding throughout the project, financial assistance from central government, especially for sanitation works and IDCB activities, will be granted to implement the particular aspects of plan.

VI. INPUTS TO BE PROVIDED BY THE GOVERNMENT

60. All levels of Government and the PDAM will make relevant data and operational records available to the consultants. This includes BPKP audit reports, information generated by the any ongoing studies and data related to State Owned Enterprises in the project area.

61. The PEMDA will provide one full time counterpart staff to facilitate conduct of the services. Pemda and the PDAM in each location will nominate specific staff to work on technical, financial and institutional matters with the consultant. As agreed between the Consultant and the Project Manager, these staff may be responsible for completing various tasks under the guidance of the Consultant.

62. Specialist staff will be available to brief the Consultant at short notice, while senior staff of the government will be available for consultation within 1 day of a request for such consultation.

VII. INPUTS TO BE PROVIDED BY THE CONSULTANTS

A. PERSONNEL AVAILABILITY AND LOCATION

63. The amount of expertise shall be distributed approximately as shown in the following table, and is expected to have skills as described in the next section.

Table 1: Expertise Required

Location	Expertise	International months	Local months	Total
Core Consulting Team				
Jakarta	1 Team Leader - IDCB Expert	48	48	96
	2 Organizational Development Expert		48	48
	3 Capacity Building / Training Expert	18	48	66
	4 WS Engineer - Operations Management	18	48	66
	5 Legal Specialist	6	24	30
	6 Economist / Finance Specialist	6	48	54
	7 Public Sector Management Specialist		24	24
	8 Sanitation & PH Planning Expert	12	24	36
	9 Participative Planning Expert		24	24

Location	Expertise	International months	Local months	Total
	10 Gender Expert		24	24
	11 Social Marketing Expert		24	24
	12 Hygiene Promotion Expert		24	24
	13 Communication Expert		24	24
	14 MIS/ Information Technologist		48	48
	Sub-Totals for Core Team	108	480	588
Local Consulting Team in Each City - Eastern Region				
	1 Local Team Leader / WS&S Engineer		36	36
	2 Organizational Development Expert		12	12
	3 HR / Training Expert		9	9
	4 Water Supply Engineer		6	6
	5 Financial Management Expert		6	6
	6 Sanitation & PH Expert		6	6
	7 Institutional / Legal Specialist		6	6
	Sub-Total - 1 City	0	81	81
	Sub-Total - 4 Cities East	0	324	324
Local Consulting Team in Each City - Western Region				
Kabupaten Bogor	1 Local Team Leader / WS&S Engineer		48	48
	2 Organizational Development Expert		24	24
	3 HR / Training Expert		24	24
	5 Financial Management Expert		12	12
	6 Sanitation & PH Expert		12	12
	7 Institutional / Legal Specialist		12	12
	Sub-Total - Bogor	0	132	132
Kabupaten Bandung	1 Local Team Leader / WS&S Engineer		48	48
	2 Organizational Development Expert		18	18
	3 HR / Training Expert		12	12
	5 Financial Management Expert		12	12
	6 Sanitation & PH Expert		6	6
	7 Institutional / Legal Specialist		12	12
	Sub-Total - Bandung	0	108	108
Kabupaten Serang	1 Local Team Leader / WS&S Engineer		48	48
	2 Organizational Development Expert		18	18
	3 HR / Training Expert		12	12
	5 Financial Management Expert		12	12
	6 Sanitation & PH Expert		6	6
	7 Institutional / Legal Specialist		12	12
	Sub-Total - Serang	0	108	108
Kabupaten Tapanuli Tengah	1 Local Team Leader / WS&S Engineer		36	36
	2 Organizational Development Expert		12	12
	3 HR / Training Expert		12	12
	5 Financial Management Expert		12	12
	6 Sanitation & PH Expert		6	6
	7 Institutional / Legal Specialist		12	12
	Sub-Total - Tapanuli Tengah	0	90	90
	Sub-Total - 4 Cities West	0	438	438
	Sub-Total for Local Teams	0	762	762
	Grand Totals	108	1,242	1,350

64. A Core Consulting Team of expert staff will be based in Jakarta to coordinate and support the IDCB work in each location. This expert group need to be closely involved, as they will provide expert guidance and draft materials in common across the local governments – such as a generic performance contract - and so should set the overall agenda for their local teams as much as possible.

65. The consultant will base a Local Consulting Team in each participating local government. The services will be performed in each local government, overseen on a day to day basis by the Project Manager and coordinated by TKPP. Individual tasks may be performed elsewhere upon the explicit approval of the Manager.

66. Office accommodation, communications and office supplies will be provided by the consultant in each location, and in Jakarta.

B. PERSONNEL QUALIFICATIONS

67. The qualifications of required of international experts are outline below:

1. **Team Leader/ Institutional Development and Capacity Building Expert:** An international expert with at least 15 years post graduation experience with a second degree or 20 years otherwise. At least 5 years experience institutional building and capacity building projects in water supply, sanitation, urban infrastructure or other public sector delivered service. Experience with designing and implementing public sector reforms. Will have recognizable leadership skills and at least 10 years of multi-disciplinary team leadership experience. Experienced in Indonesia and able to communicate effectively with government officials. Familiar with current best practice trends in institutional development and capacity building.

2. **Capacity Building Expert:** An international expert and graduate in education, business studies, communication, cultural studies, marketing, psychology, organizational development, human resources management or industrial relations. At least 5 years graduate experience in either design of or management of training programs, human resources management and industrial relations, or participative planning.

3. **Water Supply Operations Engineer:** An international expert and graduate in water, civil or environmental engineering with at least 10 years experience in the operations of water treatment and distribution systems gained in developing countries, preferably south east Asia. Experience with developing performance based operations and maintenance programs and with water loss reduction strategies.

4. **Legal Specialist (International):** A minimum of 10 years since graduating in law. Legal experience in outlining and drafting legal and regulatory frameworks, preferably for infrastructure, and reform of state owned enterprises. Useful to have experience in commercial and company law, and developing performance contracts within the public sector. Preferable experience includes regulation and the interpretation and / or drafting of statutory law, particularly at local government level. Five years experience of projects in developing countries, especially in South East Asia.

5. **Economist / Financial Analyst (International):** At least 10 years experience since acquiring a degree in economics or commerce. Likely to be a postgraduate in finance, business or development studies. Experienced in financial modelling and project economics; preferable experience includes micro economic and market structure analysis, economic regulation or international finance. Able to conceive a range of options for ensuring financial arrangements provide the correct incentives for improved performance of PDAMs and some experience with public expenditure management reform.

6. **Sanitation and Public Health Planning Expert (International):** A minimum of a masters degree in urban planning, public health management, civil, sanitation or water engineering with at least 10 years experience in participative design and implementation of strategic sanitation programs which include both physical works, institutional and organizational development and awareness and behavior change components, preferably in urban areas.

68. The qualifications of required of national experts in the Core Consulting Team are outline below:

69. Positions 1 to 6 should provide skills similar to the international with complementary local experience. The ability to design programs, cooperate, lead and manage field activities would be highly appreciated.

7. **Organizational Development Expert:** A local expert at least a postgraduate of business studies, communication, marketing, psychology, organizational development, human resources management or industrial relations. At least 5 years graduate experience in either design or analysis of public enterprises, human resources management and industrial relations, marketing or public relations. Familiar with design and implementation of organizational improvement strategies for public sector organizations. Communicative.

8. **Public Sector Management Expert: (national):** A postgraduate of public administration studies within the last 10 years with at least five years experience in design and implementation of public sector administrative routines and procedures and "new public management" reforms in an infrastructure sector or core civil service.

9. **Participative Planning Expert (National):** Work experience of at least 15 years with 5 years since obtaining a postgraduate in urban planning with training in participative planning and evaluation methodologies. Strong facilitation skills and understanding of how community driven programs can be integrated with the government budgeting process.

10. **Gender expert (National):** A socio-economic graduate with post graduate qualifications in development or gender studies with 10 years work experience. Demonstrated networking capabilities. Able to articulate the importance of stakeholder participation, to design programs for inclusion of women and the poor in performance improvement activities, and act as a champion for the cause within the Project.

11. **Social Marketing Expert (National):** A post-graduate qualification in public health, advertising, marketing or communications with at least 10 years work experience, 5 years of which should be in market research, design, implementation and monitoring / evaluation of social marketing of public services. Experienced with developing marketing and communication plans and working with private sector marketers would be appreciated.

12. **Hygiene Promotion Expert (National):** A first degree in public health with post graduate qualifications in design, implementation and monitoring and evaluation of awareness raising and sanitation / hygiene change behavior. At least 10 years work experience, probably associated with national or local government public health promotion activities.

13. **Communications Expert (National):** A graduate of a communication program with post graduate qualification in public relation, advocacy or planning. At least 10 years work experience and experience with methods of assessing stakeholder needs and expectations, preparing strategic communications plans, implementing and monitoring results.

14. **Environmental Engineer (National):** Post graduate qualification in environmental engineering and at least 10 years experience with water, sanitation and pollution control project design, implementation and monitoring. At least 5 years of which should be concerned with preparation of action and monitoring plans for pollution control projects.

15. **Environmental Laws Expert (National):** A post graduate qualification in environmental law familiar with the legal and the environmental and pollution control legal and regulatory frameworks in Indonesia. At least 10 years work experience in the sector, with experience in assessing local laws and regulations, suggesting improvements and legal drafting.

16. **Management Information System Expert:** A graduate degree in information systems with experience in developing management information systems for both the private and public sector, preferably related to benchmarking performance or strategic human resources.

