



BAPPENAS



Ministry of Public Works



Ministry of Agriculture



State Ministry of Environment



Ministry of Health



Ministry of Forestry



Program Administration Memorandum (PAM) Volume 1 – Main Text

Project Number: 37049
Multitranche Financing Facility (MFF) Number 0027
Loans: 2500 - INO OCR (Registration Number: 10788801)
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Technical Assistance 7189 - INO
Global Environment Facility Grant
2 September 2009

Republic of Indonesia: Integrated Citarum Water Resources Management Investment Program

Final Version

The program administration memorandum is an active document, progressively updated and revised as necessary, particularly following any changes in project or program costs, scope, or implementation arrangements. This document, however, may not reflect the latest project or program changes.

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 19 June 2008)

Currency Unit	–	Indonesian rupiah (IDR)
IDR1.00	=	\$0.00011
\$1.00	=	IDR 9,300

IMPORTANT NOTE

ALL COSTS PRESENTED IN THIS DOCUMENT ARE COST ESTIMATES SUBJECT TO UPDATING DURING IMPLEMENTATION.

ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
AMAP	–	adaptation and mitigation action plan
AWP	–	annual work plan
BAPPENAS	–	National Planning and Development Agency
BBWSC	–	Balai Besar Wilayah Sungai Citarum
BER	–	bid evaluation report
BPKP	–	Badan Pengawasan Keuangan and Pembangunan
CCAM	–	climate change adaptation and mitigation
CDD	–	community driven development
CRB	–	Citarum River basin
CSO	–	civil society organization
CSP	–	country strategy and program
CSR	–	corporate social responsibility
DGSP	–	Directorate General of Spatial Planning
DGWR	–	Directorate General of Water Resources
DMF	–	design and monitoring framework
DMI	–	domestic, manufacturing, and industrial
DWRI		Directorate of Water Resources and Irrigation
DWRM		Directorate of Water Resources Management
EA	–	executing agency
EARF	–	environmental assessment and review framework
EIA	–	environmental impact assessment
EIRR	–	economic internal rate of return
FFA	–	framework financing agreement
FMS	–	financial management system
GDP	–	gross domestic product
GEF	–	Global Environmental Facility
GIS	–	geographic information system
GOI	–	Governement of Indonesia
IA	–	implementing agency
ICB	–	international competitive bidding
IDR	–	iindonesian rupiah
IEE	–	initial environmental examination
IMEU	–	independent monitoring and evaluation unit
IP	–	investment program
IPPMS	–	investment program performance management system
IPS	–	international person staff
IWRM	–	integrated water resources management
JSM	–	Java spatial model
LIBOR	–	London interbank offered rate

LIFS	– loan information financial system
MCV	– model conservation village
MDG	– Millennium Development Goal
MFF	– multitranche financing facility
MIS	– management information system
MOA	– Ministry of Agriculture
MOE	– Ministry of Environment
MOF	– Ministry of Finance
MOFr	– Ministry of Forestry
MOH	– Ministry of Health
MPW	– Ministry of Public Works
NCB	– national competitive bidding
NGO	– non government organization
NPS	– national person staff
NSCWR	– National Steering Committee for Water Resources
OCR	– ordinary capital resources
PA	– protected area
PCMU	– program coordination and management unit
PFR	– periodic financing request
PIU	– project implementation unit
PJT 2	– Perum Jasa Tirta 2 (CRB operator)
PPTA	– project preparation technical assistance
RBO	– river basin organization
RCMU	– road map coordination and management unit
RCWR	– Research Center for Water Resources
RDA	– Research Development Agency
RP	– resettlement plan
RPMS	– road map performance management system
SEA	– strategic environmental assessment
SOE	– statement of expenditure
SRC	– staff review committee
SRI	– system rice intensification
TA	– technical assistance
TACC	– technical assistance coordination committee
USD	– United States Dollar
WFPP	– Water Financing Partnership Facility
WRC	– water resources council
WRM	– water resources management
WTC	– West Tarum Canal

GLOSSARY

integrated water resources management (IWRM) ¹	– IWRM is a process to promote coordinated development and management of water, land and related resources in river basins, to maximize the economic benefits and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. IWRM therefore focuses on delivering a triple bottom line of economic, social, and environmental benefits that result from an integrated approach.
<i>river basin organization (RBO)</i>	– A general term referring to any government organization with a mandate in water resources development and/or management with responsibilities covering a single or group of rivers.
<i>balai besar (Balai Besar Wilayah Sungai Citarum-BBWSC)</i>	– A central government river basin organization with a broad mandate that includes aspects of water resource planning, development and management operating within a defined river basin territorial area covering either a single large river catchment or group of smaller river catchments. BBWSC operates in the Citarum River Basin territory.
6 Ci's River Basin Territory (see Map 1)	– River basin territory comprising three river basin organizations <i>Balai Besar Citarum</i> , <i>Balai Besar Ciliwung-Cisadane</i> , and <i>Balai Besar Cidanau-Ciujung-Cidurian</i> located in West Java, DKI-Jakarta, and Banten Provinces, and including the metropolitan conurbation of Jabodetabek as shown in Map 1.
<i>Perum Jasa Tirta II (PJT-II)</i>	– State owned corporation with a water infrastructure management mandate, operating in the Citarum River Basin
District or local government	– The third tier of government below, although independent from, provincial and national governments
Regional government	– General term referring to provincial and/or district governments
Roadmap	– The Roadmap is essentially a strategically planned program of interventions that will, if successfully implemented by stages, lead to the achievement of the agreed vision through stakeholder consultations
Jabodetabek	– The greater Jakarta metropolitan area known as (J akarta, B ogor, D epok, T angerang, B ekasi) and its surrounding area
Pola	– A water resources management strategic plan which is the basic framework for planning, implementation, monitoring and evaluation for water resources conservation, utilization and control.
Rencana	– A comprehensive and integrated water resources management plan required for the implementation of water resources management.
Tugas Pembantuan or Co-administered Task	An assignment from (i) the central government to a region and/or a district, (ii) the provincial government to a district/city, with the obligation to report and account for the implementation of the assignment to the central government or the provincial government.

¹ADB. 2006. *Water Financing Program 2006-2010 Helping to Introduce IWRM in 25 River Basins in the Asia-Pacific Region*. Manila. Available at: <http://www.adb.org/Water/WFP/basin.asp#4>

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6. Terms of Reference for Project 1 Sub Components

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LOAN PROCESSING HISTORY²

a. ADB TA Fact-Finding Mission	1 to 9 June 2004
b. ICWRMP PPTA approval	26 August 2004
c. PPTA Phase 1 & 2	23 February 2005 to March 2006
d. Government TACC establishment	March 2005
e. TA Phase 1 review mission	9 to 12 August 2005
f. TA Phase 2 Review Mission	24 January to 4 February 2006
g. PPTA Phase 3	17 July 2006 to 15 December 2006
h. Fact-finding	20 to 22 February 2007
i. Management Review Meeting	2 October 2007
j. PPTA Phase 4	April 2008 to June 2009
k. Pre-appraisal mission	7 to 14 August 2008
l. Appraisal mission	25 to 30 August 2008
m. Staff Review Committee (SRC)	10 October 2008
n. Loan Negotiations	29 October 2008
o. TA WFPF financing Approval	4 November 2008
p. Board Circulation	13 November 2008
q. Board Consideration and MFF/TA Approval	4 December 2008
r. Loans (2500/2501) President's Approval	22 December 2008
s. Inception Mission	11 to 26 February 2009
t. Loan Signing	22 April 2009
u. Loan Registration	12 May 2009
v. Loan Effectiveness	3 June 2009
w. Loan Allocation Minor Changes Effectiveness	4 June 2009

² GEF fund approval expected by September 2009.

I. INVESTMENT PROGRAM

A. Introduction

1. This Program Administration Memorandum (PAM) was prepared to assist the Government in the implementation of the Integrated Citarum Water Resources Management Investment Program (the Program), for which ADB's Board of Directors approved a Multitranches Financing Facility (MFF) Number 0027 (\$ 500,000,000) including the loan 2500 - INO OCR (\$20,000,000) and 2501 - INO ADF (\$30,000,000) and the technical assistance 7189 – INO (\$ 8,000,000) respectively. This PAM is based on:

i. The loan agreements signed by the Government and ADB on (22 April 2009).

ii. The Report and Recommendation of the President to the Board of Directors on a proposed Multitranches Financing Facility (MFF) Number 0027 to Indonesia for the Integrated Citarum Water Resources Management Investment Program dated November 2008.

iii. Relevant ADB guidelines

2. In case the provisions in this PAM differ from those of the above-mentioned documents, the provision in the Loan Agreement, relevant guidelines and the Report and Recommendation of the President will prevail over the PAM in their respective order.

B. Program Area

3. The program area, termed the Citarum River Basin (CRB), is located mainly in the province of West Java, and covers a total of about 13,000 km². It consists of a cluster of river basins consisting of: (i) the 6,600 km² Citarum River hydrological basin itself that lies in the central part of the program area and flows from south to north into the Java Sea; (ii) the 4,400 km² group of small basins whose drainage areas are connected to the Citarum river system through the East Tarum Canal (Ciherang, Cilamaya, Ciasem, Cipunegara and Cipancuh Rivers); and (iii) the Cikarang and Bekasi rivers, with a combined drainage area of 2,000 km², which are also connected with the Citarum River via the West Tarum Canal (WTC). The CRB lies immediately to the east of the Jabodetabek³ conurbation.

4. The basin is the most strategic river basin in the country, with a population of around 30 million. There are three hydroelectric dams located at the upper section of the basin producing an aggregate of 1,400 megawatts. The area of irrigated agricultural land is 240,000 ha in the Jatiluhur system (lower basin) and a further 150,000 ha in upland areas. Irrigated agriculture yields about 3 million tonnes annually about 5% of national production. The CRB also supplies 80% of Jakarta's raw water. The water resources of the basin's rivers and groundwater systems are essential to the social and economic development of the country. They are essential for urban and industrial development including export industry, agricultural production through major irrigation systems, rural water supplies, electricity generation through hydropower, and fisheries. The basin area itself contributes around 4% of national gross domestic product

³ The metropolitan conurbation including the cities of Jakarta, Depok, Bogor, Tangerang and Bekasi (with a population totaling around 18 million).

(GDP)⁴, but if the water from the basin and used in Jakarta is taken into account, that figure increases to more than 20%.

5. Water supply of the basin are limited (on average 1,300 m³/year/person), competition for these resources has increased significantly over the past 20 years leading to a situation of acute water stress and depletion of aquifers in some places. Jakarta and Bandung routinely encounter shortfalls in raw water supplies and overuse of groundwater has mined aquifers in both cities causing alarming rates of irreversible land subsidence. Irrigation cropping intensities in the lower basin remain significantly lower than potential. Some 3.5 million basin inhabitants have inadequate water and sanitation facilities; The Millennium Development Goals (MDGs) Target 10 on sanitation in CRB is unlikely to be met. Rapid urbanization has significantly increased exposure to flood risk and the generation of pollution. The highly polluted Citarum River is classified by the Ministry of Environment, as a Class V water quality river, the lowest grouping possible, as environmental degradation has reached a level that compromises public health and livelihoods, particularly for the urban and rural poor. Recent population pressures and radical land use change over the last 150 years leaves only scattered remnants of the unique West Java rainforests and West Java montane ecosystems that the World Wide Fund for Nature has listed amongst the top 200 critical global ecosystems. Climate change is adding to the stresses on ecosystems and water resources management and also increasing risks to the health, livelihood, and vulnerability to disasters of poor communities living in the basin⁵.

6. A management focus on integrated water resources management (IWRM) and sustainability of the water resource has been emphasized in Indonesia's 2004 Water Law No. 7. The Water Law introduces the concept of management within the boundaries of a river basin and reflects the principles of decentralization and devolvement of authority to local levels as promoted by the program of regional autonomy. Preparations for the implementation of IWRM are at a preliminary stage in the basin. Independent Citarum river basin organizations exist under both national and regional funding with development and management mandates that require close coordination and cooperation. Potential benefits derived from effective IWRM are substantial, and it is recognized that water plays a key role in achieving the MDGs for the country. Inadequate water development and management increases poverty through lower livelihood opportunities, poor health, increased vulnerability and environmental degradation, and although not all benefits are measurable directly in economic terms, there are water sector specific indicators that are measurable and can be shown to be highly correlated with measures of social factors such as poverty⁶.

7. Improving sustainable use of water resources is central to the ADB's *Water for All* policy⁷. This, together with a strong commitment to build capacity of local government agencies, is a key element of ADB's operational partnership. This partnership stresses the need to continue implementation of policy reforms, overcome weak coordination among agencies and develop guidance for cooperative working. Sustainability of economic growth and pro-poor development are key pillars of the Country Strategy and Program (CSP): Indonesia (2006–2009)⁸ that will be complemented by strengthening capacity for IWRM in the basin.

⁴ Inferred from statistics provided by various statistical sources, including Statistics Indonesia.

