

FINAL REPORT

TA 4049-SRI Strengthening the Regulatory Framework for Water Supply and Sanitation

October 2007

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Abbreviations and Acronyms

ADB	Asian Development Bank
BOD	Bio Oxygen Demand
BoD	Board of Directors
BOI	Board of Investments
CAA	Consumer Affairs Authority
CBO	Community Based Organization
CEA	Central Environment Authority
CEB	Ceylon Electricity Board
CEO	Chief Executive Officer
CMC	Colombo Municipal Council
COD	Chemical Oxygen Demand
EPA	Extra Ordinary Price Adjustment
ERA	Electricity Reform Act
EUC	Electricity Utility Companies
GCWP	Greater Colombo Wastewater TA
GoSL	Government of Sri Lanka
IDP	International Development Project
IRC	Infrastructure Renewals Charge
JBIC	Japan Bank for International Cooperation
KPIs	Key Performance Indicators
MDGs	Millennium Development Goals
MUDWS	Ministry of Urban Development and Water Supply
MWSD	Ministry of Water Supply and Drainage
NBRO	National Building Research Organization
NHDA	National Housing Development Authority
NRW	Non Revenue Water
NWSDB	National Water Supply and Drainage Board
O&M	Operations and Management
OFCOMM	Office of the Commission
OIC	Officer in Charge
PERC	Public Enterprise Reform Commission
PUCSL	Public Utilities of Sri Lanka
ROC	Regional Operating Centers
RSCs	Regional Support Centers
SEMA	State Enterprise Management Agency
SLS	Sri Lanka Standard
SLSI	Sri Lanka Standards Institutes
SRC	Service Requests and Complaints
TA	Technical Assistance
TOR	Terms of Reference
WSRA	Water Services Reform Act
WSRC	Water Services Regulatory Commission
WSS	Water Supply and Sanitation

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1.0 Introduction and Background

A. The Final Report

1. The Final Report summarizes the process and development of the amendments to the NWSDB Act that will allow it to be regulated by the Public Utilities Commission of Sri Lanka (PUCSL and reports on the capacity building activities that were undertaken for the key stakeholders of the TA. It puts together the various deliverables under ADB TA: 4049 that were prepared during the duration of the TA from January 23, 2007 to the TA's closing on October 31 of the same year.

Content and Organization of the Report:

2. The Final Report is organized and presented into three (3) main volumes as follows:

- (a) **Volume 1: Main Report** - Summarizes the process, work undertaken and highlights the features of each key deliverable. It also identifies and recommends the more immediate steps that need to be undertaken by GoSL to take forward the establishment of regulation in the water sector under the NWSDB.
- (b) **Volume 2 – Regulatory Legislation and Guidelines** - Presents the key deliverables of the TA that consist of the following:
 - Section A - Proposed Amendments to the Act (with Statement of Legal Effect on the proposed amendments) in an appropriate form for submission to Parliament and Regulatory Guidelines to support the implementation of the amendments;
 - Section B – Primer on Water Supply Tariff Methodology and Financial Model to support the methodology
 - Section C - Primer on NWSDB's Responsibilities, Service Standards, and Performance Indicators
 - Section D - Customer Service Guidelines
- (c) **Volume 3 – Training Materials** – Presents a compilation of training materials developed for the Capacity Building component of the TA

B. The Technical Assistance: ADB TA 4049: Strengthening the Regulatory Framework for Water Supply and Sanitation

Background

3. The Asian Development Bank in late 2002 approved a technical assistance for the Govt. of Sri Lanka - Strengthening the Regulatory Framework for Water Supply and Sanitation. The TA aims to develop and disseminate regulations for the water sector within the framework of the Public Utilities Commission Act to facilitate credible and independent, autonomous, accountable and transparent regulation for water supply and sanitation providers. The consulting team engaged for the TA mobilized in 2004 and submitted an Inception Report in March 2004. Due to the non-passage of the WSRA upon which the TA is built and which provides the basis for regulating the water sector, it was deemed not feasible to continue with the TA.