LOCAL CONSULTING TEAMS (OUTSIDE JAVA)

70. Local expertise needed of the Consultant includes inter alia:

1. **Team Leader: (National):** Experienced Team Leader with strong leadership skills, a water and sanitation engineer or urban planning, with at least 15 years experience in the water and sanitation or urban infrastructure sector, at least 10 years of which should have been in the preparation of investment plans, including local institutional development action plans under the IUIDP approach. Policy and capacity analysis, development and implementation and planning favorably considered. Able to communicate with the highest local level is essential.
2. **Organizational Development / Management Specialist (National):** At least 20 years work experience and preferably a post graduate of public administration, business studies, communication, marketing, psychology, organizational development, human resources management or industrial relations. At least 5 years graduate experience in either design and analysis of public enterprises, human resources management and industrial relations, marketing or public relations or 10 years in senior positions in government. Able to facilitate a dialogue within local government on change and restructuring the water and sanitation sector.
3. **Capacity Building Expert (National):** A graduate in education, business studies, communication, cultural studies, marketing, psychology, organizational development, human resources management or industrial relations with at least 10 years work experience. At least 5 years graduate experience in the assessment, design and delivery of training programs. Practical experience with the human resources management, participative planning and development functions of private or public sector.
4. **Sanitation and Public Health Planning Expert (National):** A minimum of a bachelors degree in urban planning, public health management, civil, sanitation or water engineering with at least 10 years experience in participative design and implementation of strategic sanitation programs which include both physical works, institutional and organizational development and awareness and behavior change components, preferably in urban areas.
5. **Institutional / Legal Specialist (National):** First degree in legal studies. Experience in the participative planning processes and workings of local government would be favored, as would formal education with respect to new public management reform.
6. **Financial Management Expert (National):** A commerce/accounting graduate with at least five years post graduation experience in economic and financial management and modeling of utility or commercial operations using recognized methods and programs. Able to assess financial management capacity, design training programs and assist PEMDA comply with recognized accounting standards. Experienced with a recognized financial projection spreadsheets.
7. **Water Supply and Sanitation Engineer:** At least 10 years post graduation experience in all aspects of operation and maintenance of water supply systems for utilities. Preferably experienced in designing and implementing UFW programs. The expert may have significant experience as an employee of another PDAM and have received training under various PERPAMSI programs.

LOCAL CONSULTING TEAMS (ON JAVA)

71. The teams should contain the experts in the table. The skills are as specified for those outside java, but a water supply operations engineer is not required, and the financial management expert is expected to have advanced skills with respect to tariff design and other aspects of financial management in addition to accounting system knowledge and skills.

C. TRANSFER OF KNOWLEDGE AND SKILLS

72. This should be achieved between members of the consulting team to Pemda, PDAM and provincial government staff. It will be achieved through the participative preparation of the LIDAP,

FOPIP, Corporate Plan and the Good Governance Plans. It will be further enhanced by training, discussion, desk to desk assistance and clarity of presentations and reporting.

VIII. PROJECT DELIVERABLES AND SCHEDULE

A. REPORTS

73. Reporting is to consist of the following

1. **Inception Report:** Covering workplan, initial findings, an details of approach. 20 copies in the Indonesian language, with an Executive Summary in English incorporated in each copy. One for the Project at Week 6 and one for each city at the end of Month 2.
2. **LIDAP:** To be written for senior decision makers in the government. Presented at the end of Month 9 for discussion and completed by Month 12. Prepared jointly with the staff of the PEMDA. To include a discussion of policy for water supply sanitation in the Kabupaten /Kota. Indonesian, with an Executive Summary in English incorporated in each copy.
3. **City Wide Sanitation Strategy:** To be written for senior decision makers in the government. Presented at the end of Month 9 for discussion and to be completed by Month 12. Prepared jointly with the staff of the PEMDA under guidance of the WSSSC. To include a brief discussion of the logic and a detailed presentation of the planned performance improvement actions. In Indonesian with an English Executive Summary incorporated in each copy. To be approved by PERDA.
4. **Corporate (Strategic Plan) for PDAM:** To be written for senior decision makers in the government. Presented at the end of Month 9 for discussion and to be completed by Month 12. Prepared jointly with the staff, and especially directors and members of the Badan Pengawas of the PDAM. Covering the financial, customer, operational and enabler perspectives needed to ensure a holistic plan to improve performance of the PDAM. Based on surveys, stakeholder consultation and including a set of performance measures with agreed targets. Acts as the guidelines and means of setting criteria for development of the FOPIP.
5. **FOPIP:** To be written for senior decision makers in the government. Presented at the end of Month 9 for discussion and to be completed by Month 12. Prepared jointly with the senior personnel of the PDAM that form the Internal Performance Improvement Team and approved by the directors of the PDAM. To include a brief discussion of the logic and a detailed presentation of the planned performance improvement actions. In Indonesian with an English Executive Summary incorporated.
6. **Reviews and Updates (of 2, 3, 4, 5):** Reviews and updates of these plans by November of each succeeding year (three no. for each document).
7. **Monthly Review:** Brief monthly reports in standardized format from each LCT, not more than 5 pages.
8. **Special Reports from the Core Team:** as proposed, covering strategic matters such as the approach to reform, regulation, incorporation of PDAMs, performance contracts and the monitoring and evaluation system under the PPMS
9. **Annual Progress Report:** Presented by the end of the first month of the succeeding year and containing inputs used, progress made, a work plan for the coming year and suggested actions for key actors.
10. **Final Report:** Presented at the end of the assignment listing the inputs used and the outputs produced, evaluating the service's achievements, identifying the weaknesses of the process, suggesting follow up actions and assessing the impact of the services from the consultant's perspective. Provide 20 copies in the Indonesian language, with an Executive Summary in English incorporated in each copy.

B. WORKSHOPS

74. Workshops and seminars shall be organized at local, regional and national level as appropriate to ensure that reform and change ideas are effectively transmitted between actors and peer learning is enhanced.

75. An intense series of participative planning workshops are expected in each participating local government in the first year to ensure the various plans are developed with the maximum amount of stakeholder input. Routine consultation with the community is expected thereafter.

76. In particular, a Water Supply and Sanitation Sector Structure and Policy Workshop will be conducted before the end of the first year and be designed to present the recommendations of the draft policy paper and reasons behind them, and to obtain key stakeholder support on matters addressed in the paper. This may include such matters as the means of improving and maintaining competition in the supply of water, the impact of arrangements on tariffs and possible subsidies, legal and regulatory issues, labor affairs, performance standards and service area.

77. A record of all workshops should be circulated within 2 weeks of the workshop being held and a record included in the progress Reports.

ATTACHMENT – SOME POSSIBLE ACTIONS UNDER THE LIDAP AND FOIP

LONG LIST OF INDICATIVE ACTIONS FOR INSTITUTIONAL DEVELOPMENT

- 1 CLARIFY THE OVERALL SYSTEM FOR SUSTAINABLE SERVICE DELIVERY**
 - 1.1 Clarify Who Determines Policy or Intent of the Local Government?**
 - i. Seek to increase the number amount of interaction with community groups
 - ii. better define responsibilities for policy formulation, documentation and implementation
 - iii. establish a water supply and sanitation stakeholder advisory committee.
 - iv. Review PP 16 / 2005 with regard to options for establishing an independent regulatory function
 - v. at a minimum, assign regulatory functions outside the PDAM and Board of Supervisors
 - vi. prepare new PERDAs to restructure the sector and mandate information the operators must provide to the regulator.
 - 1.2 Improve the Sector Planning Process**
 - i. Bappeda to lead re-design the local sectoral planning process based on Law 25 / 2004, ensuring PDAM is included in the scope
 - ii. orient to participative development of indicators and targets
 - iii. ensure Water and Sanitation Stakeholder Committee is involved
 - iv. ensure performance information is publicized.
 - 1.3 Improve the Sector Structure**
 - i. resolve the division of the PDAM assets (if PDAM has been split) with neighboring government
 - ii. consider alternative schemes for outsourcing ("contracting-out") or "contracting-in" the operation of some of the smaller systems to lower costs and raise revenue.
 - 1.4 Improve Relationship with Local Government**
 - i. Bupati to appoint a representative with decision making power to perform government administration matters associated with (profitable) ownership of the PDAM
 - ii. concentrate this activity on ownership functions – corporate planning, asset management, profitability planning, performance of Boards etc
 - iii. ensure the representative is not formally responsible for sector policy making
 - iv. ensure the representative is not responsible for pricing water and licensing the PDAM activities and
 - v. is not in a position to agree or provide "soft" government funds – ie, is not the Sekda or Bappeda head so as to avoid a conflict of interest between his main role of achieving efficiency by imposing hard budget constraints on the PDAM.
- 2 IMPROVE RESOURCE ACQUISITION AND ALLOCATION**
 - 2.1 Makes better rules for tariff setting**

- i. agree in a PERDA a process for tariff increases, automatically adjusted for inflation
 - ii. agree basic service levels that will be re-negotiated with PDAM every 5 years in an approved Corporate / Strategic Plan
 - iii. agree in a PERDA the rules for equity injections and dividend payments and
 - iv. establish formal coordination mechanisms between agencies based on the Strategic / Corporate Plan.
- 2.2 Increase Commercialization
- i. in the establishment PERDA for the PDAM, specify cost recovery and efficiency in the sector as objectives
 - ii. in the "Tariff PERDA", specify the tariff adjustment process and the criteria for structuring and the level of tariff
 - iii. allow automatic adjustment every 6 months to 1 year, with re-basing overseen by the Regulator every 5 years
 - iv. formalize the PSO subsidy payment mechanism.
- 3 INCREASE AND IMPROVE THE MEANS OF SERVICE DELIVERY
- 3.1 Focus on Results
- i. set technical standards and service levels
 - ii. re-orient service delivery supervision to results, not inputs
 - iii. review business activities to identify which activities the private sector might provide more efficiently.
- 3.2 Introduce Performance Management of the PDAM
- i. develop a performance contract between the PDAM and PEMDA, or a "license" or "permit to operate" system
 - ii. assign responsibility to administer the contract / license / permit to a small independent agency
 - iii. improve the corporate plan, especially indicators and targets
 - iv. join the PERPAMSI benchmarking system or similar so as to provide independent information on levels of performance of peers
 - v. establish a rewards and punishment scheme
 - vi. train personnel of the independent administrator / regulator.
- 3.3 Increase Autonomy of PDAM / Operator
- i. begin developing the corporate governance instruments ahead of corporatization
 - ii. concentrate on financial management and human resource issues
 - iii. focus on empowering the Board of Supervisors and correcting the relationship between the Board of Supervisors and Board of Directors and
 - iv. trial organizational culture change interventions directed at improving independence of thought and action, targeted at upper management.
- 3.4 Improve Performance of the Board of Supervisors (BOS)
- i. increase BOS numbers

- ii. ensure the Chairman and majority of members are independent of local government
- iii. select members based on professional experience governing commercial organizations
- iv. increase mandated authority and accountability
- v. provide governance training
- vi. rotate appointments
- vii. focus duties on maintaining commercial viability of the PDAM, controlling the strategic direction and managing the performance and the activities of the Directors
- viii. establish other bodies (such as a stakeholder committee) to advise on policy planning and service issues.