⁵ ADB Report and Recommendation of the President to the Board of Directors Project Number: 37049 November 2008

⁶ ADB Report and Recommendation of the President to the Board of Directors Project Number: 37049 November 2008

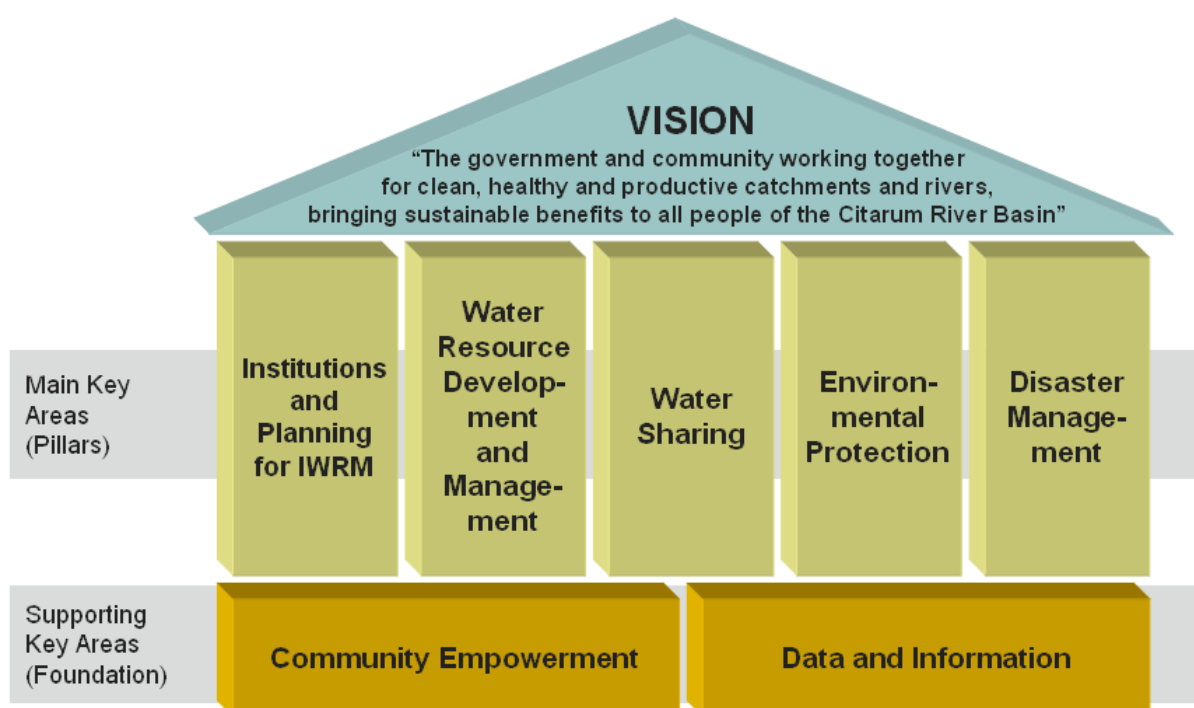
⁷ ADB. 2002. *Water for All*. Manila

⁸ ADB. 2006. *Country Strategy and Program: Indonesia 2006-2009*. Manila

C. Roadmap for Integrated Water Resource Management

8. The process for preparation of the Investment Program started with the development of a “roadmap” for IWRM in the CRB. This process, based on sound strategic planning principles was highly participatory, and involved extensive consultations with key stakeholder representatives in all relevant sectors, and at a number of levels. The process began with the identification of a stakeholder vision for the basin’s future (to the year 2023), and several “key areas”, for which specific objectives were developed⁹. The roadmap sets out the set of agreed (future) interventions up until 2023 that will be required to achieve the key area objectives. Initial estimates of the cost of the full suite of roadmap interventions total around IDR 35 trillion (USD 3.5 billion).

Figure 1: Strategic Framework for IWRM in the Citarum River Basin



9. The component projects selected for inclusion in the MFF all come from the roadmap, and the criteria for selection of the interventions included; (i) importance and urgency of the intervention; (ii) potential contribution to implementation of IWRM; (iii) whether the intervention is more appropriate for funding by other donors, the private sector, communities, or the Government itself; (iv) ensuring simple implementing arrangements; and (v) sectors where ADB can add value or has traditionally partnered with the government.

10. In terms of funding the roadmap investments, the ADB will contribute around IDR 5 trillion (\$500 million) through this Investment Program and significant additional funding through associated technical assistance over the period of the program. The rest of the funding will need to come from other donors, GOI, the private sector and communities. Securing this additional

⁹ The key areas are: Institutions and Planning for Integrated Water Resource Management; Water Resource Development and Management; Water Sharing; Environmental Protection; Disaster Management; Community Empowerment; Data, Information and Decision Support.

funding for ongoing implementation of roadmap investments will be a task of the Roadmap Coordination and Management Unit (RCMU) within Bappenas in close coordination with all sectoral related Ministries.

D. Impact and Outcome

11. The desired impact of the Investment Program is that, by the year 2023, poverty, health and living standards in the Citarum River Basin will be significantly improved. This will be achieved through a measurable decrease in poverty levels in the basin's communities, GDP growth in the basin at least maintained at 2008 levels achieved without further degradation of environmental status, and with significant improvements in water quality in the rivers and reservoirs of the basin¹⁰.

12. The outcome is the improved integrated water resources management; achieved through improved infrastructure facilities, putting in place effective institutional arrangements for integrated water resource management in the basin,¹¹ and creating the conditions for improved and integrated water resource development and management, with government and the community working in partnership to achieve a shared vision formulated as part of the Roadmap development process (see Figure 1).

E. Components and Outputs

13. To achieve the intended impact and outcomes, the Investment Program comprises interventions that can be grouped according to the key areas identified during the Roadmap development process. These are: (i) institutions and planning for IWRM, (ii) water resources development and management; (iii) water sharing; (iv) environmental protection; (v) disaster management; (vi) community empowerment, and (vii) data, information and decision support, and (viii) Program Management. (see Figure 1).

14. The outputs from the components of each project may be many and varied. Because of the flexible nature of the MFF modality, outputs and timing for projects beyond the first tranche are necessarily indicative, and are based on the project scope and schedule agreed by the Government at the time of loan preparation. It is inevitable that circumstances will change in the future, and Periodic Financing Requests (PFRs) for tranches after the first (now designated as Project 1) may differ from those envisaged at the beginning.

15. **Component 1: Institutions and Planning for IWRM.** The term "institutions" is used in its broadest sense, including organizations and the legislation, policies, and other protocols that define relations among them. IWRM and river basin planning is seen as a mechanism for promulgating and implementing government policies and, as such, is included in this key area. Assistance will be provided to support key government agencies involved in IWRM in the CRB. Activities include organization restructuring, organizational capacity building, policy development, legislation, planning for IWRM,¹² regulation such as licensing water utilization and wastewater discharge, setting water tariffs, and strengthening institutions for participatory irrigation management. Project 1, including its supporting TA, provide considerable support to these water resource institutions in the CRB and the 6 Cis River Basin Territory.

¹⁰ MDG Target 10 states that the countries of the world pledge to reduce by half the proportion of people without access to safe drinking water and basic sanitation by the year 2015.

¹¹ Assistance to put those arrangements in place will be provided through an ADB grant to fund a technical assistance that will run in parallel with Project 1.

¹² As distinct from project planning.

16. **Component 2: Water Resource Development and Management.** Investments are aimed at activities to efficiently exploit water resources by increasing water availability to authorized users and effectively operating and maintaining the infrastructure developed in the process. The main activities included are project planning, which focuses on developing infrastructure and incorporates water-related climate change adaptation needs; constructing infrastructure for storing and delivering water, including reservoirs, canals, and groundwater and pipeline systems; operating and maintaining infrastructure; and promoting the efficient and effective utilization of water. The Investment Program has been designed to include several interventions aiming specifically to increase the sustainable water yield of the basin to accommodate projected growth in demand. These include supplementing groundwater supplies to Bandung with surface water from the upper basin, improve the capacity of the existing Cirata Reservoir, and evaluating options for increasing water supply in the Bekasi urban area. Investments will increase the capacity of the existing water supply infrastructure to address issues of bulk water supply to key irrigation areas and domestic, municipal, and industrial water supply to Jabodetabek and Bandung. Project 1 will rehabilitate the 54 km Curug–Bekasi stretch of the WTC, a high Government priority, including renovating intake mechanical and electrical works, improving canal capacity, installing protection fencing, improving access roads, adding river crossing siphons, and rehabilitating gates and water management structures. Project 1 includes community-led efforts to (i) improve on-farm irrigation management over 3,000 ha in the three districts in the WTC command area and the upper part of the CRB; and (ii) improve water supply and sanitation facilities following participatory planning and design, with local communities along the WTC and the upper part of the CRB developing and implementing water supply and sanitation works under community action plans.

17. **Component 3: Water Sharing.** Investments aim to establish and protect water rights, allocate water among competing uses and users, and set priorities for water entitlement during times of shortage.

18. **Component 4: Environmental Protection.** Investments in a combination of structural and other measures aim to protect the environment of rivers, lakes, wetlands, forests, and other natural ecosystems with impact on water management and rehabilitate and enhance degraded environments, both aquatic and terrestrial. Activities include building wastewater treatment plants, the community development of solid waste and sanitation facilities, improving institutional regulatory arrangements, and encouraging community participation and behavioral change. The Investment Program includes inputs to address many of the environmental problems faced in the basin. A comprehensive study will be carried out under the first tranche to identify appropriate priority water quality and quantity improvements and potential investment opportunities that will be implemented under later tranches. Project 1 includes initial community-driven environmental improvements and the protection of ecosystems in about 30 villages and communities adjacent to seven protected areas in the upper basin. These activities will be funded by a grant from GEF administered by ADB.

19. **Component 5: Disaster Management.** Investments are aimed only at those disasters related to water such as floods, erosion and sedimentation. While drought must also be classified as a water-related disaster, the strategic response to drought mitigation is to increase water availability, which is included above under the key area of water resource development. Activities related to disaster management under this definition include planning and constructing structures to control flood and mud flows such as levees, dikes, and flood control reservoirs; developing and implementing disaster preparedness plans, flood plain management, and flood

forecasting and warning systems; and providing public information on flood risks. Urgent flood protection works in the upper basin will be prioritized under Project 2 after option studies and engineering designs have identified optimal solutions under Project 1.

20. **Component 6: Community Empowerment.** Involving the community in planning and implementing IWRM activities is essential. It is considered a “foundation” key area, as it supports the five “pillar” key areas described above. The strong feeling among stakeholders is that empowering the community to participate should be an important theme of the Investment Program. In this context, community empowerment includes (i) the education, awareness raising, and capacity building of communities and individuals on water management issues; (ii) activities aiming to provide information to all that need it on water resource management and related activities; (iii) implementing measures to facilitate the participation of the community in water planning and management; and (iv) developing community-based self-help programs and specific projects to provide local improvement in water supply, the environment, and water quality. Starting in Project 1, a community-based approach will be taken to the problem of degraded community environmental and health status in peri-urban and rural communities, empowering local communities through awareness raising and capacity building to supplement local efforts to implement improved community water supply and sanitation facilities.

21. **Component 7: Data, Information and Decision Support.** This is another foundation key area, as data is fundamental to all aspects of water resource management. It includes collecting, validating, archiving, managing, and disseminating relevant data covering surface and groundwater quantity and quality, as well as other natural resource data such as on soils, geology, land cover, and ecosystems, including such socioeconomic data as population, poverty, and land use. This key area includes research into such fields as catchment processes and demography; developing new technologies for water conservation and environmental protection; and developing and implementing decision-support tools, including geographic information systems, hydrologic and hydraulic models, and other analytical tools.

22. **Component 8: Program Management.** Program management activities will support (i) effective liaison between program stakeholders and the teams undertaking component subprojects so that outcomes align with stakeholders needs; (ii) effective coordination among components to promote cooperation and information exchange, improve performance overall, and minimize wasted effort caused by overlaps; and (iii) accurate and timely monitoring and reporting of investment program and Project 1 performance, including financial management. In addition, monitoring and evaluation will be included, with the establishment and management of a road map performance management system and an investment program performance management system.

F. Investment Program Components

23. Table 1 below shows indicative outputs for the entire Investment Program. These are grouped by key IWRM areas and shall be reviewed periodically. The Design and Monitoring Framework for the Investment Program is given in Appendix 1.