4. The consulting team was then demobilized and the TA was put on hold until this request in 2006 from the Government through the NWSDB in 2006 to explore alternatives of enabling regulation in the water sector. The NWSDB, through the Ministry of Urban Development and Water Supply (now Ministry of Water Supply and Drainage) recognizing that having a separate and independent government body to regulate the water supply and sewerage sector will help promote efficiency in operations and enable sustained service delivery, requested the Asian Development Bank for assistance to enable regulation in the sector.

5. The ADB conducted a review mission of TA: 4049 from July 10 to 19, 2006 to establish the status and outputs of the TA and the envisaged new direction and outputs. Following a series of discussions between the ADB, NWSDB, the MWSD, and the PUCSL, the parties agreed to study the possibility of having the NWSDB Act amended to bring it under the purview of the PUCSL. The Terms of Reference of the TA were revised and the new outputs were agreed by the parties.

6. On 19 January 2007, the ADB engaged the services of IDP Consult, Inc. to undertake TA 4049 under a revised Terms of Reference. The Consultant Team mobilized on 24 January 2007 and as planned will complete the assignment by 22 September of the same year.

Objectives of the TA

7. Per the revised Terms of Reference of the ADB TA No. 4049¹, the objectives of the TA are: to (i) Develop and prepare an adequate draft of the amendment to the NWSDB Act and implementing guidelines to achieve the objective of independent, autonomous, accountable and transparent regulation of the section of the water supply industry covered by the NWSDB, which include both water and sewerage services; and (ii) Increase the expertise and understanding of water sector regulation among government officials responsible for developing and/or implementing the amended Act and its provisions.

Scope of Work and Deliverables

8. The revised TOR of the TA has two main components namely: Component A: Development of necessary and adequate legislation and guidelines that will enable the effective regulation of the water sector and include the following tasks:

- **Task 1:** Development of the proposed amendment to the NWSDB Act and implementing guidelines in a form suitable for submission to Parliament;
- **Task 2:** Development of a suitable tariff setting methodology for water supply and sewerage including a Primer and financial model;
- **Task 3:** Development of a customer service code for the NWSDB;
- **Task 4:** Development of a primer on service standards and performance indicators;
- **Task 5:** Preparation of Manual of Regulatory Guidelines.

9. **Component B - Development of Institutional Capacity for Regulatory Legislation and Guidelines** and includes the following tasks:

- **Task 6:** Delivery of Priority Training Courses

¹ Appendix A, Background and Terms of Reference of Consultants, ADB TA:4049

- **Task 7:** Development of an Operational Action Plan for PUCSL

C. Experiences and Recent Developments In the Regulation of Utilities

10. At present, the PUCSL has not assumed its functions as an economic and/or technical regulator of any public utility industry. The Electricity Reform Act which is the industry act for the electricity industry, although passed, has not become effective. No Industry Act for the water supply and sanitation industry has been successfully passed.

11. There are plans to include the petroleum industry within the purview of PUCSL's mandate. To do this, it would be necessary to add the petroleum industry in the Schedule of the PUCSL Act.

Electricity Industry

12. In December 2002, the Parliament passed the Electricity Reform Act (ERA), No. 28 (Supplementary Appendix 1) of 2002, which was intended to be the Industry Act for the electricity industry. As such, it was to empower and clearly define the functions of the PUCSL as the economic, technical and safety regulator for the electricity industry.

13. However, the ERA has not yet been implemented because the Minister in charge of Power and Energy has not issued an order appointing the date when the ERA would come into operation. This is a requirement under the ERA.

14. It should be mentioned that before the ERA was passed by Parliament, it was challenged before the Supreme Court by the Federation of Electricity Sector Professionals' Trade Unions of the Ceylon Electricity Board as Intervenant Petitioner. It was argued that the bill ignored the needs of the community and was intended to secure the interests of the successor companies which were to take over the functions of the Ceylon Electricity Board and Lanka Electricity Company in regard to the generation, transmission and distribution and supply of electricity in Sri Lanka. The Supreme Court did not accept the arguments and declared that adequate measures have been provided to safeguard and protect the interests of the consumers. (Supreme Court Special Determination No. 9 of 2002 dated 8 October 2002, *Supplementary Appendix 2*).