3.5 Improve Performance of Board of Directors

- i. establish now, not later, formal recruitment rules for Directors, including specific competencies and the recruitment process to be followed
- ii. select Directors based on professional experience governing commercial organizations
- iii. clarify mandated authority and accountability, especially with respect to the Board of Supervisors
- iv. provide training in good corporate governance, strategic management and general management skills ahead of technical skills
- v. rotate appointments
- vi. plan successions, and begin training possible successors.

4 INFORMATION MANAGEMENT AND PLANNING

4.1 Information Generation and Management

- i. benchmark performance (using the framework established in the Corporate Plan) as with others
- ii. provide results of performance indicators to related agencies, DPRD and the public.

4.2 Improve Planning Process, Content and Quality

- i. re-do the PDAM's Corporate Plan as a Strategic Management Plan
- ii. orient the planning process to the participative development of a balanced set of indicators (and targets) addressing stakeholder needs
- iii. base first year on PERPAMSI Benchmarking System Indicators
- iv. disseminate widely the indicators, targets and annual results
- v. ensure annual budget is related to the plan's objectives.

5 INCREASE ACCOUNTABILITY

5.1 External Regulation of Input and Performance Standards

- i. Develop participatively with PDAM staff Manuals for Budget Management, Procurement - and Human Resources Management practices.
- ii. Have the Manuals legalized through discussion with the DPRD and other and declared to be "authorized".
- iii. Agree and publish in the community acceptable quality and service standards

- iv. Provide a role to outside agencies (KLH, Health, Regulator, Consumer Association, Competition Council etc) to enforce service standards.
- 5.2 Improve Compliance with Local Legal Instruments
 - i. PDAM to improve its documentation management practices with respect to legal compliance
 - ii. PDAM to employ a person with legal training.
- 6 IMPROVE LEGAL CERTAINTY AND ENFORCEMENT
- 6.1 Improve Implementation of Water Quality Standards
 - i. PDAM begin piloting "drinking water supply areas" for (say) two years
 - ii. PDAM then to be required by an agreed date in the future to map and publish ("declare") areas where they intend to supply potable water by declared dates
 - iii. a PERDA to be issued describing PDAM and community rights and obligations with respect to potable water in declared "drinking water areas" and
 - iv. tariffs to be adjusted for consumers in these areas to cover the increased costs.
- 6.2 Increased Certainty of Access
 - i. PDAM begin mapping "water supply areas" for (say) two years
 - ii. PDAM then to be required by an agreed date in the future to publish ("declare") areas where they promise (are obliged) to supply water to all residents by declared dates
 - iii. a PERDA to be issued describing PDAM and the entire community's rights and obligations with respect to water in declared "water supply areas"
 - iv. rules for tariff adjustment for consumers in these areas to cover the increased costs
 - v. areas not declared as "water supply areas" be declared as "free market areas" where entry of operators is not regulated (or regulated according to rules to be developed).
- 6.3 Overcome gaps and other problems with national level legal instruments
 - i. Consolidate in BUMD law
 - ii. prepare "model" PERDA (based on the principles set out in the BUMD law) for adoption by local governments
 - iii. Complete participatively the KEPMEN under PP 16 / 2005.
- 6.4 Overcome gaps and other problems with local level legal instruments
 - i. Prepare a PERDA on tariff the process to be followed with respect to tariff increases
 - ii. Prepare a PERDA containing the water supply regulations
 - iii. Re-draft the PERDA establishing the PDAM
 - iv. separate it into sections (or create separate PERDAs) as shown in Figure 3 to ensure responsibility for overall sector policy and planning is moved out of the PDAM
 - v. award a license / permit to the PDAM to operate
 - vi. include in the license (or a performance agreement) agreed indicators of performance and targets.
- 7 UPGRADE THE SET OF LOCAL LEGAL INSTRUMENTS / FRAMEWORK

- i. separating policy / regulation from operations
- ii. establishment of a contractual relationship between the PDAM and PEMDA through a "performance agreement" or an operating license system
- iii. specific governance arrangements for the PDAM and
- iv. the tariff setting process.

8 IMPROVE HUMAN RESOURCES DEVELOPMENT AT SECTOR LEVEL

8.1 HRD plan based on Sector Development Plan

- i. prepare model PERDA assigning responsibility for long term sectoral planning to BAPPEDA a Regulator or Water Supply and Sanitation Policy Office, human resource planning to ORTALA or BKD and the regulatory role to a location (to be decided) outside of the PDAM
- ii. BAPPEDA to prepare a local policy paper ("white paper") for the RENSTRADA process on long-term sector development
- iii. ORTALA / BKD to prepare with BAPPEDA a plan to supply long-term human resource needs.

LONG LIST OF INDICATIVE ACTIONS FOR SANITATION SECTOR INSTITUTIONAL DEVELOPMENT

- 1 CLARIFY THE OVERALL SYSTEM FOR SUSTAINABLE SERVICE DELIVERY
 - 1.1 Clarify Who Determines Policy or Intent of the Local Government
 - i. Identify a "lead agency"
 - ii. prepare a "Sanitation Sector Policy Paper" describing intent of PEMDA and the roles of key agencies
 - 1.2 Improve the Sector Planning Process
 - i. Lead agency or Bappeda to lead re-design of the local sectoral planning process based on Law 19 / 2004 and PP 16 / 2005, ensuring the sanitation agencies are included in the process
 - ii. orient planning to participative development of strategic objectives, indicators and targets
 - iii. include in the plan a technical assessment of appropriate technical standards
 - iv. ensure the Water and Sanitation Stakeholder Committee is involved and in fact lead it
 - v. ensure performance information is publicized.
 - 1.3 Improve the Sector Structure
 - i. assign in the establishing PERDA management boundaries
 - ii. determine management boundary between agencies over desludging septic tanks
 - iii. review PP 16/ 2005 on water supply and sanitation and UU 23 / 1997 concerning environmental law with regard to options for establishing independent regulatory functions
 - iv. identify all regulatory functions associated with sanitation
 - v. ensure responsibility for the regulatory functions are not with an implementing agency
 - vi. specifically review the structure and functions of KLH to strengthen its independent regulatory role.
 - 1.4 Establish and Empower a Stakeholder Committee
 - i. Define the requirements in a SK / PERDA
 - ii. ensure the Chairman and majority of members are independent of local government
 - iii. select members based on interest, representativeness, professional experience governing organizations and power
 - iv. increase mandated authority and accountability
 - v. provide sector governance training
 - vi. rotate appointments
 - vii. focus duties on increasing commercial viability of the sector, controlling the strategic direction and managing the performance and the activities of the sector agencies
 - viii. establish internal bodies (such as a TKPP) to advise on policy planning and service issues.

- 1.5 Improve Agency relationship with Local Government
 - i. prepare strategic sanitation development plan for their duties with simple performance indicators and targets for each agency
 - ii. raise user charges and allow each agency to manage both revenue and expenses
 - iii. introduce performance contracts for agency managers.
- 2 IMPROVE RESOURCE ACQUISITION AND ALLOCATION
 - 2.1 Make better rules for service charge setting
 - i. define in practical language the services each sanitation agency provides
 - ii. establish a management information system that enables the services to be fully costed
 - iii. agree in a PERDA a process for setting service charges that will maximize revenue to the service providing agency as well as ensure stakeholders are involved in the process
 - iv. automatically adjust charges annually based on inflation indexes
 - v. create autonomous service providers (UPTD) that provide both the service and manage the service payments.
 - 2.2 Increase Commercialization
 - i. in the establishment PERDA for the agency, specify cost recovery and efficiency in the sector as objectives
 - ii. in the "PERDA retribusi", specify the tariff adjustment process and the criteria for structuring and the level of tariff
 - iii. allow automatic adjustment every 6 months to 1 year, with re-basing overseen by the regulator every 5 years
 - iv. formalize in a PERDA the PSO subsidy payment mechanism.
- 3 EXPAND AND IMPROVE THE MEANS OF SERVICE DELIVERY
 - 3.1 Focus on Results
 - i. Set technical standards and service levels in a policy document, such as the Strategic Plan that every government agency is supposed to have according to Kepres 7 / 1999
 - ii. re-orient service delivery supervision to results, not inputs by preparing indicators and focusing auditors TORs on results
 - iii. establish a mechanism for paying private operators to service low income households
 - iv. identify all important business processes and review which ones the private sector might provide more efficiently.
 - 3.2 Introduce Performance Management of the Sanitation Agency
 - i. agree and publish in the community quality standards, service level targets and results
 - ii. establish and support the Water Supply and Sanitation Stakeholder Committee
 - iii. provide a role to outside agencies to enforce standards – for example, a system of fines for failing to meet effluent standards, as assessed by the Environmental Office or independent laboratory or auditor
 - iv. develop a performance contract between the agency and PEMDA, or a "license" or "permit to operate" system for services provided by the agency