Table 1: Indicative Investment Program Outputs

Key Area	Components
1 - Institutions and Planning for IWRM	Road map Management Road map Institutional Strengthening (ADB TA) Institutional Strengthening for IWRM in the 6 Cis River Basin Territory (ADB TA) Spatial Planning for 6 Ci's River Basin Territory (ADB TA) Development of an enhanced Citarum River Basin Plan for IWRM
2 - Water Resource Development and Management	Rehabilitation of West Tarum Canal Upgrading Bandung Water Sources Improved Land and Water Management Support for Community- and NGO-Driven Initiatives for Improved Water Supply and Sanitation Upgrading of Water Source (Upper Cipunegara) Cisangkuy Irrigation Improvement Curug Run-off-River Power Plant Mini and Micro Hydro power Basin Study Improvement of the Cirata Dam Capacity Development and Implementation of Preferred Bulk Water Supply Options for Bekasi and Karawang Development of Strategies and Options for Demand Management and Water Conservation with Respect to Industrial and Domestic Use Implementation of Water Supply and Sanitation Options for Urban Areas
3 - Water Sharing	Development of Key Policies and Strategies for WRM in CRB (ADB TA) Review of Allocation Priorities and Optimization of Operating Rules for Key Sub-Basins, Including the Operation of the River / Reservoir System as a whole Implementation of a Water Entitlements and Licensing System for Surface Water Users Implementation of Water Pricing and Allocation Strategies
4 - Environmental Protection	Development and Implementation of a Basin River Quality Improvement Strategy and Action Plans Improvement in Water Quality in Saguling, Cirata and Jatiluhur Reservoirs through Management of Fish Farming and Other Polluting Activities Sewerage and Wastewater Treatment Upstream of Saguling Reservoir (Stage 1) Development and Implementation of Integrated Coastal Zone Management Strategy and action plan for Citarum coastline (including coastal delta and off shore marine habitats) Land and Biodiversity Conservation (GEF funded)
5 - Disaster Management	Upper Citarum Basin Flood Management (ADB TA) Implementation of Upper Citarum Flood Management Measures Climate Change Adaptation and Mitigation Integrated Management of Water Related Disasters
6 - Community Empowerment	Information, Education and Awareness Strategy (IEAS) for capacity building of communities across the basin for improved participation in water resources policy development, planning and management
7 - Data, Information and Decision Support	Decision Support System for IWRM in Citarum River Basin (ADB TA) Development of an on-line flow forecasting system on unregulated rivers
8 - Program Management	Program Management Independent Monitoring and Evaluation

G. Important Features

24. **IWRM Approach.** The IWRM approach, which resulted in the establishment of the road map, was undertaken in a very participatory way, with stakeholders having ample opportunity to contribute, and take ownership of the outcomes. Participation of stakeholders was facilitated by formal workshops and numerous meetings with individual stakeholder representatives in the public sector (at national, provincial and district levels), of non-government organizations (NGOs) and the private sector. The following Ministries have signed the road map:

- State Ministry of National Development Planning/BAPPENAS

- Ministry of Public Works
- Ministry of Agriculture
- State Ministry of the Environment
- Ministry of Health
- Ministry of Forestry
- Ministry of Home Affairs
- Ministry of Finance

25. **Multitranche Financing Facility.** The Investment Program will be funded through an MFF. The rationale for this derives from the broad agenda of the road map, which involves the provision over 15 years of water-related infrastructure and services across a number of IWRM key areas throughout the CRB. The MFF will enable flexibility in investment decisions and timing based on the needs and constraints from downstream to upstream within a framework, instead of a precise definition of investments up front as required in a conventional modality. It will allow implementation to be based on the readiness of individual projects, as under the MFF, funds will be made available in a phased manner subject to the eligibility and readiness of projects. The MFF will allow ADB and the Government to develop a long-term partnership for supporting the long-term vision of CRB stakeholders in a sustainable manner. It will allow long-term engagement for building capacity in IWRM in a realistic timeframe. Finally, the MFF will provide flexibility to match various funding sources available to the central and regional governments; leverage private and community investments; and allow the Government to plan efficiently and effectively with other funding institutions.

26. **Community-Driven Development and Participatory Approaches.** The Investment Program supports community and non-government organization (NGO)-driven participatory approaches for many of the outputs. Communities will decide priority areas and the type of technology to be used on a number of subcomponents, with community participation in the development of water and sanitation systems, environmental improvements, and on-farm water management. Community groups will be strengthened to lead planning and implementation activities with the assistance of community facilitators trained by qualified NGOs and will permanently take charge of operating and maintaining the works constructed. NGOs have participated in dialogues on preparing road maps and detailed subcomponents, as well as in initial pilot IWRM demonstration activities in the CRB. Singularly and in informal networks, NGOs are already active in many activities that complement, synergize, or form part of the road map. Increased engagement with and support to communities working with NGOs is designed into Project 1, as communities and civil society organizations (CSOs) become more active in policy making, planning, implementation, management, and monitoring and evaluation.

27. **Corporate Social Responsibility (CSR).** Many large and medium-sized companies in Indonesia practice corporate social responsibility. Awareness of the importance of this is now a global trend and, if applied properly, it can be one of several solutions for breaking through the barrier between fulfilling the needs of the poor and profit seeking. Both profits and fulfilling needs can advance side by side toward empowering the poor and sustainable environmental protection. The Investment Program has significant potential to initiate and sustain cooperation with some big textile companies and other firms that rely on basin water and show interest in providing support to community initiatives to improve Citarum river water quality and community water and sanitation supply.

28. **Environmental Improvement Compensation.** A special feature of the Investment Program will be the development of compensation mechanisms for communities that actively

contribute to protecting the land and water of the CRB, or paying for environmental services. An ADB-assisted pilot demonstration activity of paying for environmental services commenced in the CRB with the objectives of (i) introducing and increasing understanding of this mechanism in accordance with the water law, (ii) strengthening the commitment of users of land and water to support compensating farmers who contribute by taking care of the river basin, and (iii) preparing government institutions for facilitating the implementation and promotion of payments.

29. **River Basin Performance Benchmarking.** The NSCWR will develop in close coordination with the Network of Asian River Basin Organizations, IWRM river basin performance benchmarking systems for use by the river basin organizations and the CRB Water Council.

30. **Climate Change Adaptation and Mitigation (CCAM).** The CRB will be the first basin in Indonesia with a comprehensive strategy for adapting to climate change. ADB assists with a climate risk assessment for the basin, which will be developed under the Investment Program to climate-proof the road map. Financing for climate-proofing the road map will be sought from internal and external sources.¹³

H. MFF Cost Estimates and Financing Plan

31. The total cost for the Investment Program, including contingencies is estimated at \$921million (Table 2). It is to be implemented using four tranches of the MFF, with the components financed under each tranche being designated as Project 1, 2, 3 and 4. The financing plan is shown in Table 3.

¹³ Funding sources have been approved: ADB-administered Climate Change Fund (\$ 2,000,000), Clean Energy Financing Partnership Facility (\$ 850,000). Fund will be channeled in line with existing GOI regulations on climate change. Preliminary implementation arrangements have been made with the State Ministry of Environment and the Ministry of Public Works Units designated as PIUs.

**Table 2: Cost Estimate for the Investment Program
(Grouped by Key Area - \$ Million)**

Key Areas	P1	P2	P3	P4	Total	Percent
1. Institutions and Planning for IWRM	8.27	1.20	0.60	0.00	10.07	1.09
2. Water Resources Devel't & Management	61.19	196.47	67.10	131.82	456.58	49.55
3. Water Allocation and Sharing	1.08	4.90	0.00	0.00	5.98	0.65
4. Environmental Protection	9.45	9.72	66.31	0.00	85.48	9.28
5. Disaster Management	0.68	60.00	0.00	0.00	60.68	6.59
6. Community Empowerment	0.00	2.21	0.00	0.00	2.21	0.24
7. Data, Information and Decision Support	5.16	0.00	0.00	1.60	6.76	0.73
8. Program Management	4.15	10.40	2.20	1.20	17.95	1.95
Total Baseline Costs	89.98	284.90	136.21	134.62	645.71	70.08
Physical Contingencies	1.67	28.15	13.15	13.01	55.98	6.08
Price Contingencies	9.33	50.56	31.85	73.73	165.47	17.96
Total Project Costs	100.97	363.61	181.21	221.36	867.16	94.11
Interest During Implementation	2.34	29.77	14.90	3.43	50.44	5.47
Commitment Charges	0.10	1.80	1.06	0.87	3.83	0.42
Total Costs to be Financed	103.43	395.18	197.17	225.66	921.43	100.00

ADB=Asian Development Bank; OCR=ordinary capital resources; TA=technical assistance

Source: The Government and ADB Staff Estimates

Notes: 2008 Prices

P=Project

**Table 3: Investment Program Financing Plan
(\$ Million)**

Source	P1	P2	P3	P4	Total
ADB ADF Loan	30.0	0.0	0.0	0.0	30.0
ADB OCR Loan	20.0	266.3	130.0	53.6	470.0
Central Government ^a	34.4	123.9	60.2	163.1	381.6
ADB (TA)	1.0	1.0	1.0	1.0	4.0
Parallel funding (TA) ^b	4.0	0.0	0.0	0.0	4.0
Government of the Netherlands (TA)	5.0	0.0	0.0	0.0	5.0
Muliti-Donor Trust Fund WFPF (TA) ^c	2.0	0.0	0.0	0.0	2.0
Beneficiaries	3.4	4.0	5.9	8.0	21.0
Global Environment Facility	3.8	0.0	0	0.0	3.8
Total	103.4	395.2	197.1	225.7	921.4

ADB = Asian Development Bank, ADF = Asian Development Fund, OCR = ordinary capital resources, P = project, TA = technical assistance, WFPF = Water Financing Partnership Facility.

^a \$2.7 million of the \$34.4 million is a contribution to TA funding.

^b Proposed financing support of Korea Water Resources Corporation.

^c Contributors: the governments of Australia, Austria, and Norway.

Sources: Government of Indonesia and ADB estimates.

32. To finance the Investment Program, up to \$503.8 million equivalent will be required, including up to \$470 million equivalent from ADB's ordinary capital resources and up to \$30 million equivalent from ADB's Special Funds resources (Loan 2501 - INO ADF) through the

MFF, in accordance with ADB's *Mainstreaming the Multitranche Financing Facility*,¹⁴ and a grant of \$3.75 million from GEF to be administered by ADB. Under the MFF, ADB will extend financial assistance to four indicative project tranches to support the Investment Program subject to the submission of a related periodic financing request (PFR) from the Government and the execution of the related loan agreements. Each PFR will be accompanied by a detailed cost estimate and an implementation schedule. The framework financing agreement (FFA) with ADB will satisfy the requirements of the policy.¹⁵ The minimum amount of any PFR will be \$10 million.

33. The proposed ADB loans under the MFF will finance civil works, equipment, consulting services, and capacity building. The Government can choose from eligible currencies and interest rate regimes for each loan from OCR. The specific terms of each loan will be based on the related PFR, with interest to be determined in accordance with ADB's LIBOR-based lending facility. The loan from ADB's Special Funds resources will have a 32-year term, including a grace period of 8 years, and an interest charge of 1.0% during the grace period and 1.5% per annum thereafter.

34. The actual allocation of loan and grant¹⁶ proceeds will be determined through consultation between ADB and the Government of Indonesia within 30 days from the date the loan becomes effective.

35. The Project will be financed by ADB loan, ADB technical assistance (TA) grants including the Global Environment Facilities (GEF) and grants from other donors, the Government counterpart funds, and cash and in kind contribution of beneficiaries. The ADB-OCR loan for the Project 1, will only finance civil works through international – and/or national competitive bidding (ICB and/or NCB), therefore no imprest account (IA) is required for the Project 1 ADB OCR as funds will flow directly to contractors. IAs are required in PIUs for ADF loan to finance such as training, community preparation, workshops, studies and other small items funded by the Project. GEF will finance investment activities only for MoFr and need an IA for financing small item investments. A TA will finance additional costs required for consultants, training and other capacity building and the needs for an IA will be assessed during administering the TAs. The Government will finance from its annual budgetary allocations to each PIU some cost items such as resettlement, local taxes and other incremental costs.

I. Implementation Schedule

36. The RCMU, PCMU, and PIUs have been established (except for the Ministry of Forestry and the State Ministry of Environment). PIUs have commenced advance procurement and preparatory activities, including safeguard compliance. Implementation will commence with the (i) full operational effectiveness of the PIUs, RCMU, and PCMU; (ii) engagement of consultants; (iii) detailed engineering design of the main works and construction of the Bekasi siphon on the WTC; (iv) institutional assessments and diagnostics; (v) CSO stakeholder mobilization and media campaigns; (vi) identification of target villages for Project 1, (vii) assistance in establishing and strengthening the 6 Cis River Basin Territory Water Council; (viii) capacity building; and (ix) data gathering, establishment of information systems, and setting up of the road map and investment program performance monitoring systems and their procedures.

¹⁴ ADB. 2008. *Mainstreaming the Multitranche Financing Facility*. Manila.

¹⁵ ADB. 2008. *Operation Manual – OM Section D14/BP*. Manila. The availability period of the MFF is 15 years, from 2009 to 2023, which is more than the 10 years of availability prescribed in OM D14/BP; this approach is necessary to match the implementation period of the Investment Program with the road map.

¹⁶ The GEF grant approval is expected in September 2009.