15. In the same decision, the Supreme Court declared that Clause 38(2) of the draft ERA which conferred on the PUCSL the power to determine disputes involved the exercise of judicial powers, which the PUCSL could not do as it is not a judicial body and its members are not judicial officers. The Sri Lanka Constitution provides that the judicial power of the people shall be exercised by Parliament through Courts. The Supreme Court declared said provision to be inconsistent with the Constitution. To rectify the inconsistency, the draft ERA was amended so that the PUCSL was conferred with the power to "mediate and resolve disputes" instead of "determine disputes".

16. Since the passage of the Electricity Reform Act and the PUCSL Act in December 2002, the PUCSL has prepared a Regulatory Manual to guide its operations as well as sector-specific rules and guidelines for regulating the electricity industry as soon as the Electricity Reform Act becomes operational. These guidelines were developed in consultation with the key stakeholders in the electricity industry.

17. In 2006, amendments to the Ceylon Electricity Board (CEB) Act were proposed to break up the CEB into four or more Electricity Utility Companies (EUCs) that would each

carry out a specific function of the CEB (generation, transmission, distribution and supply of electricity). The manner in which the properties and assets of the CEB would be transferred to the EUCs, their sources of capitalization and lack of clear guidelines and assurances regarding the options available to CEB employees were questioned in the Supreme Court. It was found unconstitutional and would therefore require 2/3 vote of the Parliament to be passed. The draft bill was withdrawn and a new one is being prepared. Government appears to prefer that the restructuring of the CEB be completed before the electricity industry is regulated by the PUCSL. Presumably, this is the reason why the Minister in charge of Power and Energy has not yet issued an order appointing the date when the ERA would come into operation

Water Services Industry

18. In 2001, there had been an effort to introduce an independent economic regulator for the water services industry. A draft act to provide for the establishment of a Water Services Regulatory Commission (WSRC) was prepared. The proposed bill was shelved when the PUCSL Act was passed by Parliament in December 2002.

19. Under the PUCSL Act, an Industry Act has to be passed to enable the PUCSL to regulate that industry. Towards this end, a Water Sector Reform (WSR) Bill was drafted and put on the Order Paper of Parliament in October 2003. The PUCSL was to be tasked with the economic and technical regulation of the water services industry. More specifically, the PUCSL was to be responsible for the regulation of tariffs, specification of standards for and the regulation of water quality, specification of levels of service and ensuring compliance with consumer protection requirements.

20. Unfortunately, before the WSR Bill could be considered by Parliament, it was challenged before the Supreme Court on grounds that it violated fundamental rights to water access as well as procedures for placing a Bill before Parliament. Without making any determination on the fundamental rights issue, the Supreme Court declared that the procedure for bills dealing with matters in the Provincial Council List had not been followed and that the WSR Bill had therefore not been properly placed in the Order Paper of Parliament. The WSR Bill has since been redrafted so as not to affect the functions of local authorities. But the re-drafting does not address the fundamental rights issue.

21. In a separate development, the National Water Supply and Drainage Board (Amendment) Act (Supplementary Appendix 3) was passed by Parliament in December 2003. The Amendment would have allowed the PUCSL to exercise limited economic regulatory powers over NWSDB schemes and PUCSL-approved water services agreements with local authorities or community-based organizations. Among others, the amendment proposed the approval of NWSDB fixed rates and charges for water supply and sewerage services by the PUCSL. (Clause 8); appeal from any determination of the NWSDB to the PUCSL. (Clause 9); and approval of water services agreements between NWSDB, on one hand, and local authorities and community based organizations, on the other, by the PUCSL (clause 10). Although the Amendment had been passed through Parliament, it was not certified by the Speaker before the Parliament was dissolved in 2004. Since then, no attempt has been made to re-submit said amendment to the Parliament.

22. Since the PUCSL has not yet assumed its regulatory role in the water sector, the Minister of Urban Development and Water Supply continued to exercise “regulatory powers” over the NWSDB, such that rates and charges fixed by the Board are subject to the approval of the Minister before taking effect.

23. On January 28, 2007, just before the Inception Mission arrived in Sri Lanka, the Ministry of Urban Development and Water Supply was split in two (2) creating the Ministry of Water Supply and Drainage, where the NWSDB has been subsumed.