- v. assign responsibility to administer the contract / license / permit to a small independent agency
 - vi. prepare / improve strategic plan, especially indicators and targets
 - vii. establish a benchmarking system to provide independent information on levels of performance of peers
 - viii. establish a rewards and punishment scheme for performance management
 - ix. train personnel of the independent administrator / regulator.
- 3.3 Increase Autonomy of Operating Agency (ies)
- i. begin developing the specific internal governance rules ahead of creation of a dedicated sanitation agency
 - ii. concentrate on financial management and human resource issues
 - iii. focus on empowering the Stakeholder Committee and the relationship between the Committee and agency managers and
 - iv. trial organizational culture change interventions directed at improving independence of thought and action, targeted at upper management.
- 3.4 Improve Performance of Sanitation Agency managers
- i. Establish now, not later, formal recruitment rules for senior staff, including specific competencies and the recruitment process to be followed
 - ii. select managers based on professional experience managing commercially oriented sanitation organizations
 - iii. prepare "employment contracts" with performance indicators
 - iv. clarify mandated authority and accountability, especially with respect to the Stakeholder Committee and "structural" superiors
 - v. provide training in good governance, strategic management and general management skills ahead of technical skills
 - vi. rotate appointments
 - vii. plan successions, and begin training possible successors.
- 4 INFORMATION MANAGEMENT AND PLANNING
- 4.1 Information Generation and Management
- i. develop a communication plan raising awareness and advocating improved sanitation
 - ii. implement the plan
 - iii. benchmark performance (using the framework established in the Strategic Plan) with self and eventually with others
 - iv. provide results of performance indicators to related agencies, DPRD, the Stakeholder Committee and publish for the public
 - v. benchmark performance (using the framework established in the Strategic Plan) as with others
- 4.2 Improve Planning Process, Content and Quality
- i. prepare Strategic Management Plans as per Inpres 7/ 1999 for all sanitation related agencies

- ii. orient the planning process to the participative development of a balanced set of indicators (and targets) addressing stakeholder needs
 - iii. use Kepmendagri 29/2002 to guide the process to ensure plans and budgets are coordinated
 - iv. disseminate widely the indicators, targets and annual results
 - v. ensure annual budget is clearly related to achieving the to plan's objectives.
- 5 INCREASE ACCOUNTABILITY
- 5.1 External Regulation of Input and Performance Standards
- i. Agree and publish in the community acceptable quality and service standards
 - ii. Publish each year a summary of the updated Strategic Plan, especially the indicators and targets
 - iii. Provide a role to outside agencies (KLH, Health, Regulator, Consumer Association, Competition Council etc) to enforce service standards.
- 5.2 Improve Compliance with Local Legal Instruments
- i. Agencies to improve its documentation management practices with respect to legal compliance
 - ii. Agencies to employ a person with legal training in environmental law.
- 6 IMPROVE LEGAL CERTAINTY AND ENFORCEMENT
- 6.1 Improve Implementation of Discharge Standards
- i. Implementing agency to begin piloting "discharge compliant areas" for (say) two years
 - ii. the agency then to be required by an agreed date in the future to map and publish ("declare") areas where they intend to enforce regulations by declared dates
 - iii. a PERDA to be issued describing PEMDA and community rights and obligations with respect to waste discharges in declared "discharge complaint areas" and
 - iv. retribusi / tariffs to be adjusted for consumers in these areas to cover the increased costs.
- 6.2 Increased Certainty of Access to Services
- i. The sanitation service implementing agency to begin mapping "regulated sanitation areas" for (say) two years
 - ii. the agency then to be required by an agreed date in the future to publish ("declare") areas where they promise (are obliged) to provide services to all residents by declared dates
 - iii. a PERDA to be issued describing the agencies and the entire community's rights and obligations with respect to a sanitation service in declared "regulated sanitation areas"
 - iv. rules for service charge adjustment for consumers in these areas to cover the increased costs
 - v. areas not declared as "regulated sanitation areas" be declared as "free market areas" where entry of operators is not regulated (or regulated according to rules to be developed).
- 6.3 Overcome gaps and other problems with national level legal instruments

- i. complete participatively the KEPMEN still required under PP 16 / 2005.
 - ii. prepare "model" PERDA on sanitation sector structure for adoption or adaption by local governments.
- 6.4 Overcome gaps and other problems with local level legal instruments
- i. Prepare a PERDA containing the sanitation sector regulations, and publicize it
 - ii. re-draft the PERDA establishing the agencies to improve governance rules, especially by providing for a "Water Supply and Sanitation Stakeholder Committee"
 - iii. separate it into sections (or create separate PERDAs) as shown in Figure 4 to ensure responsibility for overall sector policy and planning is moved out of the operating agencies
 - iv. award a license / permit to the operating agencies to operate
 - v. include in the license (or a performance agreement) indicators of performance and targets.

7 UPGRADE THE SET OF LOCAL LEGAL INSTRUMENTS / FRAMEWORK

Useful actions to improve the framework would be to begin to redraft the legal instruments after BAPPEDA, the Stakeholder Committee and the sanitation agencies cooperate on drafting of a "policy" or "sector reform" discussion paper. The early reforms should concentrate on:

- i. separating policy / regulation from operations
- ii. improving governance arrangements for the sector to encourage stakeholder participation
- iii. identifying a lead agency acceptable to the main stakeholders
- iv. strengthening the service charge processes to enable more cost recovery and use of economic incentives to manage waste water
- v. providing a geographical focus for activities
- vi. establishment of a contractual relationship between the agencies and PEMDA through a "performance agreement" or an operating license system and
- vii. strengthening enforcement capacity.

8 IMPROVE HUMAN RESOURCES CAPACITY AT SECTOR LEVEL

8.1 HRD plan based on Sector Development Plan

- i. prepare model PERDA assigning responsibility for long term sectoral planning to BAPPEDA, human resource planning to ORTALA or BKD and regulatory role to a location (to be decided) outside of the implementing agencies
- ii. give the Stakeholder Committee a governing role and training as needed in the associated skills of governance
- iii. ORTALA / BKD to prepare with BAPPEDA a plan to supply long-term human resource needs (remembering that BAPPEDA is to prepare a local policy paper ("white paper") for the RENSTRADA process on long-term sector development).
- iv. Prepare a capacity building plan, including training
- v. Implement the capacity building plan.

DRAFT TERMS OF REFERENCE FOR QUALITY CONTROL CONSULTANT

I.	BACKGROUND TO THE COMPONENT	1
II.	OBJECTIVES OF THE SERVICES	1
III.	SCOPE OF ACTIVITIES	1
IV.	MANAGEMENT OF THE SERVICES	2
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VI.	INPUTS TO BE PROVIDED BY THE GOVERNMENT	2
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A.	Personnel Availability and Location	2
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VIII.	PROJECT DELIVERABLES AND SCHEDULE	3

I. BACKGROUND TO THE COMPONENT

1. The Water Supply and Sanitation Project (WSSP) will provide improved water supply and sanitation services in eight cities and towns within the Provinces of Banten, North Sumatra, South Sulawesi and West Java. The project will respond to the water supply and sanitation needs of these urban communities, including low income households, by optimizing existing assets, expanding coverage, improving governance and building the capacity of local institutions. The Project will provide an estimated 620,000 people with safe drinking water. It will raise the coverage of piped systems from 25% to 53% within the selected locations, during the five year period of the Project. City wide sanitation strategies will be developed in all eight Project locations. Improved sanitation facilities will be provided on a pilot project basis to 110,000 people and this will be supported by improved management of both the development and operation of urban sanitation systems. Improvements in sanitation will be further supported by public education programs in health and hygiene.

II. OBJECTIVES OF THE SERVICES

2. The overall objective of the Quality Control Consultancy is provide both technical and financial on-going audits of the implementation of the WSSP works, with particular attention on the civil and mechanical engineering construction contracts.

III. SCOPE OF ACTIVITIES

3. The Consultant would ensure quality control of works, in execution of the Design, Build and Operate Contracts, in two areas:

- Construction of physical works including random checks of works to ensure that specified technical standards are being observed in Construction; and
- Contractual and financial audits to ensure that corrupt practices are not being employed in the execution of the Project works.

4. The quality control of technical aspects of the works will be achieved through interim and random audit visits to construction sites and WSSP site offices. These visits will focus on the Design Build and Operate Construction Contracts.

5. The audits will be a planned and documented activity performed by investigation, examination or evaluation of objective evidence concerning the adequacy of and compliance with established procedures, specifications, instructions, drawings and other applicable documents.

6. The Consultant will be expected to review the quality of workmanship which is being applied to the work. In addition the Consultant must review and report on the performance of the staff assigned by the PIU and PM Consultant to monitor the performance of the Contractor.
7. Further the interim and random visits will also execute financial audits on the DBO Construction Contracts.
8. Following each random visit the QC Consultant will prepare a report for the Director General DGHS and the ADB Project Officer on the performance of all concerned and the need or otherwise for actions to ensure the works will be completed to the best possible standard in accordance with the terms of the Contracts. A copy of this report will be provided to the Head of the Regional Government concerned, the PMU, the PIU and PM Consultant.
9. The PMU will then be required to respond to the QC Consultants report and ensure that any necessary actions, as agreed between the DG and ADB, are taken.

IV. MANAGEMENT OF THE SERVICES

10. The Executing Agency for the services shall be the Ministry of Public Works, Directorate General of Human Settlements (Direktorat Jenderal Cipta Karya). At the national level, a Sub-Committee of the Steering Committee will be formed. Within the DGHS a PMU will be formed and this PM Consultant will work in close cooperation with the staff of the PMU.
11. The Bupati / Walikota in each participating local government will establish a Project Implementation Unit (PIU) or Working Group and appoint a Project Manager, who will lead the PIU. The Project Manager will be knowledgeable in water supply and sanitation affairs and the management of consulting services. He/she will have senior status within Pemda and shall facilitate access to key stakeholders, including the DPRD.

V. OVERALL SCHEDULE AND PROJECT BUDGET

12. The TA will be implemented over a period of three years. The Consultant will commence work some three months after the commencement of construction works on the DBO Contracts. The input of the international specialist will be intermittent and spread over a period of three years. The estimated cost of the services is US\$564,000.