37. The Investment Program will be implemented over 15 years from 2009 to 2023, the indicative scheduling of the project tranches is shown in Appendix 2. The MFF availability period is 10 years from 2009 to 2018. The proposed four tranches of the MFF need not be implemented sequentially. The exact timing of the tranches after the first will be determined by circumstances current at the time, including progress on previous projects. This will be determined by the Government. PFRs will be submitted at the appropriate time, ensuring that preparation work has been completed so that the next project can commence implementation without delay. Projects will overlap to some degree.

38. Each PIU will prepare its own reports on physical and financial progress including the consolidated financial statements of all financiers and submit to PCMU on a quarterly and annual basis. The reporting system will have the capacity to link the financial information with the project's physical progress. Controls will be in place to reduce the risk that the physical data may not synchronize with the financial data. The financial management system is partly computerized, but it can produce the necessary data for project financial reports. The reports will be used by management for comparing actual expenditures with budgeted and programmed allocations.

J. Consulting Services

39. Consulting support for most of the MFF component projects could be required. The requirement for consulting services cannot be exactly defined for future tranches, due to the inherent flexibility of the MFF modality. All consultants to be financed under the Investment Program will be recruited in accordance with ADB's *Guidelines on the Use of Consultants by the Asian Development Bank and Its Borrowers*, (February 2008, as amended from time to time). The contract packaging and selection and engagement modes for each type of contract will be examined during ADB's processing of PFRs and will be finalized during loan negotiation for each project.

K. Procurement

40. Procurements to be financed by the loans under the MFF will be carried out following ADB's *Procurement Guidelines* (2007, as amended from time to time). The contract packaging and procurement modes for each contract will be examined during ADB's processing of PFRs and will be finalized during loan negotiations for each project. In addition, procurement plans will be prepared for each project to be financed under the Investment Program, indicating the particular contracts for goods, works, and consulting services required; proposed methods of procurement; thresholds; and related ADB procedures.

L. Disbursement Arrangements

41. Each PFR will be under a separate loan agreement. The loan agreement will describe the detailed disbursement arrangements for a specified PFR, which will be discussed and agreed between ADB and the Government. Loan disbursements will be in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time).

M. Communication Procedures

42. All communications between RCMU, PCMU, PIUs and the ADB will preferably be in the form of facsimile and/or letter, with the exception noted below (Paragraph 43). In each case, the communication will be recorded and stored as described in the Correspondence Register of the

receiving unit, according to the procedures laid down in the Office Procedures Manual. In general, receipt of the communication shall be acknowledged to the sender by the recipient of the communication within two working days, and that acknowledgment recorded. Where a response to the contents of communication by the recipient is required or requested (that is, the communication is not only for information purposes), the recipient will normally be required to respond within five working days after receipt of the communication. If this requirement cannot be met for any reason, the recipient shall inform the sender in the acknowledging communication, giving an expected response date.

43. Email could be used for communications that have no legal implications, but that these should be: (i) printed and filed just like letters and faxes; and (ii) entered into the Correspondence Register. All communications between PIUs and the PCMU regarding planning will be copied to the RCMU. All communications between the RCMU or the PCMU with the ADB will be copied to the RCMU and/or the PCMU respectively. In addition to formal written communication protocols specified herein, RCMU and PCMU should extensively use non-formal personal communications to consult stakeholders to ensure clear communication and understanding, gather feedback and trouble shoot issues to enhance program implementation in line with the basic principle of stakeholder participation in IWRM. Any relevant information should be reported to the PCMU and the RCMU through memorandum in writing.

44. The Government will set up and maintain an online communication platform to share information among stakeholders with different level of access depending on confidentiality. The maintenance and updating of the online communication platform will be ensured by (i) the RCMU for the information and communications related to the Roadmap, and (ii) the PCMU for the information and communications related to the investment program and stakeholders. The table 4 shows the information sharing guidelines in accordance with ADB's *Public Communication Policy* (2005):

Table 4: Information Sharing Guidelines¹⁷

Document Title	Source	Primary Recipient	Shared with						
			ADB	GOI				CSO Forum	Public
				NSCWR	RCMU	PCMU	PIU		
Preparation Phase									
Design and Monitoring Framework	ADB	RCMU/PCMU	O	S	O	O	O	O	O
Initial Poverty and Social Assessment	ADB	RCMU	O	S	O	O	O	O	O
Environmental Assessments	ADB	RCMU/PCMU	O	S	O	O	O	O	O
Resettlement Planning Documents	GOI	PCMU	O	S	O	O	O	O	O
Indigenous Peoples Development Planning Documents	ADB	PCMU	O	S	O	O	O	O	O
Consultants Reports	Consultants	All	O	S	O	O	O	NO	NO
Appraisal/Approval Phase									
Reports and Recommendations of the President	ADB	ADB	O	O	O	O	O	O	O
Legal Agreements	ADB/GOI	ADB/GOI	O	O	O	O	O	O	O
Technical Assistance Reports	Consultants	ADB/GOI	O	S	O	O	O	NO-S	NO
Grant Assistance Reports	Consultants	ADB/GOI	O	S	O	O	O	NO	NO
Implementation Phase									
Consultant Reports	Consultants	ADB/GOI	O	S	O	O	O	NO-S	NO
Program Administration Memorandum	GOI	ADB/GOI	O	S	O	O	O	NO	NO
Social and Environmental Reports	PCMU	ADB/GOI	O	S	O	O	O	O	O
Progress Reports on Tranche Releases	PCMU	ADB/RCMU	O	S	O	O	O	S	S
Annual Working Plans	PCMU	ADB/RCMU	O	S	O	O	O	S	S
Procurement Plans	PCMU	ADB/RCMU	O	S	O	O	O	O	O
Physical Progress Reports	PCMU	ADB/RCMU	O	S	O	O	O	S	S
Financial Progress Reports	PCMU	ADB/RCMU	O	S	O	O	O	S	S
PIUs Legal Formation Documents	PIUs	RCMU	O	S	O	O	O	S	S
Audit Reports	PCMU	ADB/RCMU	O	S	O	O	O	S	S

¹⁷ "O" for "obliged", "NO" for "Not Obligated" and "S" for "Summary".

Document Title	Source	Primary Recipient	Shared with						
			ADB	GOI				CSO Forum	Public
				NSCWR	RCMU	PCMU	PIU		
Evaluation Phase									
Completion Reports	EA	ADB/RCMU	O	S	O	O	O	S	S
Evaluation Reports	ADB	ADB	O	S	O	O	O	S	S
Others									
Workshops Presentations	Various	Various	O	O	O	O	O	NO	NO
Minutes of Meeting	Various		O	NO	O	O	O	NO	NO
Maps and Technical Databases	RCMU/PCMU/PIUs	RCMU/PCMU/PIUs	O	NO	O	O	O	NO	NO
Correspondences with IAs	PCMU/RCMU	IAs	O	NO	O	O	O	NO	NO
Correspondences with ADB	PCMU/RCMU	ADB	O	NO	O	O	O	NO	NO
Correspondences with other Donors	RCMU	Other Donors	O	NO	O	O	O	NO	NO
Correspondences with other Non Governmental Organizations	PCMU	NGOs	O	NO	O	O	O	NO	NO
Pilot Demonstration Activities Reports	Consultants	ADB/PCMU/RCMU	O	S	O	O	O	NO	NO

N. Social and Environmental Safeguards

45. The Government will ensure that (i) all projects financed under the Investment Program are carried out in full compliance with (a) all applicable laws and regulations of the Government; (b) ADB's safeguard policies, (c) the Gender Action Plan (Appendix 5); (d) the Resettlement Framework (Supplementary Appendix 1); (e) the Environmental Management Plan (Appendix 6); and (f) the Environmental Assessment and Review Framework (Supplementary Appendix 2) agreed and set forth in Schedule 5 of the FFA shall be used to guide project preparation and implementation; (ii) resettlement plans, initial environmental examination reports, environmental impact assessments, and environmental management plans included therein will be prepared and implemented for each project or subproject under the Investment Program that must be selected in accordance with criteria agreed on and set forth in Schedule 4 to the FFA; and (iii) the Government will submit safeguards implementation status related documents on previous project, land acquisition, Gender Action Plan implementation and resettlement implementation with each PFR.

46. For each component of the IP requiring resettlement, such resettlement will be carried out in accordance with a specific Resettlement Plan prepared by the PIU for that component. The RPs must be based on and comply with the principles laid down in the approved Resettlement Framework for the IP. For Project 1 and all future projects to be financed under subsequent individual tranches/loans, the Government ensures that completed resettlement plans for all projects and subprojects included under a PFR are submitted prior to or with the PFR for approval. Each resettlement plan is (i) to be prepared based on the detailed feasibility studies (detail designs during implementation may require updating of RP) or detailed designs; (ii) to include complete information on full census, final asset inventory and valuation, and final

budget; (iii) to be made available to the affected people in draft and final forms, including information on measurement of losses, detailed asset valuation, entitlements and special provisions, grievance procedures, timing for payment, and displacement schedule; and (iv) to be approved by ADB prior to notice to proceed for civil works contractors. Affected people will be provided certain resettlement entitlements such as land and asset compensation (if applicable) as described in the Resettlement Framework, prior to their displacement, dispossession, or restricted access.

47. All subsequent projects under the Investment Program will be assessed independently for environmental categorization and then prepared in compliance with ADB environmental guidelines. The Government will prepare an initial environmental assessment or initial environmental examination, including an environmental management plan or a full environmental impact assessment (EIA) as required to be approved by the relevant government authority. These will be submitted to ADB for review (and approval if applicable). All civil works and consultant contracts under the projects will contain provisions requiring compliance with the initial environmental assessment or initial environmental examination during project design, construction, and operation.

48. Throughout the investment program implementation period, the Government will ensure that sufficient funds are made available as and when necessary for the efficient and timely implementation of resettlement and environmental safeguard activities. Quarterly project implementation reporting shall include implementation progress of the (i) environmental management plans and measures taken under the initial environmental examination, EIA, and environmental monitoring carried out as a regular part of project implementation and (ii) resettlement monitoring as detailed in the resettlement plan. These safeguard reports shall be disclosed in accordance with ADB's *Public Communication Policy* (2005).

O. Coordination

49. The Roadmap Coordination and Management Unit (RCMU) established within the National Development Planning Agency (Badan Perencanaan Pembangunan Nasional-BAPPENAS) will ensure effective planning and financial management at national and local government levels. The RCMU will primarily (i) closely coordinate activities with the Bappedas through the Ministry of Home Affairs, Directorate General of Regional Development, (ii) ensure effective coordination among component Roadmap projects, (iii) review prioritization of activities under the MFF and other funding, (iv) facilitate effective, regular consultations with stakeholders (government and non-government) on plans, decisions and activities that affect them, using both formal and non-formal channels of communication to enhance stakeholder participation, (v) liaise with bilateral and multilateral donors, and the private sector, (vi) monitor and evaluate the Roadmap implementation performance, (vii) prepare and submit semi annual Roadmap progress reports to ADB through the NSCWR, (viii) support the NSCWR on implementation of the Investment Program.

50. The NSCWR will provide (i) guidance and coordination assistance across all Government and local Government agencies involved in integrated water resources management in Citarum Basin, (ii) review, approve and forward consolidated AWP to ADB in a timely manner.

51. The Directorate General of Water Resources (DGWR) within the Ministry of Public Works (MPW) will be the Executing Agency (EA) for Project 1. DGWR has established a Project

Coordination and Management Unit (PCMU) within the Balai Besar Wilayah Sungai Citarum (the Citarum river basin organization) to be responsible for overall management and coordination of all project activities. The RCMU and PCMU will work closely with the National Steering Committee for Water Resources (NSCWR) established in BAPPENAS. Specifically, the PCMU will (i) ensure that Annual Work Plans are submitted by the PIUs in a timely manner and in a standard format, (ii) review and consolidate, for all PIUs, the Annual Work Plans (AWPs) and corresponding budget estimates will be submitted to the NSCWR for review, approval and forwarding to ADB, (iii) prepare and submit progress reports on Investment Program and Project Implementation to ADB and NSCWR, (iv) compile the results of project monitoring and evaluation, and convey the consolidated results to the implementing agencies and the ADB, (v) liaise and coordinate with other donor agencies on complementary activities, (vi) organize coordination meetings and workshops, with implementing agencies at the national, provincial, and district levels as appropriate, and (vii) arrange for representatives of the implementing agencies to assist the ADB's review missions, (viii) review and consolidate SOEs for expenditures incurred by all PIUs and submit to MoF. Routine communications from ADB on Project 1 implementation will be addressed to the PCMU/RCMU and the EA. On roadmap implementation, ADB, the RCMU and the EA shall coordinate closely.

52. Project Implementation Units (PIUs) will be established in each Implementing Agency (IA) and will be mainly responsible for: (i) prepare Annual Work Plan (AWP) in a standard format and corresponding cost estimates and submit to the PCMU for review and consolidation; (ii) implement sub-project/component activities; (iii) monitor and evaluate activities; (iv) liaise with others IAs; (v) prepare and submit a quarterly and annual reports on physical and financial progress including the consolidated financial statements of all financiers to the PCMU (The ADB will report TA progress on financial disbursement to the EA on a quarterly basis); and (vi) assist the PCMU during ADB's review missions.