Petroleum Industry

24. At present, the Ministry of Petroleum Resources is in the process of presenting a proposed Industry Act to Parliament, in order for the PUCSL to regulate the Petroleum Industry (including gasoline, lubricants, and liquefied petroleum gas). The proposed Act has been approved by the Cabinet of Ministers and is in the process of being translated into Sinhala and Tamil. It will be presented to Parliament upon completion of the translation.

25. Although, initially the regulation of the Petroleum Industry by the PUCSL was to be achieved by introducing a new industry act called the “Petroleum Services Act”, the current exercise has been designed to achieve the same objective by introducing relevant amendments to two existing Acts, namely, the Petroleum Products (Special Provisions) Act and the Ceylon Petroleum Corporation Act.

D. Lessons Learned on Previous Regulatory Initiatives

26. As shown above, most of the proposed Industry Acts that have been designed to vest the regulation of certain public utilities industries with the PUCSL were challenged by trade unions and consumer interests groups in the Supreme Court, alleging that the provisions of the proposed Acts infringe on the fundamental rights guaranteed in the Constitution.

27. In deciding on the merits of such challenges, the Supreme Court has taken into consideration the presence of adequate safeguards in the proposed legislation to protect the interests of the consumers of such public utilities (based on the fundamental right available to every citizen in terms of Article 12 of the constitution to the equal protection of the Law), whether the proposed legislation attempts to confer judicial powers on the regulator to determine disputes between a service provider and a customer, and also whether the additional procedural requirements have been complied with, where the subject matter of the proposed legislation deals with matters falling within the Provincial Council List and/or Concurrent List, in terms of the 13th Amendment to the Constitution.

28. Where the proposed legislation deals with a matter relating to Provincial Council List, the consent of the Provincial Councils need to be obtained for that Law to operate in the Provincial Councils, unless the bill is passed by 2/3rd majority in Parliament. Where the matter falls within the purview of the Concurrent List, then the Minister would need to consult the Provincial Councils before presenting the proposed legislation to Parliament. According to the current electoral system of representatives to Parliament, no single political party has a reasonable opportunity of securing a 2/3rd majority in Parliament.

29. Therefore, any proposed legislation and implementation guidelines would need to be drafted taking into careful consideration these specific matters, in order to ensure a safe passage through Parliament. More importantly, efforts should be exerted to fully explain the merits of the proposed changes to all stakeholders, seriously consider and address their valid concerns, and get their support for what should be reforms that will bring sustainable benefits to the citizenry while mitigating the adverse effects on particular groups or sectors. The extra time and effort taken for capacity and confidence building activities for and with the concerned groups and stakeholders can be expected to lead to more concerted and sustained efforts to bring about the institutional and legal reforms needed by the water services industry.

E. The Need for Institutional Reforms

30. The effects and benefits of regulation on a public monopoly like the NWSDB may not be as substantial if competition exists in the sector. When there is competition, there is a higher goal to achieve efficiency and competitors try to outdo each other. The management of public monopolies is generally not motivated to maximize profits because they are not the direct beneficiary of said benefits. For a public utility like the NWSDB, where salaries and benefits are fixed and regardless of whether or not the organization is efficient, does not have any real effect on the employees, then there is less likely drive to strive for increased efficiency. In which case, regulation alone may not bring about the desired change, unless the need to improve the NWSDB's performance is driven from within.

31. Parallel institutional reforms need to be carried out within the NWSDB to bring it in pace with the longer term goal of regulation for sustained performance improvement. To achieve this climate of change in the NWSDB, ways to motivate employees and the organization as a whole should be considered along with the program to set up regulatory infrastructure. Mechanisms to encourage performance efficiency in the organization such as benefits tied to performance, better working conditions and sustained capacity building of the staff may need to be explored.

2.0 Regulatory Framework

A. Institutional Arrangement and Legal Framework in the Water Supply and Sanitation Sector

32. The water supply and sanitation sector in Sri Lanka operates within a framework defined by a set of laws, ordinances, policies and similar issuances. So far, the legal framework for the country's water supply and sanitation sector is defined by the following major laws and policies that include, among others, the National Water Supply and Drainage Board Law No. 2 of 1974, the Municipal Councils Act of 1947, the Urban Councils Ordinance of 1939, the Pradeshiya Sabhas Act of 1987, the 13th Amendment to the Constitution of 1987, and the Public Utilities Commission of Sri Lanka Act No. 35 of 2002. The National Policy for Rural Water Supply and Sanitation Sector forms part of the existing framework.