VI. INPUTS TO BE PROVIDED BY THE GOVERNMENT

13. All levels of Government and the PDAM will make relevant data and operational records available to the consultants. This includes Contract Documents, BPKP audit reports and information generated by any relevant ongoing studies in the Project area.
14. The PEMDA will provide one full time counterpart staff to facilitate conduct of the services. Pemda and the PDAM in each location will nominate specific staff to work on technical, financial and institutional matters with the consultant. As agreed between the Consultant and the Project Manager, these staff may be responsible for completing various tasks under the guidance of the Consultant. This staff will be expected to operate independent of the PIU and be under the direct control of the Head of the Regional Government.
15. Specialist staff will be available to brief the Consultant at short notice, while senior staff of the government will be available for consultation within one day of a request for such consultation.

VII. INPUTS TO BE PROVIDED BY THE CONSULTANTS

A. PERSONNEL AVAILABILITY AND LOCATION

16. The amount of expertise shall be distributed approximately as shown in the following table, and is expected to have skills as described in the next section.

Table 1: Expertise Required

Expertise	International months	Local months
1 Team Leader	12	
2 Deputy Team Leader		36
3 Financial Specialist		24

17. Support staff, office accommodation, transportation, communications and office supplies will be provided by the consultant in Jakarta.

B. PERSONNEL QUALIFICATIONS

18. The qualifications of required of international experts are outline below:

19. Team Leader / Construction Engineer: An international expert with at least 20 years post graduation experience. At least 15 years experience in contracting, construction and site supervision on water supply, sanitation, urban infrastructure or other public sector delivered service. Familiar with current best practice in Design Build or Turnkey type contracts. Will have recognizable leadership skills and at least 5 years of multi-disciplinary team leadership experience. Experienced in Indonesia and able to communicate effectively with government officials. (One position).

20. Deputy Team Leader / Construction Engineer: An expert with at least 15 years post graduation experience. At least 10 years experience in contracting, construction and site supervision on water supply, sanitation, urban infrastructure or other public sector delivered service. Will have recognizable leadership skills and at least 5 years of multi-disciplinary team leadership experience. (One position).

21. Financial Specialist: At least 10 years experience since acquiring a degree in finance or commerce. Minimum five years previous experience working on civil engineering construction works with special emphasis on accounting and financial reporting for effective management of projects. (One positions).

VIII. PROJECT DELIVERABLES AND SCHEDULE

22. Reporting is to consist of the following:

1. **Inception Report:** Covering workplan, initial findings, and details of approach. 20 copies in the Indonesian language, with an Executive Summary in English incorporated in each copy. One for the Project at Week 6 and one for each city at the end of Month 2.

2. **Special Audit Reports as Necessary:** From time to time and as necessary prepare special audit reports covering interim and random audit visits to each Sub-Project location. Provide 20 copies in the English and Indonesian language, with an Executive Summary incorporated in each copy.

3. **Quarterly and Annual Reports:** Draft reports on progress for review and confirmation by the PMU. All in complete in accordance with ADB Guidelines for Progress Reports. Provide 20 copies in the English and Indonesian language, with an Executive Summary incorporated in each copy.

4. **Final Report:** Presented at the end of the assignment listing the inputs used and the outputs produced, evaluating the service's achievements, identifying the weaknesses of the QC process, suggesting follow up actions or "lessons learned" and assessing the impact of the services from the consultant's perspective. Provide 20 copies in the English and Indonesian language, with an Executive Summary incorporated in each copy.

Appendix G:
Relevant Laws and Regulations

KEY LAWS AND REGULATIONS¹

1. LAW 7/2004 CONCERNING WATER RESOURCES

1. The New Water Law (NWL) 7/2004 was executed on 18 February 2004 and has superseded the previous water resources law (No. 11/1974). The law has been harmonised with Law No. 32/2004 on regional government, Regulation No. 33/2004 on budget balancing between central government and regional government and the Decree of Minister of Economic Coordination, Kepmen. 14/M.EKON/12/2001. New regional regulations on water resources development will be published by *Provincial Governments*. Water Users Association regulations are drafted by Regional Government.

2. The new law has to accommodate the following requirements:

- Continuous resource management which needs to balance between water use and conservation of natural resources;
- Regional autonomy and decentralization based on Law No. 32/2004 in regional government and Regulation No 33/2004 on budget balancing between central government and the regions;
- Human rights where water is a basic need for human life;
- Democratization in processing overall water resources development in accordance with democracy, transparency and supported by the role of people as stakeholders;
- Water resources constraints and limitations as a global problem to be faced by all Indonesian people.

3. The NWL is organised into the following chapters :

Table 1: Water Law Contents

Chapter I	General Provisions
Chapter II	Authority And Responsibility
Chapter III	Water Resources Conservation
Chapter IV	Water Resources Utilization
Chapter V	Control Of Water Damaging Power
Chapter VI	Planning
Chapter VII	Construction Implementation, Operation And Maintenance
Chapter VIII	Water Resources Information System
Chapter IX	Empowerment And Supervision
Chapter X	Financing
Chapter XI	Right, Obligations, And Role Of The Community
Chapter XII	Coordination
Chapter XIII	Settlement Of Disputes
Chapter XIV	Community And Organization Charge
Chapter XV	Investigation
Chapter XVI	Criminal Provisions
Chapter XVII	Transit Provisions
Chapter XVIII	Concluding Provisions

¹ The following a selected list of laws and regulations which were reviewed during the course of the PPTA. The list was current as at August 2005.

4. Within the ratified New Water Law the vision of water resources development is to realize the utilization of water resources for the welfare of the people whilst the mission of water resources management to achieve this covers:

- Continuous conservation of water resources
- Water resources utilization in a just manner to fulfil the different needs of people in conformity with quality and quantity
- Control and mitigation of water resources destructive power such as floods, landslides and droughts
- Empowerment and intensifying the role of community, private participation and the government
- Increasing availability and need for data and information of water resources development

5. The main tenets of the law concerning water resources cover:

- River basin authority concerning river basins that cross district or provincial boundaries or are nationally strategic
- Stipulation of water resources management authority of village (desa), district, provincial and central governments
- Details of authority in implementing water resources conservation, water resources utilization, and water damage control

6. Other important aspects specified are:

- Water resources has a social function, economic value and environmental requirements which shall be arranged and realized in balance
- The state guarantees every person shall obtains water for their daily needs
- Water rights consists of water use right and water business right
- Water resources management pattern is based on the river basin
- Participation of the community/people and other stakeholders
- Data and information systems are encouraged
- Coordination of water resources management will be at central and regional level
- Legal disputes will be investigated, adjudicated and resolved through the authorised office of a water resource investigator (PPNS)

2. PP 16/2005: DEVELOPMENT OF DRINKING WATER SUPPLY SERVICES

7. The national government is now making concerted efforts to improve the framework in which the services are provided. This started with promulgation of a new water resources law (Law 7/2004) in 2004 and a Government Regulation (PP 16/2005) in March 2005. The regulation, among other matters, requires PDAMs to provide "drinking" water rather than "clean" water, giving the deadline of 2008 for development of this service. The development of the drinking water supply system administration is aimed at:

- Developing drinking water services and sanitation systems of good quality and affordable price.
- Improving the efficiency and coverage of existing drinking water services and sanitation systems.
- Achieving a balance between the interests of consumers and service providers.

- Preserving and maintaining water resources.

8. It also outlines a legal and regulatory framework for water and sanitation in which policy making, regulatory and service provision roles are better delineated, the importance of planning highlighted and cost recovery moved centre-stage.

9. An important provision of PP16/2005 is the set up of a control board for water and sanitation. This board is centrally located in Jakarta and is to act as a regulator assisting in the achievement of increased coverage of good quality services at affordable prices, with both consumer and service provider concerns taken into account.

10. Legislation is also being drafted to improve corporate governance of PDAMs and require improvement in local institutional arrangements, while a national level policy on capacity building is being formulated.

3. LAW 22/1999 CONCERNING REGIONAL GOVERNMENT (NOW SUPERSEDED BY LAW 32/2004)

11. Under Law No. 32/2004, the delegation of government authority from the centre to the regions is defined. The Law provides for a division of Government affairs. From a water supply and sanitation viewpoint the following affairs are delegated to the Regional Government:

- Providing public means and facilities;
- Handling of the health sector;
- Environmental control.

12. The central government does not only deal with foreign policy, defense, courts, religious and monetary affairs as stipulated in Law No. 25/1999 on regional administration, it has also assumed the authority to plan development, and control and implement general policies in all sectors.

13. Law 32/2004 also deals largely with the direct election procedures for local officials.

4. LAW 25/1999 CONCERNING THE FISCAL BALANCE (NOW SUPERSEDED BY LAW 33/2004)

14. Articles 11-14 of Law 25/1999 concerning the fiscal balance between central government and the regions (formerly provincial and local government administrations) govern regional borrowing. Regions may borrow directly from domestic sources, but only through central government in the case of external loans (Articles 11.1-11.2). Long-term loans may only be contracted for revenue-generating projects, and short-term loans for bridging finance (Articles 11.3-11.4).

15. In terms of borrower eligibility and NPL, the pertinent sections can be summarised as requiring that: (i) regions are prohibited to enter into regional loans in excess of limits to be determined by subsequent regulation (Article 13.1); (ii) regions may not enter into agreements guaranteeing loans to regional enterprises (e.g. PDAM) which impose hardships on regional finances (Article 13.2 and elucidations), (iii) regional debt service should be given the same status as other priority obligations (defined as those obligations the failure to meet which might cause social unrest - Article 14.1), and (iv) in the event regions fail to comply with debt service obligations on loans from central government, central government may offset the outstanding arrears against the General Allocation Fund (DAU) due to the regions concerned (Article 14.2) the so-called "intercept mechanism".

5. KMK 347A/2000 CONCERNING THE RPD ACCOUNT

16. KMK 347a/2000 was issued by DP3 to update the operational management of the RPD portfolio of the RDA. It appears to pre-date the issue of PP 107/2000 (10 November, 2000 and effective 1 January, 2001), the implementing regulation for Articles 11-14 of Law 25/1999 on

regional borrowing, since the KMK does not mention the PP in the pre-ambles. However, the KMK does include conditions on borrowing which subsequently appeared in PP107/2000.