P. Monitoring

53. Within 6 month of effectiveness of the first loan, the RCMU will establish a road map performance management system (RPMS) for the overall road map investment, and DGWR will establish an investment program performance management system (IPPMS) in the PCMU. The RPMS and IPPMS designs shall be acceptable to ADB. They will use a results-based approach to monitoring and evaluating implementation performance and development impact at various stages of the project cycle and ensure the timely feedback of this information to decision makers for action. The IPPMS will incorporate five interlinked elements: (i) the investment program design and monitoring framework, which will be the basis of the system; (ii) ADB's project performance reports for assessing and recording performance during implementation; (iii) monitoring and evaluation by the EA and IAs to provide inputs to the system, supplemented by routine ADB reviews; (iv) borrower and ADB self-evaluations of project performance; and (v) post-project independent evaluations 3 to 5 years after the completion of internal project performance reviews. Participatory monitoring and evaluation systems will be introduced. A database of key benchmark indicators will be established by the RCMU and become a part of the project monitoring system within 9 months of effectiveness of the first loan under the Investment Program. In close coordination with PIUs and the PCMU, the RCMU will update and analyze key performance indicators at least twice per year and in greater detail immediately before the midterm review and completion of any project loan.

54. Where appropriate, the RPMS will be integrated into the management information systems of regional governments and the Water Council so that the monitoring of benefits can

continue beyond project implementation. Quarterly and annual reports will be prepared by each PIU and then consolidated by the PCMU and submitted to ADB in accordance with ADB's guidelines for project performance management systems. In addition, the Investment Program will help the NSCWR to (i) develop, in close coordination with the Network of Asian River Basin Organizations, IWRM river basin performance benchmarking systems for use by the river basin organizations and the Water Council; and (ii) develop road map and investment program systems for financial investment planning, monitoring, and evaluation. The Water Council's state-of-the-basin report will include an update on the status of road map and investment program implementation.

Q. Reporting Requirements

55. The PCMU will submit to ADB quarterly¹⁸ progress reports summarizing overall investment program progress, including the implementation of environmental management and resettlement plans, if required. In addition, the PCMU will prepare consolidated AWP and corresponding budgets and submit them to NSCWR for review, approval, and forwarding in a timely manner to ADB. The EA will submit a consolidated project completion report to ADB within 3 months of the completion of each project loan. IAs will each establish and maintain separate account and records. To ensure accountability, transparency, and sound financial management, the Investment Program provides for an independent audit by a national accounting and/or auditing agency with international affiliation. Audit reports shall be submitted to ADB annually within 6 months of the end of each calendar year. The audit reports will include an audit opinion on the use of the imprest account, and SOE procedures shall also be provided. The PCMU will (i) submit to ADB the progress reports of each IA on a quarterly basis, and (ii) prepare and submit to ADB annual consolidated progress reports for each project under the MFF, the form and content of which will be agreed with ADB. The EA will actively monitor feasibility, preparation, and final design activities in accordance with the program implementation schedule and keep ADB informed of any significant deviations from it. The ADB LIFS (Loan Information Financial System) will be made available to the PCMU (and PIUs) through limited access via internet. Financial reporting forms are presented in appendix 7.

56. The RCMU will prepare and submit to ADB through NSCWR biannual road map progress reports¹⁹, the form on content of which will be agreed with ADB.

R. Auditing Requirements

57. Each IA will establish an auditing committee consisting of representatives from the related department and the established PCMU. The EA and each IA will undertake and make available to ADB annual inspection audits from Badan Pengawasan Keuangan and Pembangunan (BPKP). All procurement stages of consulting services above \$100,000 will be subject to ADB's prior review. As regards the procurement of civil works, equipment and other goods, and consulting services below \$100,000, each contract will be subject to ADB prior review with a Bid Evaluation Report (BER) to be submitted to ADB for post review. Any adverse finding will result in misprocurement being declared with the concerned EA and/or IAs being sanctioned.

¹⁸ The first project quarterly report shall be submitted end of September 2009.

¹⁹ As mentioned in the schedule 3 of the FFA. The first Roadmap monitoring report submission is expected in December 2009

58. The Project will train PIU members on appropriate procurement and financial management procedures set forth in applicable provisions of the ADB's and the Government's procurement, accounting and auditing rules and regulations and the Project's anticorruption policy. It will also encourage reporting of suspected fraudulent or corrupt practice in the use of project resources or property. The Project will establish financial controls through periodic review, reconciliation and reporting of status of fund releases, disbursements and liquidation to the BPKP. All community based activities and goods procured for the community shall be communicated in advance on village notices and through facilitated dialogue with community. The PCMU will also engage the services of a consultant expertise in fiduciary arrangements and technical quality assurance who will semi-annually, or as deemed necessary, review the project's physical and financial quality assurance performance. The Project will require strict documentation by its contractors on the use of project funds as basis for further releases. To ensure adherence to contractual obligations and value for money principles, the office of the MoPW Inspector General in coordination with DGWR will, through routine inputs, build capacity in the PCMU to ensure implementation within the Ministry of Public Works of sound quality control and quality assurance procedures for civil works and consulting services.

S. Project Review

59. During the initial 3 years of Investment Program implementation, ADB will carry out quarterly reviews to (i) ensure that the implementation arrangements are in place and appropriate; (ii) assess implementation performance and the achievement of project outcomes and objectives against the agreed implementation schedule, identify bottlenecks, and, in consultation with the Government, agree on a time-bound action plan for their resolution; (iii) ensure that ADB safeguards and other conditions set out in the loan agreements are being met; (iv) assess progress made in mobilizing CSOs; and (v) assess the readiness for Project 2 implementation. In addition ADB will assist in an annual peer review of the CRB state-of-the-basin report with CRB and annual road map funding reviews with NSCWR, the RCMU, and prospective donor agencies. Three years following the effective date of the first loan under the Investment Program, ADB will field a comprehensive midterm review mission for Project 1, which will assess performance, identify problems affecting project implementation, and reach formal agreement with the Government on changes on the scope or implementation arrangements of Project 1 and the Investment Program required to address these shortfalls. The terms of reference of the midterm review mission will be developed jointly by the EA and ADB during the second and third year of the Investment Program. Before the mission, the Government will submit to ADB a detailed progress report.

T. Major Loan Covenants

60. The financing will be provided under an MFF in accordance with ADB policy.²⁰ The *Staff Instructions on the Use of MFF*²¹ was followed in processing the MFF. The MFF will extend multiple loans to finance a range of projects under the Investment Program, subject to the submission of a related periodic financing request (PFR) by the Government and execution of the related loan and project arrangements. Each PFR will be accompanied by a detailed cost estimate, as well as an implementations schedule. The Framework Financing Agreement (FFA) satisfies the requirements set forth in Appendix 4 of the *Pilot Financing Instruments and Modalities*. The Government is required to comply with the FFA requirements. The minimum

²⁰ ADB. 2005. *Pilot Financing Instruments and Modalities*. Manila.

²¹ ADB. 2006. *Staff Instructions on the Use of MFF*. Manila.

amount of PFR will be \$10 million. The last loan is expected to be executed no later than 31 June 2018. Detailed of the major loans covenants are presented in appendix 8.

61. All provisions of the ordinary operations loan regulations applicable to London interbank offered rate (LIBOR)-based loans²² will apply to each loan, subject to any modifications that might be included under any loan agreement. The Government can choose from eligible currencies and interest rate regimes for each loan. The specific terms of each loan will be based on the related PFR, with interest to be determined in accordance with ADB's LIBOR-based lending facility. The Government has provided ADB with (i) the reasons for its decisions to borrow under ADB's LIBOR-based lending facility, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB.

U. Anticorruption²³

62. ADB's *Anticorruption Policy* (1998, as amended to date, Supplementary Appendix 3) was explained to and discussed with the Government, the EA, and the IAs. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Investment Program. To support these efforts, relevant provisions of ADB's *Anticorruption Policy* are included in the loan regulations and the bidding documents for the Investment Program. In particular, all contracts financed by ADB in connection with the Investment Program shall include provisions specifying the right of ADB to audit and examine the records and accounts of the EA, IAs and all contractors, suppliers, consultants, and other service providers as they relate to projects under the Investment Program.

63. Each IA will establish a procurement committee; civil works, equipment and other goods, and consulting services will be procured in accordance with the Procurement Plan (Appendix 3). The EA and each IA will undertake and make available to ADB annual inspection audits by an approved independent auditor.

64. PIU staff will be trained on appropriate procurement and financial management procedures set forth in applicable provisions of ADB's and the Government's procurement, accounting, and auditing rules and regulations and the Investment Program's anticorruption policy. Financial controls will be established through periodic review, reconciliation, and reporting of the status of fund releases, disbursements, and liquidation to the independent auditor. All community-based activities and goods procured for the community shall be announced in advance on village notice boards and through facilitated dialogue with the community. The PCMU will engage the services of a consultant with expertise in fiduciary arrangements and technical quality assurance, who will review semiannually or as deemed necessary the project's physical and financial quality-assurance performance. The project will require strict documentation by its contractors on the use of project funds as the basis for further releases. To ensure adherence to contractual obligations and the principle of value for money, the office of the Ministry of Public Works Inspector General in coordination with DGWR will, through routine inputs, build capacity in the PCMU to ensure the implementation within the Ministry of Public Works of sound quality-control and quality-assurance procedures for civil works and consulting services.

²² ADB. 2001. *Ordinary Operations Loan Regulations Applicable to LIBOR-Based Loans Made from ADB's Ordinary Capital Resources*. Manila.

²³ As described in the Schedule 5 of the loan agreements

II. ICWRMIP PROJECT 1

A. Scope of ICWRMIP Project 1

65. The first tranche of the MFF has been designed to undertake priority interventions for basin management in the CRB and will commence in the second quarter of 2009. The Project 1 components (as described in appendix 9) and their planned outputs are listed in Table 5 and detailed in the Supplementary Appendix 4.

Table 5: Proposed Project 1 Outputs

Component (Subproject)	Outputs
1 - Institutions and Planning for IWRM	
1.1 Road map Management	<ul style="list-style-type: none"> • Coordination among component projects (planning, policy coordination, integrated AWP approval, mid term development plans) • Studies, dialogue and preparation for future tranches Implementation • Support the RCMU and its secretariat operation to National Water Resources Steering Committee • Funding allocations management • Identification of the need for and coordination of implementation of minor studies to improve knowledge of water issues in CRB (3 to 6 studies) • Monitoring and reporting of Road map implementation performance • Assist with capacity building for Road map management • Coordination and synergetic planning between National and Regional Governments, CSOs, communities and private sector on IWRM initiatives • Road map Data and Information System development and management • Identification and development of private sector investment opportunities • Road map Media communication plan, information dissemination and implementation
1.2 Road map Institutional Strengthening (TA A1)	<ul style="list-style-type: none"> • Activities aimed at improved coordination and communication among IWRM stakeholders in Citarum River Basin. • Strengthening of RCMU and regional Bappeda in IWRM planning and programming. • Capacity building for improved National and Regional IWRM planning and programming. • Development of mechanisms for improved funding and more effective fiscal planning for IWRM in river basins in Indonesia. • Capacity building to improve RCMU staff skills.
1.3 Institutional Strengthening for IWRM in 6 Ci's River Basin Territory (TA B1)	<ul style="list-style-type: none"> • Activities to improve technical capacity: (i) flood warning systems and real-time communication, (ii) management and data information systems, (iii) quantity and quality monitoring of flow and regulation for efficient water allocation. • Ongoing support for Water Resources Council (WRC) and supporting office(s), and capacity building for water resource management (WRM) agencies. • Ongoing activities where little or no capacity building is required: (i) strategic planning, (ii) performance monitoring and evaluation, (iii) development of the basin pola and rencana (iv) O&M of water infrastructure. • Internal Balai Besar organizational management: (i) leadership and teamwork, (ii) human resources management, (iii) financial planning and management. • Development of an Internet-based metadatabase (data directory) for water, land and related data in the Citarum River Basin. • Design and implementation of a decision support tool for use by relevant agencies for planning. • Development of annual "state of the basin" reporting system.