33. Laws governing Local Authorities vest upon municipal councils, urban councils and pradeshiya sabhas the power to also establish and maintain public utility services, including water supply, either independently or in conjunction with other local authority or person.

34. The Municipal Councils Act of 1947 provides that lakes, ponds, reservoirs, tanks, aqueducts and other water works situated within the limits of the Municipality may be vested in a Municipal Council. The general powers of a Municipal Council include that for water supply. The law also provides for by-laws to be formulated to streamline the supply of water, which includes the establishment, maintenance, operation and recovery of charges

35. The Urban Councils Ordinance No.61 of 1939 similarly includes water supply as one of the public utility services that an Urban Council may establish and maintain. An Urban Council may establish such water utility either independently or in conjunction with other local authority, and directly or through any promoter or body of promoters. It may supply water for domestic or non-domestic purposes, or allow a private service to supply water to any premises for domestic purposes in such quantities and on such terms and conditions as may be agreed upon or prescribed by by-laws. The by-laws that the council may enact may include: The prevention of waste, misuse, undue consumption or contamination of the water supplied for public or private use; and Purposes relating to the supply or the control of the supply of water from the waterworks, for which by-laws may appear to be necessary.

36. The Pradeshiya Sabhas Act No. 15 of 1987 also provides that a Pradeshiya Sabha may, within its limits, either independently or in conjunction with other local authority or person, establish and maintain public utility services such as water supply. With the approval of the Minister and subject to the consent of the local authority adjacent to its limits, it may contract with owners or occupiers of any premises to provide services to such premises, and may charge and enforce rates in respect of such supply. For the purposes of establishing and maintaining such public utility as water supply, the Pradeshiya Sabha may enter into any contract and, subject to the provisions of the Act, purchase, take upon lease, hire, construct or maintain all premises machinery and apparatus required for such purposes and do and execute all such works.

37. The 13th Amendment to the Constitution that was enacted on 14 November 1987 provides for the establishment of Provincial Councils that can exercise legislative powers regarding certain matters specified in the Amendment. Article 154G (1) empowers the Provincial Councils to make statutes with respect to such matters as: (i) local governments; (ii) rehabilitation and maintenance of irrigation works; (iii) inter-provincial irrigation and land development projects; and (iv) planning, designing, implementing, supervising and maintaining all irrigation works. However, on matters concerning local authorities, Provincial

Councils may confer additional powers on the latter but could not take away from them those that have already been conferred by existing laws.

38. Approved by the Cabinet in 2001, the National Policy for Rural Water Supply and Sanitation has laid down the framework for the provision of water supply and sanitation services to the rural sector which it defines as “any Grama Niladari Division within a Pradeshiya Sabha area except those in former Town Council areas that have population of over 6,000 people”. It provides guidelines as to the minimum requirements needed to ensure health; and levels of service in terms of the quantity of water, haulage distance, adequacy of source, equity, quality, flexibility for upgrade; and acceptable safe water supply systems, among others. It prescribes ventilated improved pit latrine as the basic sanitation facility and defines other acceptable options that include, among others, piped sewer with treatment, septic tanks with soakage pits, water-sealed latrines with disposable pits.

39. For rural water supply and sanitation, the Policy defines the roles and responsibilities of the Government, provincial councils, local authorities, community-based organizations (CBOs), non-governmental organizations (NGOs), private sector and international donors. It also sets the scope of regulation for which the provincial councils and local authorities can enact statutes and by-laws.

40. At present, there are on-going discussions on a draft National Policy on Drinking Water Supply that proposes policies and strategies that would address issues such as sector/institutional structures, investments, water tariffs, source conservation and allocation, quality assurance and sector development. Discussions also cover proposals for sanitation which are contained in a separate draft National Policy on Sanitation. Accordingly, these proposed policies have already been submitted to the NWSDB Board for approval and eventually to the Cabinet for final approval.

B. Key Organizations in the Sector

41. The key organizations comprising the water sector that will be part of the regulatory structure include the NWSDB, PUCSL and the MWSD. Presented below is a discussion on the roles and functions of each organization for a better appreciation of their relationships and their roles within the context of a planned regulated sector. Other bodies such as local authorities who own the sewerage assets in certain municipalities are also mentioned briefly in the report to provide an overall picture of the key players on the sector where the NWSDB operates.