17. KMK 347a/2000 specifies sectors eligible for RPD loans (Article 3), including water supply. It also sets limits on outstanding regional debt at 75% of the previous year's APBD (minus the DAU, other loan receipts and targeted income), raises the DSCR (formula undefined) from 1.5 to 2.5, and excludes loan applicants with arrears. Articles 6.1 (a)-(c) refer.

18. These requirements refer only to Pemda (regional government-RG). There is no reference to any other borrower throughout the KMK. It is Pemda which must make the loan application (Article 9), and the adequacy of the APBD which must be analysed and used to calculate the DSCR. The provisions of Article 20 state that loan agreements are to be signed by the DG of Financial Institutions on behalf of central government as the provider of the loan and by the head of RG on behalf of Pemda as the acceptor of the loan, provided written approval from DPRD has been given beforehand that Pemda will bear all consequences of the loan agreement. The implication is that all future RPD loans for water supply would be made through the RGs, which would then make their own arrangements with the PDAM. In this way, MOF would have recourse on all such loans through the DAU intercept mechanism sanctioned in Article 14.2 of Law 25/1999.

19. KMK 347a/2000 was, in fact, issued with the primary purpose of excluding PDAM from further direct access to the RPD account. It is likely that DP3 had previously received a legal opinion that MOF had no recourse on PDAM NPLs, the number of which had by then become substantial, through their RGs. DP3 would also have liked to exclude PDAM from access to SLA, but was prevented from doing so by the ongoing implementation of several IUIDP projects funded by loan agreements with external lenders which have the status of an UU. It was able to prevent SLA being issued to PDAM (and RGs) with arrears on existing RDA loans, but not to PDAM with no or regular debt service. Most of these SLA are now classified as NPL.

6. PP 107/2000 CONCERNING REGIONAL BORROWING

20. PP 107/2000 on regional borrowing was issued by the Fiscal Balance Directorate General (PKPD), as required by Law 25/1999. Several domestic borrowing sources are listed but permissible foreign sources are limited to multilateral or bilateral loans and these must pass through central government. In apparent conflict with Law 25/1999, which authorises RGs to borrow long-term only for revenue-generating (i.e. cost recovery) infrastructure projects, PP107/2000 extends this to both direct and indirect revenue generation development projects. The latter category might include urban drainage or roads projects which increase property values and therefore property tax yields.

21. At almost the same time as the issue of the PP, MOF issued a KMK restricting sources of long-term credit to RGs to the RDA, apparently at IMF insistence to avoid a repetition of the RG debt crisis which had recently occurred in Brazil. Because of the virtual collapse of the RDA as a lending institution, this restriction, which was renewed annually by KMK until the end of FY 2004, effectively halted any RG investment in urban infrastructure except through "pay-as-you-go" financing from the DAU.

22. The PP includes or expands upon features of KMK 347a/2000, such as a clear definition of the DSCR set at the new level of 2.5, limiting outstanding regional debt at 75% of the previous year's APBD (minus the DAU, other loan receipts and targeted income), maturities of debt not to exceed the economic life of assets procured from loan proceeds, and grace period not to exceed the project implementation period (up to a maximum of 5 years).

23. The PP makes no mention of RG enterprises as having access to long-term credit. It refers only to "regional loans", RG heads, DPRD and APBD. The borrowing limits and DSCR (defined in the PP) are again based on the APBD, to which PDAM are not a party. It notes that debt service is to be a priority item in APBD expenditure.

7. KMK 35/2003 CONCERNING ON-LENDING AND ON-GRANTING OF LOAN PROCEEDS

24. The counterpart to KMK 347a/2000 is KMK 35/2003, issued in January 2003 through PKPD and concerning planning, implementation and monitoring of central government subsidiary loans to the regions. Being concerned with the allocation of foreign loan proceeds, it deals with on-granting as well as on-lending. It also reflects the decentralising legislation of Law 22/1999 and Law 25/1999 by requiring that all project development initiatives to be financed from foreign loan proceeds should be made by RGs (this was always the case with RPD loans), instead of by central government technical ministries.

25. The KMK provides MOF with an instrument to control RG access to foreign loans by requiring such loans to pass to the regions through central government. Because RG loan applications must be for projects consistent with the objectives of the National Development Program (PROPENAS) and listed in the regional development planning documents (Article 5.3), central government can check that investments are in accordance with national and regional development policies.

26. Unlike KMK 347a/2000 which limits project application reviews to agencies within MOF, KMK 35/2003 establishes an appraisal committee (Article 7) comprising officials from MOF and BAPPENAS (with an option to call in specific expertise from technical ministries), to review all applications to be funded from external loan proceeds. This committee (Tim Penilai) was subsequently established by a joint MOF/BAPPENAS KMK 151/2003.

27. The KMK reverts to the requirements of Law 25/1999, rather than PP 107/2000, in stating that SLA shall be for revenue-generating (cost recovery) projects (Article 5c) and grants for non-cost recovery projects (Article 25). These project categories are not defined; there is no mention of indirect cost recovery or mixed cost/non-cost recovery projects. Article 1.12 refers to a project type map which will define these. Financial qualifications required for loan submissions are listed in Article 4 (part of the "readiness filter") and are the same as those in PP 107/2000.

28. On-lending can be made in rupiah or in the currency of the foreign loan, at the borrower's option. If in Rupiah, MOF assumes the foreign exchange risk and adds an unspecified surcharge on to the foreign loan interest rate to cover the exposure; if in the currency of the foreign loan, at its interest rate plus a 0.5% administrative charge (Articles 12-13). Other terms and conditions of on-lending are not stated, but presumably follow those stipulated in PP 107/2000.

29. In the event of arrears of debt service for loans signed after effectiveness of Law 25/1999, Article 22 of the KMK provides a procedure for activating the intercept mechanism provided for in Article 14.2 of thereof. It consists of DP3 sending a note through its higher level DG of Financial Institutions to both DG Budget (now Treasury) and PKPD. These directorates-general have the authority to approve a deduction against the defaulting RG's DAU or other shared revenues (dana perimbangan), as appropriate.

30. Such a procedure had already been activated against Kabupaten Ciamis (subsequently subdivided) in respect of an RPD loan taken out after the passage of Law 25/1999 but before the issue of the KMK. However, it is understood that the intercept has never been actually implemented. Subsequently, MOF advised Kota Palembang, which had guaranteed debt service of a rescheduling agreement with the PDAM, of its intention to have recourse to the intercept when PDAM again defaulted, but it does not seem to have done so. This may be because Kota Palembang was not authorised to make such guarantee because it was proscribed under Article 13.2 of Law 25/1999 (Paragraph 2).

31. In order to receive grants from external loan proceeds, RGs must provide counterpart funding. This is 10% of total for a low-fiscal capacity region, 40% for a medium-fiscal capacity income region and 70% for a high-fiscal capacity region (Article 27). Fiscal capacity was subsequently defined in terms of disposable RG income (calculated as per the DSCR formula) per capita of poor people as defined by the National Statistics Office (BPS). RGs (including

provinces) were subsequently categorised for receiving on-granting on this basis in KMK 538/2003.

32. KMK 35/2003 requires (Article 14) that SLA between central government and the regions must be signed before foreign loans become effective, and on-granting agreements (Article 28) on the day of effectiveness of the foreign loan. This is presumably to encourage rapid project implementation and to avoid build-up of commitment fees on the external loan. The KMK makes no provision for on-lending and on-granting through sector loans to GOI.

33. Standard forms of on-granting agreements are not known to be available, although there has been a previous example of on-granting of external proceeds from the Islamic Development Bank.

8. LAW 17/2003 CONCERNING STATE FINANCES

34. Law 17/2003 on State Finances states that total government borrowing (of both central and regional governments) should not exceed 60% of GDP in any given year. In addition, the cumulative public deficit of central and regional governments should not exceed 3% of GDP.

35. Central government may lend or make grants to RGs (Article 22.2). It is assumed that this refers to rupiah murni (RPD loans), as operationalised by Kepmen 347a/2000 and to grants such as the DAK and the de-concentration and co-administered grants covered by PP 106/2000.

36. Article 23.2 states Central government may on-lend proceeds from external loans to RGs, state-owned enterprises (BUMN) and regional government enterprises (e.g. PDAM). It is assumed that this article is connected to KMK 35/2003. However, there is no reference in the KMK to PDAM being able to borrow from the RDA through SLA.

37. Article 24.6 permits RGs to sell or privatise their enterprises provided DPRD approval has been given.

9. LAW 1/2004 CONCERNING THE STATE TREASURY

38. Article 33.1 re-states what is contained in Articles 22.2 of Law 17/2003, whilst Article 38.1 re-states what is in Article 23.2. Articles 33.3 and 38.3 require that procedures for implementing the lending and granting described in Articles 33.1 and 38.3 must be in accordance with the PP, presumably PP 107/2000 which, however, makes no mention of lending to RG enterprises (Paragraph 11). There are no regulations in place for lending directly to PDAM.

39. Article 37 provides for writing-off of debts to the central government or the regions. Levels of responsibility for write-offs are established. In terms of write-offs, the Minister of Finance has authority up to Rp 10 billion, the President up to Rp 100 billion and the President with the approval of the DPR amounts in excess of Rp 100 billion.

10. LAW 33/2004 (REVISING LAW 25/1999) CONCERNING REGIONAL BORROWING

40. This replaces Law 25/1999 on the fiscal balance between central and regional governments. Articles 49-56 cover regional borrowing. The discrepancies between previous legislation, implementation procedures (PP) and operationalising procedures (Kepmen) are reconciled.

41. Article 52.3 states that "medium-term loans are for a period of more than one budget year with the obligation to repay the loan including, principal, interests and charges, in full within a period not exceeding the term of the Regional Head concerned". Article 53.2 states that "medium-term loans shall be used to finance the provision of non-revenue generating projects". This was described by MOF as a drafting error by the DPR. Other sources state that Articles 52.3 and 53.2 were deliberately inserted by the DPR to prevent over-borrowing by RG heads, with the debt service obligations to be left to future RG administrations. Either way, it is unlikely that there will be any medium-term borrowing by RGs while this article remains in force.