Component (Subproject)	Outputs
1.4 Spatial Planning for The Citarum River Basin Territory (TA B2)	<ul style="list-style-type: none"> • Preparation of a consistent regional plan reflecting the existing local plans. • Preparation of an up-to-date land-use map (remote sensing) for the project area. • Preparation of Java Spatial Model (JSM) for projection of population and land-use: (further) calibration and validation with specific attention to employment, accessibility, and specific regional sectors with different growth characteristics. • Estimation of spatial requirements for the water sector and other related sectors (housing, industry, agriculture, environment). • Development of spatial strategies and scenario's; interpretation of projections, resolution of conflicts on the use of space. • Quantification of water related zoning on land-use in the basin (low-flow and peak-flow conservation zoning, flood zoning, erosion zoning, groundwater protection zoning, and so on), based on the water resources analysis for the river basin. • Strategic assessment of the impacts of water related zoning on other sectors. • Coordination and integration, covering in particular the interactions with the many involved agencies and the component subprojects of ICWRMIP.
2 - Water Resource Development and Management	
2.1 Rehabilitation of West Tarum Canal	<ul style="list-style-type: none"> • West Tarum Canal restored to its design capacity • Water quality improved through exclusion of inflows of polluted water from crossing stream through construction of siphons • Water control structures restored to full operational status • Environmental impacts minimized, and in particular through proper disposal of dredged material • Social disruption for those living along the canal minimized, and in particular access to water supply and sanitation maintained and improved if necessary • Capacity of PJT II for ongoing management of the canal improved.
2.2 Improved Land and Water Management	<ul style="list-style-type: none"> • Adoption of System of Rice Intensification (SRI) in the project area accelerated. • About 3,000 ha of paddy land in three districts will improve water management practices leading to increased yields and reduced water consumption
2.3 Support for Community- and NGO-Driven Initiatives for Improved Water Supply and Sanitation	<ul style="list-style-type: none"> • Strengthened community capabilities to develop, co-finance, build, operate, and maintain community-based water supply and sanitation facilities • Development of sanitation and facilities by providing a subsidy for latrine • Development of simple drainage, washing platforms, soak pits, bashing and washing facilities • Health impacts of project investments in water supply and sanitation maximized and the incidence of water borne and water related diseases reduced through improved practices
2.4 Water Supply Options for Upgrading Bandung Water Sources	<ul style="list-style-type: none"> • Identification of previously considered options for upgrading Bandung's water supplies in the face of increasing demand and declining groundwater levels • Identification of new options that may be feasible to reduce dependence on groundwater • Develop criteria for ranking of options • Evaluate options based on agreed criteria and selected highest ranked option(s) to go to feasibility stage
2.5 Feasibility Study for Upgrading Bandung Water Sources	<ul style="list-style-type: none"> • Feasibility study for preferred (highest ranked) option(s) for upgrading of Bandung water supply
2.6 Detailed Engineering Design for Upgrading Bandung Water Sources	<ul style="list-style-type: none"> • Detailed engineering design for surface water supply option(s) identified in a parallel project preparatory technical assistance • Complete documentation for procurement of construction and construction supervision contractors/consultants
3 - Water Sharing	
3.1 Development of Key Policies and Strategies for Water Resources Management in CRB (ADB TA B3)	<ul style="list-style-type: none"> • Policy development for appropriate water pricing, water sharing and balanced stakeholder participation (focusing on agricultural water use). • Development of strategies and options for demand management and water conservation with respect to industrial and domestic water use. • Development of a water entitlements and licensing system for surface water users. • Review of water allocation policies and optimization of water control infrastructure operation in key sub-basins and for the operation of the river
4 - Environmental Protection	
4.1 Development and Implementation of a Basin River Quality Improvement Strategy and Action Plans	<ul style="list-style-type: none"> • Policies and procedures for water quality management • Improvements to water quality monitoring and data management • Strengthening of organizational capacity • Preparation of basin-wide River Water Quality Improvement Strategy (RWQIS)

Component (Subproject)	Outputs
4.2 Watershed Management and Biodiversity Conservation	<ul style="list-style-type: none"> • Preparation and implementation of area-based pollution sources management action plans • Preparation of conservation action plans with stakeholders for PAs • Identification of important plants and animals in key habitats in PAs • Reporting on resource utilization patterns in PAs • Preparation of a strategic conservation biodiversity conservation spatial plan for CRB; • Villagers in MCVs develop their own action plans and engaged in conservation activities in this strategic conservation area; • Preparation of a biodiversity conservation database prepared for CRB; • Habitat restoration required to optimize ecological function of CRB riparian zones identified.
5 - Disaster Management	
5.1 Upper Citarum Basin Flood Management (TA C1)	<ul style="list-style-type: none"> • Completion of current river model studies (1-dimensional). • Development of 2-dimensional floodplain model. • Design studies with modeling. • Updating of existing Flood Management Strategy. • Determination of impacts on regional and spatial planning. • Formulation of O&M operational plan. • Preparation of terms of reference for detailed design by others and implementation under Project 2 (Tranche 2).
5.2 Climate Change Adaptation and Mitigation (TA E1)	<ul style="list-style-type: none"> • Formulation of climate change adaptation and mitigation policies to be adopted within the river basin. • Mainstreaming of climate change concerns in at local development planning, sector, and program level. • Preparation of adaptation and mitigation action plans (AMAP). • Initial implementation of mitigation and adaptation measures. • Recommendations and inputs for the other components of the ICWRMIP.
6 - Community Empowerment [addressed in parallel support TA]	
7 - Data, Information and decision Support	
7.1 Decision Support System for Integrated Water Resources Management in Citarum River Basin (TA D1)	<ul style="list-style-type: none"> • Development of a water quality model and management system for key streams and reservoirs of the Citarum River Basin. • Development of a water balance model and water allocation system for the Citarum River Basin. • Development of a rainfall run-off analysis model for the catchments of the basin. • Development of a spatial (GIS-based) database for water and land-related data of the basin, to be coordinated with other GIS systems developed under the ICWRMIP and this TA. • Capacity building for sustainable operation and maintenance of the systems developed.
8 - Program Management	
8.1 Program Management	<ul style="list-style-type: none"> • Coordination and planning among Project 1 subcomponents • Liaison with executing agencies and other relevant stakeholders • Coordination among projects • Monitoring, evaluation and reporting • Data and information systems • Social and environmental safeguards oversight • Media communication plan and information dissemination • Coordination of preparation for Project 2
8.2 Independent Monitoring and Evaluation	<ul style="list-style-type: none"> • Monitoring of the Road map physical and financial process as well as the effectiveness and efficiency in achieving major outputs, outcomes and impact. • Review and report to NSCWR Road map progress and inter-agency program planning and coordination • Establishing a RPMS for the overall Road map investments • Monitor the level and adequacy of participation of various stakeholders in the planning, implementing and monitoring of project activities • Monitoring the Road map's social, environmental, and economic impacts including the establishment of benchmark using existing Government information and data systems • Assessing the impact and utilization of water resources data management information systems • Developing a mechanism for making necessary adjustments in the Road map design and implementation arrangements

66. In parallel with this, an accompanying TA will be implemented to provide necessary institutional and organizational strengthening to ensure sustainable long-term viability of the loan investments (see Section K).

B. Cost Estimates and Financing Plan

67. Project 1 is estimated to cost the equivalent of \$103.4 million, including taxes, duties, interest, and other charges as summarized in table 2 above. Pursuant to the FFA, the Government submitted to ADB the first PFR, for a loan equivalent to \$30.0 million from ADB's Special Funds resources and a loan of \$20.0 million from OCR to cover part of the cost of Project 1. ADB funding is prioritized for capacity building, community-driven infrastructure, and preparatory activities for future tranches with OCR funding of larger infrastructure civil works on the WTC. The Government will finance about \$34.4 million mainly for land acquisition, resettlement, taxes, project administration support, and other costs including civil works. Beneficiaries will contribute about \$3.4 million, mainly for community-based management investments. The first PFR is submitted to the Board together with the FFA for information. Detailed cost estimates, financing plan and allocation for Project 1 loan funded sub components are provided in Supplementary Appendix 5, detailed counterpart funds allocation per sub components are presented in Appendix 10, detailed fund flow mechanisms for loan funded sub components in Appendix 11 and community contracting mechanisms in appendix 12.

68. On behalf of the Government, ADB asked GEF to provide grant funding for Project 1, and GEF provided concept approval of a grant of \$3.75 million in May 2008 (Indicative GEF Grant Key Outputs and Costing are provided in Appendix 17). The grant, to be administered by ADB, will cover the costs of activities related to the conservation and management of ecosystems in protected areas that are included in component 4 of the Investment Program. TA (7189 - INO) with a cost of \$10.7 million (\$1.0 million in ADB funds, a \$5.0 million grant from the Government of the Netherlands, a \$2.0 million grant from the Multi-donor Trust Fund under the Water Financing Partnership Facility, and \$2.7 million in Government funding) will be implemented to provide necessary institutional and organizational strengthening; establish data, information, decision-support systems; and ensure the sustainable, long-term viability of the investments (see section K). Parallel TA support for water quality modeling and CRB decision-support systems valued at \$4.0 million equivalent has been proposed by Korean Water Resources Cooperation. Additional funding sources have been approved (ADB-administered Climate Change Fund \$ 2,000,000, Clean Energy Financing Partnership Facility \$ 850,000) to prepare adaptation and mitigation plans with a view to 'climate-proof' the \$3.5 billion of investments under the ICWRMIP Roadmap and implement initial mitigation and adaptation works in selected locations.

C. Consulting Services

69. Consultants will be recruited in accordance with ADB's Guidelines on the Use of Consultants. The selection and engagement of required services will be through firms selected mainly under the quality- and cost-based selection method. For contracts valued up to \$200,000, the consultant qualification selection method will be followed. Individual consultants may be recruited in accordance with procedures acceptable to ADB. Project 1 loan-funded subcomponents will require a total of 222 person-months of international consultants and 2,030 person-months of national specialists as presented in table 6 below and Terms of Reference are attached in the Supplementary Appendix .6

Table 6: Summary of Project 1 Consulting Services for Loan Funded Sub Components

Program/ activities	Sub Components	IPS	NPS
Roadmap Management	Sub Comp 1.1	30	335
Rehabilitation of the West Tarum Canal	Sub Comp 2.1	79	345
Improved Land and Water Management	Sub Comp 2.2	-	63
Support for Community and CSO Driven Initiatives for Improved Water Supply and Sanitation	Sub Comp 2.3	3	258
Detailed Engineering Design for Upgrading Bandung Water Sources	Sub Comp 2.6	57	437
Development and Implementation of a Basin River Quality Improvement Strategy and Action Plans	Sub Comp 4.1	14	160
Program Management	Sub Comp 8.1	33	156
Independent Monitoring and Evaluation	Sub Comp 8.2	6	276
	Total:	222	2,030

D. Procurement

70. Procurements to be financed by the loans under the MFF will be carried out following ADB's *Procurement Guidelines* (2007, as amended from time to time). International competitive bidding will be used for civil works contracts costing more than \$5.0 million and for goods and related services contracts valued at more than \$1.0 million. Civil works contracts costing \$5.0 million or less, and goods supply contract packages of \$1.0 million or less, will be procured using national competitive bidding. Modifications and clarifications required to put national competitive bidding procedures in compliance with ADB's *Procurement Guidelines* will be included in the procurement plan. Civil works, goods and related service packages costing up to \$100,000 will be procured using shopping procedures. Civil works that are labor intensive will be contracted out to communities in compliance with the requirements for community participation in procurement, as specified in ADB's *Procurement Guidelines*, with a first contract ceiling of \$10,000 equivalent for each community and up to \$30,000 equivalent for subsequent community-participation contract packages. The methods of procurement are subject to, among other things, the detailed arrangements and threshold values set forth in the Procurement Plan. The Government may only modify the methods of procurement or threshold values with the prior agreement of ADB and modifications must be set out in updates to the Procurement Plan. Appendix 3 details the procurement plan for Project 1 loan funded sub components. The Government has requested, and ADB has approved, advance contracting for the procurement of civil works pertaining to the West Tarum Canal for Project 1. The Government has been informed that approval of advance contracting does not commit ADB to finance any project.

E. Disbursement Arrangements

71. The Government shall establish immediately after the effective date, an imprest account at Bank of Indonesia. The imprest account shall be established, managed, replenished and liquidated in accordance with ADB's Loan Disbursement Handbook and detailed arrangements agreed upon between the Government and ADB. The currency of the imprest account shall be Dollar. The initial amount to be deposited into the imprest account shall not exceed (i) the estimated expenditure for the first 6 months of the project or (ii) the equivalent of 10% of the loan amount, whichever is less. The statement of expenditure (SOE) procedure may be used for reimbursing eligible expenditures and liquidating advances made to the imprest account in accordance with ADB's Loan Disbursement Handbook and detailed arrangement agreed upon

between the Government and ADB. The ceiling for using SOE for reimbursement and liquidation is US\$100,000 per contract.

72. Each PFR will be under a separate loan agreement. The loan agreement will describe the detailed disbursement arrangements for a specified PFR, which will be discussed and agreed between ADB and the Government. Loan disbursements will be in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time).