42. A summary of other regulatory bodies that to some extent may have dealings with the NWSDB is attached for reference. *Appendix E: Other Regulatory and Monitoring Bodies* provides a brief description of each organization’s basic functions to illustrate the linkages with the proposed regulator- PUCSL.

Ministry of Water Supply and Drainage

43. The Ministry of Water Supply and Drainage (MWSD) is the lead agency for the water supply and sanitation (WSS) sector in Sri Lanka. It is responsible for developing policies to promote the development and improvement of water supply and sanitation in Sri Lanka.

44. The MWSD was created on 28 January 2007 when the former Ministry of Urban Development and Water Supply (MUDWS) was divided into two ministries, i.e. the Ministry of Urban Development and Sacred Area Development and the MWSD. All major government water supply and sanitation TAs had been centralized at MUDWS, with the Ministry tasked as the executing agency for all foreign-funded TAs. While the TAs in the

urban areas was implemented by the NWSDB, the MUDWS implemented those related to rural water supply schemes.

45. The MWSD as the Minister in charge of the NWSDB appoints the Chairman and four members of the nine-person Board and may remove them at any time if he considers it necessary in the interest of the efficient performance of the NWSDB. He may, after consultation with the NWSDB, give in writing general or special directions on the exercise of its powers, functions and duties in relation to matters which appear to him to affect the national interest, which the Board shall implement. He can also decide with finality any dispute that may arise from such joint schemes. The approval of the Minister of MWSD is needed before the NWSDB can implement new rates and charges for its water supply and sewerage services.

National Water Supply and Drainage Board

46. The NWSDB is the principal agency for water supply and sanitation in Sri Lanka. It was established in January 1975 pursuant to the Law No. 2 of 1974. Prior to its official mandate, the NWSDB started as a sub-unit under the Public Works Department for Water Supply and Drainage. In 1965, it became a division under the Ministry of Local Government. From 1970, this division functioned as a separate department under the Ministry of Irrigation, Power and Highways and remained so until the Act was approved by the Parliament creating the NWSDB in 1975.

47. The NWSDB operates in the major regions of the country, with offices in 6 Regional Support Centers which run and manage a total of 294 water supply schemes (as of 31 December 2006) and the head office which is primarily in-charge of the planning and development of water supply.

48. To show the extent of coverage of the NWSDB and the extent of the possible regulation in the sector that will be enabled with the proposed amendment of the Act, presented below is the table below showing the details on service coverage. As of 31 October 2006, the NWSDB has 971,087 registered service connections, representing 29 percent of the population with piped water supply.

Table 1. NWSDB Service Coverage

Regional Support Centre (CSC)	No of Districts Covered	No of Water Systems	Total No. of Connections As at Oct/06	Served Population (approximate)
Greater Colombo	1	17	450,876	2,428,750
Western	2	43	72,633	370,055
North Central & Northwestern	4	47	58,506	308,875
North East	7	45	52,789	296,780
Central & Sabaragamuwa	5	63	163,196	782,420
Southern UVA	5	79	173,087	854,430
Grand Total	24	294	971,087	5,041,310

49. Per the NWSDB's Corporate Plan of 2007-2011, the government's national target² is to provide 85 percent of the population with access to safe water by 2015 and 100 percent by 2025 in accordance with the "Millennium Development Goals." For sanitation, the goal is

² Appendix "B", Mahinda Chintana: Vision for a New Sri Lanka, pp.82-85

to provide adequate sanitation for 87 percent of the population by 2015 and 100 percent by 2025.

50. The NWSDB contribution to this national target is to achieve water supply coverage of 40 percent and piped sewerage coverage of 3 percent of the total population by 2011. As of the end of 2005, the NWSDB had water and sewerage coverage of 29.5 percent and 2.3 percent respectively.

51. The report on the financial management and organization assessment of the NWSDB is attached as *Appendix D*.

The Public Utilities Commission

52. The **Public Utilities Commission of Sri Lanka (PUCSL)** was established under **PUCSL Act No. 35 of 2002** (Supplementary Appendix 4), to function, among others, as the economic and technical regulator of the public utilities industries set out in the Schedule of the Act. The PUCSL reports and is accountable to the Ministry of Plan Implementation.