42. Article 53.3 requires that: "long-term loans shall be used to finance investments for income-generating projects". However, this does not mean that all income-generating projects must be financed by borrowing.

43. Article 53.4, requiring that "medium and long-term loans are subject to DPRD approval", is qualified in the elucidations by the statement that "DPRD approval includes approval for on-lending (by RGs) to BUMD". This, in conjunction with Article 51 which lists all loan sources permissible loan sources and defines a regional loan as a loan through MOF, supports previous indications that it is not MOF policy to lend directly to PDAM through the RDA. The new PP which will replace PP 107/2000 on regional borrowing may be more explicit when issued.

44. Whilst the DSCR formula of PP 107/2000 is repeated in the elucidation of Article 54.2, the value is left blank. Discussions have taken place within MOF to increase the DSCR value in the forthcoming PP on regional borrowing. Because all RGs in Indonesia (with the exception of Kabupaten Tangerang) met the 75% outstanding debt ratio (Paragraph 5) in an exercise carried out by MOF in 2004, the DSCR is in practice the main indicator of RG borrowing capacity.

11. LAW 33/2004 CONCERNING REGIONAL GRANTS

45. The special allocation fund (dana alokasi khusus - DAK) is dealt with in Articles 38-42 (and in Article 162 (1) (a) of Law 32/2004 on Regional Administration). It is no longer to be used to smooth out anomalies in the General Allocation Fund (DAU). It is now a 100% central government special purposes grant to the regions (previously, 40% of the annual APBN allocation was allocated to a reforestation fund (dana reboisasi), which now has its own category within the Regional Sharing Fund-DBH).

46. To obtain the DAK, regions must provide 10% matching funds, except those RGs with a fiscal capacity below an as yet undefined level. The specific purposes (activities) are to be defined in the APBN. General, special and technical criteria concerning the DAK (Article 40.4) will be established in a PP (Article 42) which has yet to be produced. The conclusion is that, unless the central government determines that a specific sub-sector meets all criteria to be prescribed in the PP, the DAK cannot be used as an intervention channel for on-granting loan proceeds to RGs for urban infrastructure components. The future rate of development of the DAK as a significant item in the APBN is also unknown.

47. The other central government grant channels are the dana dekonstrasi funds through the provincial governor as the representative of the central government and the tugas pembantuan (co-administered tasks) funds which flow directly to the level of project implementation responsibility (region or village). These funds are for assignments for which the central government is responsible but has delegated implementation responsibility to the regions. The dana konsentrasi (Article 86.7) is for non-physical activities, e.g. capacity building, and the tugas pembantuan (Article 94.7) is for physical activities. Both these grants will be defined later by implementing regulations. PP106/2000 was the implementing regulation for these grants under Law 25/1999, and a new PP will be issued to implement the requirements of UU/33/2004. It is unlikely that these channels could be used for urban infrastructure grants, because public services are stated by Law 32/2004 to be the responsibility of the regions.

12. PP 14/2005 CONCERNING PROCEDURES FOR STATE/REGIONAL CREDIT WRITE-OFF

48. This PP was issued as an implementing regulation co-ordinated by the DG for State Receivables and Asset Sales (Piutang dan Lelang) in MOF. It sets the scene for re-scheduling and re-structuring of non-performing state and regional credit, as provided for in Article 37 of Law 1/2004 on the State Treasury. The parts of interest to TA-4411 are those drafted by DP3, namely Chapter IV, Articles 14-21, concerning non-performing state credit originating from the Regional Development Account. RGs and PDAM would appear to qualify (Article 16.2) because they are debtors "(i) whose business is in the field of public service in sectors relating to people's basic

needs, (ii) executing services related to Regional needs; and (iii) experiencing financial difficulties in fulfilling its obligations, thus affecting continuity.

49. Three methods of optimising non-performing loans are given in the PP. They are: (i) re-scheduling, (ii) changing the terms and conditions of the loan agreement and (iii) write-offs. Presumably, method (iii) is that of last recourse, methods (i) and (ii) having proved to be infeasible, although this is not stated. Nor is it stated whether the write-off can be partial, as well as total.

50. These levels of authorisation for write-offs described in Paragraph 27 are for a single debtor (elucidation of Article 4).

51. Procedures for submission of proposal, study, and determination of state credit write-off will be produced later by MOF. Those relating to the RDA are discussed in Section C.

Appendix H:
Summary of Activities Undertaken

SUMMARY OF ACTIVITIES UNDERTAKEN

A. INCEPTION PHASE

1. The WSSP commenced with a Kick-Off Meeting in the then DGURD on February 25, 2005. This meeting was attended by key staff from the EA and also representatives from ADB – IRM, Bappenas and the Ministry of Home Affairs. The meeting stressed the need for a "bottom up" approach in the Project preparation. Mobilization of the team followed on February 28. The initial task addressed was for the Consultant to meet with all key stakeholders at the Central level and a sample number at the Regional level. Concerns of all were noted and the Consultant was able to draw on the recent experiences of other project preparation efforts. The initial stakeholder consultations included meetings with several RGs and PDAMs who had expressed interest in joining with the Project.

2. The Consultant reviewed the preparatory work done by DGHS and a group of ADB Consultants over several months. The Consultant was able to identify a number of Provinces on which the location selection work could focus. In addition detailed plans were drawn up for the fieldwork by technical, financial, institutional and socio-economic work-streams. The Inception Report was delivered and discussed at a Tri-Partite Meeting on March 30, 2005. This meeting was followed by an Inception Workshop on April 5, 2005. This Workshop which was attended by representatives from 16 RGs including Bupati/Walikota, Ketua DPRD and President Director PDAM. Presentations were given by DGHS, Bappenas, MoF, the ADB and the Consultant.

B. FIELD WORK

3. Following the Inception Workshop immediate preparations were made for the field surveys. The entire team attended the initial field survey in Serang. A schedule for discussions with key stakeholders was prepared based on the Logical Framework for the WSSP. Based on the field work a presentation was made to key stakeholders, including the Bupati and representatives of DPRD, on the last day of the field visit. Following a further week of review and preparation work, two separate field teams were dispatched to West Java and South Sulawesi in late April. The two teams continued with an intensive period of work in the field through to mid-June. The following figure provides details of the approach to the initial field work visits.

Table 1: Field Survey Weekly Schedule

Work-stream	Mon		Tue		Wed		Thu		Fri
	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning
Poverty & Social Analysis	Travel to Location and hold general introductory meeting with Bupati or Sekda and other available key stakeholders (LSM, Forum Kota, etc.) at Pendopo room; followed by luncheon.	Komisi "C" of DPRD	Bappeda	Meet key stakeholders one-by-one based on the list in the above table (include Kadin visit in company of institutional on Wednesday afternoon.				Combined meeting of all team to prepare for Friday morning meeting with DPRD and Bupati	Combined meeting of all team with Bupati and DPRD discussing the results of the initial assessment work and setting a schedule for future work in the RG with allocation of tasks as necessary
Institutional Development with Public Health & Hygiene		PDAM Dir Umum	Bappeda	Focus on sanitation i.e. Dinas Kesehatan etc.	Survey inside PDAM with staff	Kadin (Chamber of Commerce) or similar	Final follow up with Komisi "C" for questionnaires		
Finance & Economics		PDAM Dir Umum & PemDa Ketua Dispenda introductions	Data Collection in PDAM Bagian Umum and PemDa Ketua Bagian Keuangan Dispenda				Financial modeling work		
Technical		PDAM Dir Teknik	Bappeda with focus on RUTRK - Town Plan and PJM - Medium Term Plan (if any)	Field work within town including sanitation	Field work outside town including source, transmission, service reservoir, IPLT etc.		Initial review of technical feasibility; check on tech data for SPAR		

4. Generally it was agreed that a visit of two weeks in each location would have been preferable. With RGs effectively working a 4.5 day week and the Monday and Friday of each visit taken up with formal meetings and presentations, the time allocated to data gathering and analysis was insufficient to properly address both sectors. Several, time consuming, follow-up communications have been required, which could possibly have been avoided. The time needed to prepare submissions for debt rescheduling to the MoF, during this phase of the assignment, was also underestimated.

C. LOCATION SELECTION

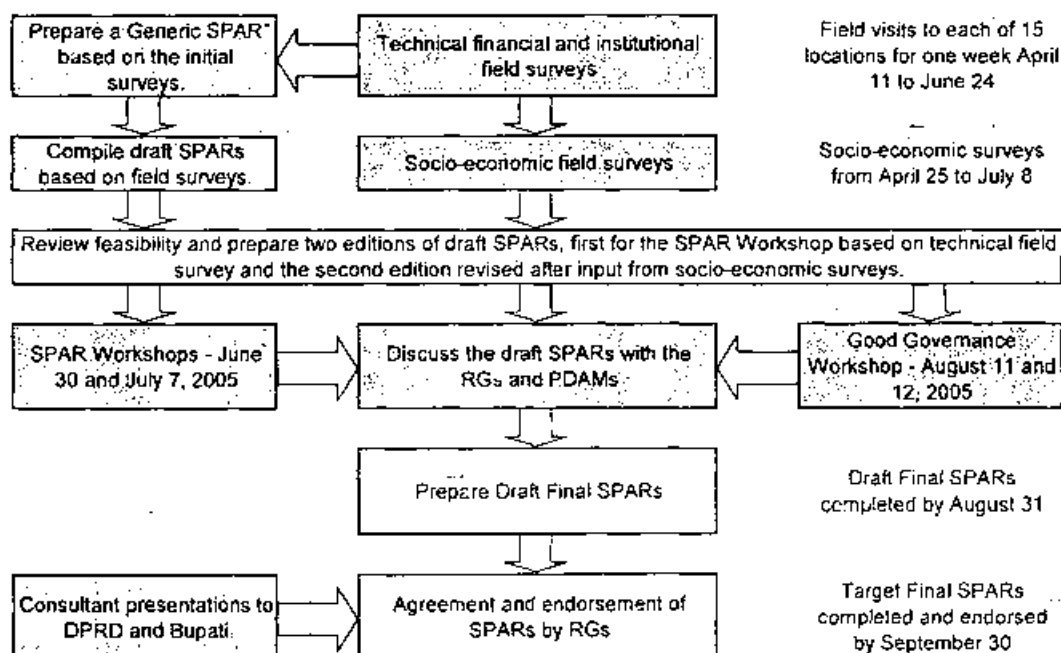
5. Final location selection was not made until early June, some six weeks after the dead-line which had been set at the time of the Inception Report. The problems were generally out of the control of Consultant, with some locations, which had initially signaled their commitment to sector reform, not fulfilling expectations. In addition, other locations presented themselves as being serious about reform, but were tardy in providing confirmation of their commitment. The Consultant could therefore not complete the field survey work until June 24, 2005, one month after the target completion date set in the Work Plan.