F. Implementation Arrangements

73. The DGWR will be the executing agency (EA) for Project 1. DGWR has established a Project Coordination and Management Unit (PCMU) within the Balai Besar Wilayah Sungai Citarum to be responsible for overall management and coordination of all project activities implementation. Specifically, the PCMU will (i) ensure that Annual Work Plans (AWPs) are submitted by the PIUs in a timely manner and in a standard format, (ii) review and consolidate, for all PIUs, the AWP and corresponding budget estimates and submit to the NSCWR for review, approval and forwarding to ADB, (iii) prepare and submit progress reports on Investment Program and Project Implementation to ADB and the National Steering Committee for Water Resources (NSCWR), (iv) compile the results of project monitoring and evaluation, and convey the consolidated results to the implementing agencies and the ADB, (v) liaise and coordinate with other donor agencies on complementary activities, (vi) organize coordination meetings and workshops, with implementing agencies at the national, provincial, and district levels as appropriate, and (vii) arrange for representatives of the implementing agencies to assist the ADB's review missions, (viii) review and consolidate SOEs for expenditures incurred by all PIUs and submit to MoF. Routine communications from ADB on Project 1 will be addressed to the PCMU. ADB, the RCMU and the EA shall coordinate closely on Roadmap implementation. The project organization chart is presented in Appendix 13.

74. In addition the Roadmap Coordination and Management Unit (RCMU) established within the National Development Planning Agency (Badan Perencanaan Pembangunan Nasional-BAPPENAS) will ensure effective planning and financial management at national and local government levels. The RCMU will primarily (i) closely coordinate activities with the Bappedas through the Ministry of Home Affairs, Directorate General of Regional Development, (ii) ensure effective coordination among component Roadmap projects, (iii) review prioritization of activities under the MFF and other funding, (iv) facilitate consultations with stakeholders, (v) liaise with bilateral and multilateral donors, and the private sector, (vi) monitor and evaluate the Roadmap implementation performance, (vii) prepare and submit semi annual Roadmap progress reports to ADB through the NSCWR, (viii) support the NSCWR on implementation of the Investment Program. The RCMU and PCMU will work closely with the National Steering Committee for Water Resources (NSCWR).

75. The NSCWR will provide (i) guidance and coordination assistance across all Government and local Government agencies involved in integrated water resources management in Citarum Basin, (ii) review, approved and forwarding consolidated AWP to ADB in a timely manner. Project Implementation Units (PIUs) will be established in each Implementing Agency (IA) responsible for implementation activities defined in each PFR. Appendix 13 shows the proposed Investment Program management organization.

76. Project Implementation Units (PIUs) will be established in each Implementing Agency (IA) and will be mainly responsible for: (i) prepare Annual Work Plan (AWP) in a standard format

and corresponding cost estimates and submit to the PCMU for review and consolidation; (ii) implement sub-project/component activities; (iii) monitor and evaluate activities; (iv) liaise with others IAs; (v) prepare and submit a quarterly and annual reports on physical and financial progress including the consolidated financial statements of all financiers to the PCMU; (vi) assist the PCMU during ADB's review missions. Responsibilities and role sharing among agencies are presented in appendix 14.

G. Program Monitoring and Evaluation

77. An independent monitoring and evaluation unit (IMEU) will be set up in BAPPENAS. Within 6 months of effectiveness of the first loan, the IMEU will establish a road map performance management system (RPMS) for the overall road map investment, and DGWR will establish an investment program performance management system (IPPMS) in the PCMU. The RPMS and IPPMS designs shall be acceptable to ADB. They will use a results-based approach to monitoring and evaluating implementation performance and development impact at various stages of the project cycle and ensure the timely feedback of this information to decision makers for action. The IPPMS will incorporate five interlinked elements: (i) the investment program design and monitoring framework, which will be the basis of the system; (ii) ADB's project performance reports for assessing and recording performance during implementation; (iii) monitoring and evaluation by the EA and IAs to provide inputs to the system, supplemented by routine ADB reviews; (iv) borrower and ADB self-evaluations of project performance; and (v) post-project independent evaluations 3 to 5 years after the completion of internal project performance reviews. Participatory monitoring and evaluation systems will be introduced. A database of key benchmark indicators will be established by the RCMU and become a part of the project monitoring system within 9 months of effectiveness of the first loan under the Investment Program. In close coordination with PIUs and the PCMU, the RCMU will update and analyze key performance indicators at least twice per year and in greater detail immediately before the midterm review and completion of any project loan.

78. Where appropriate, the RPMS will be integrated into the management information systems of regional governments and the Water Council so that the monitoring of benefits can continue beyond project implementation. Quarterly and annual reports will be prepared by each PIU and then consolidated by the PCMU and submitted to ADB in accordance with ADB's guidelines for project performance management systems. In addition, the Investment Program will help the NSCWR to (i) develop, in close coordination with the Network of Asian River Basin Organizations, IWRM river basin performance benchmarking systems for use by the river basin organizations and the Water Council; and (ii) develop road map and investment program systems for financial investment planning, monitoring, and evaluation. The Water Council's state-of-the-basin report will include an update on the status of road map and investment program implementation. The Project 1 design monitoring framework is provided in Appendix 1.

H. Reporting Requirements

79. The PCMU will submit to ADB quarterly²⁴ progress reports summarizing overall investment program progress, including the implementation of environmental management and resettlement plans, if required. In addition, the PCMU will prepare consolidated AWP's and corresponding budgets and submit them to NSCWR for review, approval, and forwarding in a timely manner to ADB. The EA will submit a consolidated project completion report to ADB within 3 months of the completion of each project loan. IAs will each establish and maintain

²⁴ The first project quarterly report shall be submitted end of September 2009.

separate account and records. To ensure accountability, transparency, and sound financial management, the Investment Program provides for an independent audit by a national accounting and/or auditing agency with international affiliation. Audit reports shall be submitted to ADB annually within 6 months of the end of each calendar year. The audit reports will include an audit opinion on the use of the imprest account, and SOE procedures shall also be provided. The PCMU will (i) submit to ADB the progress reports of each IA on a quarterly basis, and (ii) prepare and submit to ADB annual consolidated progress reports for each project under the MFF, the form and content of which will be agreed with ADB. The EA will actively monitor feasibility, preparation, and final design activities in accordance with the program implementation schedule and keep ADB informed of any significant deviations from it. The ADB LIFS (Loan Information Financial System) will be made available to the PCMU (and PIUs) through limited access via internet. Financial reporting forms are presented in appendix 7.

80. The RCMU will prepare and submit to ADB through NSCWR biannual road map progress reports²⁵, the form on content of which will be agreed with ADB.

I. Auditing Requirements

81. Each IA will establish an auditing committee consisting of representatives from the related department and the established PCMU. The EA and each IA will undertake and make available to ADB annual inspection audits from Badan Pengawas Keuangan and Pembangunan (BPKP). All procurement stages of consulting services above \$100,000 will be subject to ADB's prior review. As regards the procurement of civil works, equipment and other goods, and consulting services below \$100,000, each contract will be subject to ADB prior review with a Bid Evaluation Report (BER) to be submitted to ADB for post review. Any adverse finding will result in misprocurement being declared with the concerned EA and/or IAs being sanctioned.

82. The Project will train PIU members on appropriate procurement and financial management procedures set forth in applicable provisions of the ADB's and the Government's procurement, accounting and auditing rules and regulations and the Project's anticorruption policy. It will also encourage reporting of suspected fraudulent or corrupt practice in the use of project resources or property. The Project will establish financial controls through periodic review, reconciliation and reporting of status of fund releases, disbursements and liquidation to the BPKP. All community based activities and goods procured for the community shall be communicated in advance on village notices and through facilitated dialogue with community. The PCMU will also engage the services of a consultant expertise in fiduciary arrangements and technical quality assurance who will semi-annually, or as deemed necessary, review the project's physical and financial quality assurance performance. The Project will require strict documentation by its contractors on the use of project funds as basis for further releases. To ensure adherence to contractual obligations and value for money principles, the office of the MoPW Inspector General in coordination with DGWR will, through routine inputs, build capacity in the PCMU to ensure implementation within the Ministry of Public Works of sound quality control and quality assurance procedures for civil works and consulting services.

²⁵ The first Roadmap monitoring report submission is expected in December 2009.

J. Key Persons

83. The PIU key persons involved in Project 1 are listed in Table 7 below:

Table 7: Implementing Agencies and Key Persons

Component Subprojects	Implementing Ministry	Implementing Agency/ Implementation Units (PIUs)	Project
		Deputy of Infrastructure Affairs	
		RCMU/PIU: Water Resources and Irrigation Directorate	
<ul style="list-style-type: none"> - 1.1 Road map Management - 1.2 Road map Institutional Strengthening (TA A1) - 8.2 Independent Monitoring and Evaluation 	State Ministry of National Development Planning	Head: Dr. Ir. Donny Azdan, MA, MS – Director of Water Resources and Irrigation - Bappenas Address: Jl. Taman Suropati No. 2, Jakarta 10310, Indonesia Phone: +62 (021) 336207, 3905650 Fax: +62 (021) 3145374 Email: dmazdan@bappenas.go.id Web: www.bappenas.go.id	
<ul style="list-style-type: none"> - 8.1 Program Management - 2.1 Rehabilitation of West Tarum Canal - 2.4 Water Supply Options for Upgrading Bandung Water Sources - 2.5 Feasibility Study for Upgrading Bandung Water Sources - 2.6 Detailed Engineering Design for Upgrading Bandung Water Sources - 3.1 Development of Key Policies and Strategies for WRM in CRB (TA B3) 	Ministry of Public Works	Directorate General of Water Resource PCMU/PIU: Balai Besar Wilayah Sungai Citarum Head: Ir. Mudjadi – Head of Balai Besar Wilayah Sungai Citarum, Ministry of Public Works Address: Balai Besar Wilayah Sungai Citarum, Jl. Inspeksi Cidurian STA 5600-Bandung, West Java, Indonesia Phone: +62 (022) 756 4073-4 Fax: +62 (022) 750 5760 Email: (1) mudjadi@yahoo.co.id (2) pcmubbwsc@gmail.com	
<ul style="list-style-type: none"> - 1.3 Institutional Strengthening for IWRM in the 6 Cis River Basin Territory (TA B1) - 5.2 Climate Change Adaptation and Mitigation (TA E1) - 7.1 Decision Support System for IWRM in for Citarum River Basin (TA D1) 	Ministry of Public Works	Directorate General of Water Resources PIU: Directorate of Water Resources Management Head: Sugiyanto, Ir, M.Eng.- Director of Water Resources Management Address: Jl. Pattimura No. 20 Kebayoran Baru, Jakarta selatan 12110, Indonesia Phone: +62 (021) 739 7936 Fax: +62 (021) 7221907 Email: gi_sgyt@yahoo.co.id Web: www.pu.go.id	
1.4 Spatial Planning for 6 Ci's River Basin Territory (TA B2)	Ministry of Public Works	Directorate General of Spatial Planning PIU: Directorate of Spatial Planning Region II	

Component Subprojects	Implementing Ministry	Implementing Agency/ Implementation Units (PIUs)	Project
5.1 Upper Citarum Basin Flood Management (TA C1)	Ministry of Public Works	Head: Ir. Sri Apriatini Soekardi, MM, Director of Spatial Planning Region II Address: Jl. Pattimura No. 20 Kebayoran Baru, Jakarta selatan 12110, Indonesia Phone/Fax: +62 (021) 7257277 Email: chichi_soekardi@yahoo.com Web: www.penataanruang.net	
2.2 Improved Land and Water Management	Ministry of Agriculture	Research and Development Agency PIU: Research Center for Water Resources Head: Arie Setiadi Moerwanto, Ph.D, Director of the Research Center for Water Resources Address: Jl. Ir. H. Juanda 193 Bandung 40135, Indonesia Phone: +62 (022) 2501083 Fax: +62 (022) 2500163 Email: kapus@pusair-pu.go.id Web: www.pusair-pu.go.id	
2.3 Support for Community and CSO Driven Initiatives for Improved Water Supply and Sanitation	Ministry of Health	Directorate General of Land and Water Management PIU: Directorate of Land Management Head: Ir. Amier Hartono, Dipl.HE, Director of Land Management Address: Jl. Harsono RM No. 3 Ragunan Jaksel Gedung D, Lantai IX, Jakarta 12550, Indonesia Phone: +62 (021) 789 0043 Fax: +62 (021) 789 0043 Web: www.deptan.go.id	
4.1 Development and Implementation of a Basin River Quality Improvement Strategy and Action Plans	State Ministry of the Environment	Directorate General of Disease Control and Environment Health PIU: Directorate of Environmental Health Head: Dr. Wan Alkadri, MSc, Director of Environmental Health Address: Jl. Percetakan Negara No. 29, Kotak Pos 223, Jakarta 10560, Indonesia. Phone: +62 (021) 424 5778 Fax: +62 (021) 424 5778 Web: www.pppl.depkes.go.id	
		Deputy for Nature Conservation Enhancement and Environmental Degradation Control PIU: Deputy Assistant of Lake and River Damage Control	