D. MID-TERM REPORT

6. The Mid-Term Report was due at the end of May, 2005. It was expected that by this time all 15 field surveys would be complete and therefore an initial Project design could be presented. This was not the case since the plan to survey 15 locations in an 8 week period had proved over optimistic. The Mid-Term Report therefore included information on work-in-progress and very preliminary draft RRP. These were delivered during the last week in May and discussed at Tri-Partite Meeting on July 14, 2005. An important function of the Mid-Term Report was to draw attention to the problems being experienced concerning definition of grant funding for sanitation, capacity building and training. Also the Consultant drew attention to the current apparent lack of funds channeling mechanisms for grant funding between the centre and the regions.

E. SPAR PREPARATION

Figure 1: Flowchart for SPAR Preparation



7. Work on preparation of the SPARs commenced in late April. The approach was to first draft the SPAR for Kabupaten Serang and then to proceed to develop this document into a generic form.

8. Although it was initially hoped that the SPARs could be completed in two editions, it has been necessary, to date, to provide a minimum of three editions of each one. These have been provided to the RGs at each of the Workshops and were further presented to each location as Draft Final documents.

9. The requirements of MoF concerning loan application document preparation have been included in the SPARs. These requirements include three separate letters from each of the RGs concerning their commitment to the WSSP and also their agreement for Central Government to intercept funds allocations, should the RG not honour the terms of its sub-loan agreement.

F. SPAR WORKSHOPS

10. SPAR Workshops were held in Makassar on June 30 for five RGs and in Jakarta on July 7 for nine RGs. Presentations were made at these Workshops by DGHS, MoF, including both DP3 and Bapeki and Bappenas. In addition presentations were made BORDA concerning proposals for community based sanitation works to be included in the Sub-Projects. Each RG was provided with the first draft of SPAR and problems were discussed on a group basis.

G. GOOD GOVERNANCE WORKSHOP

11. In the period leading up to the Good Governance Workshop it became apparent that a second draft of the SPARs based on further socio-economic survey results was required. Some eight of the 14 Sub-Projects appeared to have problems with feasibility. Therefore the first day of the Workshop was allocated to agreeing a revised scope of work in all locations. Based on this agreement the FOPIP and LIDAP could be defined on the second day.

12. The presenters at the Good Governance Workshop included BPKP who outlined proposals for development and monitoring of Good Governance in the PDAMs. MoHA also gave a presentation on the draft RUU on BUMDs which is due for issue in the near future. DGHS gave a presentation on PP16/2005: Development of Drinking Water Supply Services.

H. DRAFT FINAL REPORT

13. The month of August was allocated to the preparation of Draft Final Report, final versions of 13 SPARs and Draft Final RRP based on Consultant's draft final proposals for Sub-Projects as discussed and agreed at the Good Governance Workshop.

14. Following issue of the DFR the Executing Agency, Directorate General of Human Settlements, implemented a detailed review and clarification of the SPARs with the Consultant. This process proceeded over several weeks and some further adjustments were requested to the SPARs by the EA. Some adjustments were made to the SPARs at DGHS request and they were then forwarded to the RGs for final endorsement. DGHS then proceeded to send a letter to each location setting down details of proposed:

- Counterpart funding requirements.
- Base tariffs to be set by DPRD.
- Schedule for addition of new WS house connections.

15. The letter requested that Bupati and DPRD prepare and execute the required formal letters for confirmation of participation in the WSSP.

16. A series of visits to each of the locations was then made over the months of September and October. The Consultant visited several locations more than once, but others, who had signified that they could not agree to endorse the SPARs for the present, were not visited.

17. The sanitation portions of the proposed Project were also discussed at a meeting with the DGHS and also Bappenas on September 19. The meeting on sanitation was inconclusive with regard to agreement with the proposed scope of sanitation works and related funding arrangements.

18. Although the Main Draft Final Report was issued in late August, the logistics for completion and printing of several of the Appendix documents continued into the initial weeks of September. SPARs in Indonesian were virtually complete at the Draft Final Report deadline; however, the translation of these to English proceeded until September 20, in parallel with other works.

I. WORK PLAN AND SCHEDULE

19. The Final Work Plan and Schedule are outlined in the following Figure 2. Compared with the original Work Plan, the Final has addressed all the activities which were requested in the ToR; however the timing of these has been quite different from that included in the Contract and also the Inception Report. The key differences are:

- **Inception Report Meeting**
The initial proposal was to hold a Workshop during the first month of the Project to be attended by 22 RGs. This was not held, however an Inception Workshop was held with 16 RGs invited early in the second month of the Project.
- **Field Work**
It was planned that the initial round of field visits to the 15 locations would be completed in two months or by the end of May. The visits were completed at the end of June, due to problems and delays which were generally outside of the control of the Consultant. The expectation that staff would work continuously in the field for two months without a break was unrealistic.
- **SPAR Workshop**
The SPAR Workshops were initially intended to be held in May. It was decided that this Workshops should be postponed until a draft SPAR document could be prepared and provided to each participating RG. These Workshops were held in late June and early July.
- **SPAR Preparation**
It was intended in the Work Plan that SPARs would be effectively completed through two editions. It appears that four editions of these documents will need to be prepared by the completion of the assignment. The time taken to process the results of the socio-economic field surveys allowed in the workplan was over optimistic. The process of contracting the survey execution to local institutions, preparing results and subsequently analyzing these results took four to six weeks. The Bandung survey was contracted in late June; however the results were not available for inclusion in the draft SPAR until the second week in August.
- **Good Governance Workshop**
The Good Governance Workshop was due to be held in early July, however delays in other areas of the work, coupled with other problems in organization of the event, meant that it was held some six weeks later than initially planned. The positive side of this delay was that the Workshop became a quite useful and successful event in the final definition of the Project.
- **DGHS "Due Diligence" Review**
The detailed work-plan did not include for a period of review by the EA following completion of the SPARs and prior to issue of these documents to the RGs. The review and amendments to the documents occupied much of the Consultants' time during September.

J. PERSONNEL

20. The following table summarizes the contracted allocation of staff compared with the actual as at the time of the Final Report.

Table 2: Personnel Inputs

Position	Name	Contract	Actual	Months Input			Actual		
				Field	Home	Total	Field	Home	Total
International									
Team Leader	Gerald McManus	Gerald McManus	7.0		7.0	8.0		8.0	
Financial & Economic Analyst	Ian Bartlett	Ian Bartlett	4.0	0.5	4.5	4.0	0.5	4.5	
Institutional Development Specialist	Andrew McLernon	Andrew McLernon	3.3	0.2	3.5	3.3	0.2	3.5	
Social Development Specialist	Douglas Martin	Douglas Martin	2.8	0.2	3.0	2.8	0.2	3.0	
MoF Coordinator		David Woodward	0.0		0.0	0.5		0.5	
Total International			17.1	0.9	18.0	18.6	0.9	19.5	
National									
Water Supply & Sanitation Spec. 1	Elena Vijayawati A.	Elena Vijayawati A.	6.0		6.0	8.0		8.0	
Water Supply & Sanitation Spec. 2	Diding Muchidin	Rita Ariani	3.5		3.5	5.0		5.0	
Water Supply & Sanitation Spec. 3	Rita Ariani		3.5		3.5			0.0	
Water Resources Specialist		Sugeng Purwanto			0.0	1.0		1.0	
Cost Estimator		Mochamad Taufieq			0.0	1.0		1.0	
Financial & Economic Analyst 1	Agus Witono	Agus Witono	6.5		6.5	7.2		7.2	
Financial & Economic Analyst 2	Moch Halil	Moch Halil	3.5		3.5	3.5		3.5	
Economic Analyst	Pranoto	Pranoto	4.0		4.0	4.0		4.0	
Institutional Development Spec. 1	Sudjarwo	Mochamad Sambas	4.0		4.0	4.5		4.5	
Institutional Development Spec. 2	Mochamad Sambas	Bayu Supartono	2.0		2.0	3.5		3.5	
Social Development Specialist 1	Abdul Kadir	Abdul Kadir	6.0		6.0	4.0		4.0	
Social Development Specialist 2	Yuslianna Yoewono	Yaya Sunarya	3.5		3.5	3.0		3.0	
Social Development Specialist 3	Amin Yusuf	Amin Yusuf	3.0		3.0	3.5		3.5	
Social Development Specialist 4	Sri Rahayu	Selviana J H	3.0		3.0	3.5		3.5	
Environmental Specialist 1	Ratih Widyaningsih	Titu Erman	3.0		3.0	3.0		3.0	
Environmental Specialist 2	Rufiana Widyawati	Ratih Widyaningsih	2.0		2.0	2.0		2.0	

Position	Name	Contract	Actual	Months Input			Actual	Field	Home	Total
				Contract	Field	Home				
Public Health & Hygiene Specialist	Bambang Setijono	Bambang Setijono	Bambang Setijono	4.5	4.5		4.5			4.5
Total National				58.0	0.0	58.0	61.2	0.0		61.2
Total				75.1	0.9	76.0	79.8	0.9		80.7