Component Subprojects	Implementing Ministry	Implementing Agency/ Implementation Units (PIUs)	Project
		Head: Ir. Antung Deddy Rabiansyah, Assistant Deputy for Lake and River Degradation Control Address: Jl. D.I. Panjaitan Kav-24, B Bldg 4th Floor, Kebon Nanas - Jakarta 13410, Indonesia Phone: +62 (021) 851 7163 Fax: +62 (021) 8590 5770 Email: antung@menlh.go.id Web: www.menlh.go.id	
		Directorate General of Forest Protection and Nature Conservation. PIU: Directorate of Area Conservation Head: Ir.Sonny Partono, MM, Director of Area Conservation Address: Gedung Manggala Wanabakti, Jl. Gatot Subroto, Senayan, Jakarta 10270, Indonesia Phone: +62 (021) 572 0229 Fax: +62 (021) 572 0229 Email: dirkw.pka@dephut.go.id onny_galerie@yahoo.com Web: www.dephut.go.id	
4.2 Watershed Management and Biodiversity Conservation	Ministry of Forestry		

84. The other key persons involved in Project 1 are listed in Table 8 below:

Table 8: Other Project 1 Key Persons

Agencies	Key Persons
	Name: Chris Morris Position: Senior Water Resources Specialist (SERD) Phone: (632) 632-6343 Fax: (632) 636-2231 Email: cmorris@adb.org
Asian Development Bank Headquarters	Name: Syarifah Aman Wooster Position: Senior Civil Society and Participation Specialist Phone: +63 2 632 5759 Fax: +63 2 636 2409 Email: sawooster@adb.org
	Name: Mio Oka Position: Social Development Specialist (SEAE) Phone: (632) 632-5927 Fax: (632) 636-2231 Email: moka@adb.org
	Name: Cynthia Rosario G. Razon Position: Associate Project Analyst AE&NR Division S A D Phone: +63 2 632 4622 Fax: +63 2 636 2231

Agencies	Key Persons
	<p>Email: crazon@adb.org</p> <p>Address: 6 ADB Avenue, Mandaluyong City 1550 Metro Manila - Philippines</p> <p>Web: www.adb.org</p>
Asian Development Bank Indonesian Resident Mission	<p>Name: James A. Nugent Position: Country Director ADB IRM Phone: 021 251 2721 Fax: +62 21251 2749 Email: jnugent@adb.org</p>
	<p>Name: Sundari, Ayun Position: Civil Society Liaison Officer Phone: +62 21 5798 0600 / 251 2721 Fax: +62 21251 2749 Email: asundari@adb.org</p>
	<p>Name: Linarti Reksoatmodjo Position: Assistant Disbursement Analyst Phone: +62 21 5798 0600 / 251 2721 Fax: +62 21251 2749 Email: lreksoatmodjo@adb.org</p>
	<p>Name: Barlev Nicodemus Hutagalung Position: Program Officer (MoF Coordinator) Phone: +62 21 5798 0600 / 251 2721 Fax: +62 21251 2749 Email: bhutagalung@adb.org</p>
	<p>Name: Mohammed Nasimul Islam Position: Environmental Engineer Phone: +62 21 5798 0600 / 251 2721 Fax: +62 21251 2749 Email: mnislam@adb.org</p>
	<p>Name: Utami Hendrarini Position: Senior Administrative Assistant for Agriculture, Rural Development & Natural Resources Sector and External Relations(Secretary) Phone: +62 21 5798 0600 / 251 2721 Fax: +62 21251 2749 Email: uhendrarini@adb.org</p>
	<p>Name: Pantja Puti Wardani Position: Senior Project Officer (Agriculture, Rural Development and Natural Resources) Phone: +62 21 5798 0600 / 251 2721 Fax: +62 21251 2749 Email: pwardani@adb.org</p>
<p>Name: Ruly Marianti Position: Gender Specialist (Gender) Phone: +62 21 5798 0600 / 251 2721</p>	

Agencies	Key Persons
	<p>Fax: +62 21251 2749 Email: rmarianti@adb.org</p> <p>Name: Naning Mardinia Position: Resettlement Consultant Mobile : 0815 8400 6015 Phone: +62 21 5798 0600 / 251 2721 Fax: +62 21251 2749 Email: nmardinia@adb.org</p> <p>Address: Indonesia Resident Mission Gedung BRI II, 7th Floor Jl. Jend. Sudirman Kav. 44-46 Jakarta 10210, Indonesia P.O. Box 99 JKPSA Jakarta Pusat, Indonesia Web: http://www.adb.org/irm</p>
West Java Province Secretary	<p>Name: Ir. H. Lex Laksamana Zainal Lan, Dipl.HE Position: West Java Province Secretary Phone: (022) 4233931 Address: Jl. Diponegoro no. 22 Bandung - Indonesia Web: http://setda.jabarprov.go.id</p>
West Java Water Resources Agency (Dinas PSDA)	<p>Name: Iding Srihadi Adiwinata, ME Position: Kepala Dinas PSDA Phone: (022) 4233931 Address: Jl. Braga No. 137 Bandung – Indonesia Email: idingsrihadi@yahoo.com Web: http://dispsda.jabarprov.go.id</p>
West Java Environmental Protection Agency (BPLHD)	<p>Name: DR. Setiawan W, Dipl.SE.,M.Eng Position: Head of the West Java BPLHD Phone: 022 4204871, 022 422 4632 Fax: 022 4231570 Email: setiawan_w@bplhdjabar.go.id Address: Jl. Naripan No. 25 Bandung 40111 - Indonesia Web: www.bplhdjabar.go.id</p>
Yayasan Peduli Citarum (YPC)	<p>Name: Didin Rosyidin Position: Director Phone: 08122315307 Email: yipc_bandung@yahoo.com Address: Komplek Gandasari Indah A-1 No. 2 , Katapang Kab. Bandung - Indonesia</p>
Warga Peduli Lingkungan (WPL)	<p>Name: Yogantara Position: Director Phone: 087 821 48 3308 Email: yogantara@yahoo.com Address: Kp.Bojong Buah Kavling II No.39 Rt 02 Rw 04, Desa Pangauban , Kecamatan Katapang, kabupaten Bandung (40971) - Indonesia</p>
Aliansi Rakyat untuk Citarum (ARUM)	<p>Name: Dadang Sudarja Position: Coordinator Mobile: 081931220356 Phone: +62 (022) 2501954 Address: Jalan Kidang Pananjung No 5,</p>

Agencies	Key Persons
East Bali Poverty Project	Bandung - Indonesia- Name: David J Booth Position: Director Phone: 0811 399 057, (0361) 410071 Fax: 0361 430785 Email: info@eastbalipovertyproject.org Address: East Bali Poverty Project PO BOX 3850 Denpasar Bali - Indonesia- Web: www.eastbalipovertyproject.org
LMFE Unpad	Name: Dr Ina Primiana Position: <i>Ketua LMFE Unpad</i> Phone: 022 7072 8411 Email: ina_pr@yahoo.co.id

K. Accompanying Technical Assistance

85. Subsequent to developing the road map for IWRM in the Citarum Basin, the Government has designated the river basins of the Citarum, Ciliwung-Cisadane, and Ciujung-Cidanua-Cidurian as sub-basins of a new natural planning unit territory of national strategic importance, important for the future water supply of Jakarta and its satellite urban and industrial areas. The territory has a total population of 35 million people and has been termed the “6 Cis²⁶ River Basin Territory.” The CRB is the largest and most strategic of the six rivers, but the 6 Cis River Basin Territory will be managed under a coordinated framework plan that recognizes both the role of water in fulfilling economic development targets in a sustainable manner and the diverse individual characteristics and needs of each of the six sub-basins. Since early 2007, ADB has been providing technical assistance in institutional capacity building to the 6 Cis River Basin Territory and sub-basin institutions.²⁷ To provide institutional support to the Investment Program and Project 1 IWRM activities in the CRB and to extend planning and programming support to the rest of the 6 Cis River Basin Territory, the Government has asked ADB to provide TA support to strengthen institutions for IWRM in the 6 Cis River Basin Territory.

1. Impact and Outcome

86. The desired impact of this TA (7189 – INO) is the sustainable management of water resources. The immediate objectives are to (i) improve capacity for IWRM in the 6 Cis River Basin Territory, and (ii) ensure the effective and efficient implementation of the Investment Program.

2. Methodology and Key Activities

87. The TA will be implemented to support Project 1 and provide a solid base for long-term investments in the CRB under the Investment Program by strengthening institutions, policies, and strategies for the 6 Cis River Basin Territory, including institutional strengthening for IWRM, road map institutional strengthening, and the development of key policies and strategies for water resource management. The TA will provide a solid base for data support and decision-support systems in the CRB through the development of spatial planning, decision-support

²⁶ *Ci* means “river” in the local West Java Sudanesse language.

²⁷ ADB. 2006. *Technical Assistance for Effective Water Management Policies and Practices (Phase 5)*. Manila (TA-6325-REG).

systems for IWRM, and tools for flood modeling in the upper Citarum Basin. A summary of key TA outputs and inputs is provided in Appendix 15.

3. Scope of Assistance

88. The scope of the TA covers seven areas or subcomponents. These are grouped into four “packages” for procurement and implementation purposes, as shown below.

Table 9: TA Packages

Package A	
Subcomponent A1	Roadmap Institutional Strengthening (DWRI – Bappenas)
Package B	
Subcomponent B1	Institutional Strengthening for IWRM in 6 Ci's River Basin Territory (DWRM – DGWR - MPW)
Subcomponent B2	Spatial Planning in 6 Ci's River Basin Territory (DGSP – MPW)
Subcomponent B3	Development of Key Policies and Strategies for WRM in CRB (BBWSC – MPW)
Package C	
Subcomponent C1	Upper Citarum Basin Flood Management (RCWR- RDA - MPW)
Package D	
Subcomponent D1	Decision Support System for IWRM in for Citarum River Basin (DWRM - DGWR – MPW)
Package E	
Subcomponent E1	Climate Change Adaptation and Mitigation (DWRM - DGWR – MPW/MoE)

4. Implementing Arrangements and Costs

89. DGWR will be the EA for the technical assistance, which will be implemented from June 2009 to December 2012. IAs will provide office accommodation, equipment, and counterpart technical support to TA project teams. An estimated 443 person-months of international consultancy and 1,052 person-months of national consultancy will be engaged by ADB using procedures in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time) using quality-based selection method for firms or through recruitment of individual consultants²⁸. All equipment will be procured in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). The total cost of the TA is estimated at \$10.7 million, of which \$1.0 million will be financed as a grant from ADB's TA funding program, \$5.0 million will be financed as a grant from the Government of the Netherlands and administered by ADB, and \$2.0 million will be financed from the Multidonor Trust Fund under the Water Financing Partnership Facility administered by ADB. The Government will finance the remaining costs of \$2.7 million. Parallel TA support for water quality modeling and CRB decision-support systems valued at \$4.0 million equivalent has been proposed by Korean Water Resources Cooperation.. Additional funds have been approved by ADB (Climate Change Fund \$ 2,000,000, Clean Energy Financing Partnership Facility \$ 850,000) to prepare adaptation and mitigation plans with a view to 'climate-proof' the \$3.5 billion of investments under the ICWRMIP Roadmap and implement initial mitigation and adaptation works in selected locations. The ADB

²⁸ RFPs for those packages will be issued on the 30th of June 2009.

will report TA progress and financial disbursement to the EA on a quarterly basis. The cost estimates and financing plan are shown in Appendix 16.

90. As requested by the Government, advance procurement for the consulting services under the TA (7189 – INO) has been carried out in order to support the continued development of the RCMU and PCMU and the continuation of momentum, which has already been built up and working with basin CSOs. The initial activities support covers a period of 7 months from the 8th of June 09 until end of December 09, to avoid gaps with the loan funded subcomponents expected to start in January 09 at the latest, with the following team:

Table 10: Initial TA Activities Implementation Consultant Team

Position	No	Person-months
INTERNATIONAL PROFESSIONAL STAFF		
Water Resources Management/Team Leader	1	8
Water Resources/Information Management Specialist	1	18
Media and Communication Specialist	1	3
Modeler Specialist	1	2
SUBTOTAL (IPS)		31
NATIONAL PROFESSIONAL STAFF		
Team Leader / WRM Specialist (RCMU)	1	7
Deputy Team Leader / WRM Specialist (PCMU)	1	7
Financial Management Specialist	1	3
FMS/Web Programmer	1	4
Project Monitoring & Evaluation Specialist	1	4
Media Campaign Specialist	1	4
CSO Specialist	1	3
Implementation Coordination and Safeguards Specialist	1	12
Training Specialist	1	3
CSO/Gender/Training Specialist	1	4
SUBTOTAL (NPS)	10	51
SUPPORTING STAFF		
GIS Junior Assistant (RCMU and PCMU)	2	15
Media Junior Assistant (RCMU)	1	8
Graphic Designer (RCMU)	1	4
Web/MIS Junior Assistant (RCMU and PCMU)	2	15
PCMU IWRM Information System Assistant	1	8
MIS Junior Assistant (RCMU and PCMU)	2	15
SUBTOTAL (Technicians)		65
Total		147