53. At present, only two industries have been included in the Schedule - electricity and water services. The Parliament can add or remove industries by passing a resolution whenever it is of the view that the addition or removal of such industry is necessary or expedient in the public interest

54. Although the powers and functions of the PUCSL are defined in the PUCSL Act, the enactment of an Industry Act is still necessary to empower the PUCSL to regulate a specific industry. The Industry Act would further define and provide the powers and functions of the PUCSL as regards the regulation of the specific industry.

55. As an economic regulator, the Act³, provides that the PUCSL shall perform, among others, the following functions: (i) exercise licensing, regulatory and inspection functions in respect of all matters provided for in any industry Act; (ii) enforce the provisions of licenses, contracts and other instruments issued under the authority of any other instruments issued under the authority of any industry Act; (iii) regulate tariffs and other charges levied by regulated entities where required by any industry Act; and (iv) set and enforce technical standards and other standards relating to the safety, quality, continuity and reliability of the public utilities industries.

56. The PUCSL can also do the following: (i) advise the Government, as the PUCSL deems appropriate, on all matters concerning any industry included in the Schedule of the PUCSL Act; (ii) collect, record and disseminate information concerning any public utilities industries; and (iii) determine by mediation, disputes arising in any public utilities industry.

57. Under the Act, [Section 14(1), Appendix E], the PUCSL is required to exercise its powers and functions “reasonably with fairness, impartiality and independence and in a manner that is timely, transparent, objective and consistent” with the Act and other relevant Acts. It is mandated [Section 14(2), *Appendix E*], in broad terms, to: (i) protect the interests of consumers; (ii) promote competition; (iii) promote efficiency in both the operations of and capital investments in public utilities industries; (iv) promote an efficient allocation of resources; (v) promote safety and service quality; (vi) benchmark, where feasible, the utilities services as against international standards; and (vii) ensure that price controlled entities acting efficiently do not find it unduly difficult in financing their public utilities industries.

³ Appendix E: Public Utilities Commission Act Sec 14, Sec 17, Sec 19

58. The powers of the PUCSL are broad. They include the right to call for any information, books, accounts or other documents required by the Commission and to summon persons to give evidence at public hearings. Those who refuse can be held liable for contempt and fined.

C. Regulatory Laws and Guidelines

59. It is envisaged under the TA, that the PUCSL shall undertake economic regulation of the NWSDB by amending the NWSDB Act. The legal basis for regulating the NWSDB is to emanate principally from the Amendments, since the PUCSL Act by itself cannot be used as basis for regulation. A separate Industry Act is necessary to be enacted so that the PUCSL can regulate a specific industry.

60. In addition to the proposed Amendments, Regulatory Guidelines not requiring the approval of Parliament were prepared to supplement the Amendments. The guidelines are intended to be a working interpretation of the Amendments between the NWSDB and once agreed by the PUCSL, the Ministry and the Board, the guidelines may be adopted as a Manual of Regulatory Guidelines

61. The Regulatory Guidelines helps to explain the functions and scope of authority of the PUCSL in so far as the NWSDB is concerned; and describes the basic processes by which the PUCSL shall undertake its functions.

62. Where it will be necessary to have additional regulations to supplement the Amendments to the NWSDB Act, the PUCSL has been authorized under the amendments to issue regulations it deems as appropriate.

D. Regulatory Processes and Procedures

63. To provide guidance to the PUCSL in the daily discharge of its functions, regulatory systems, processes and procedures were prepared under the TA. These systems and procedures are intended to inform the NWSDB as well on how it is expected to carry on its functions and the areas which the PUCSL will monitor and review.

64. The Primer on Tariff Setting – defines an alternative tariff methodology for water supply and includes a detailed guideline (Tariff Model) on how tariff is calculated based on the methodology.

65. The Primer on NWSDB' s Responsibilities, Service Standards and Performance Indicators, discusses the obligations of the NWSDB, service standards and the indicators that NWSDB shall use in measuring its performance and the PUCSL in monitoring the NWSDB's performance.

66. Customer Service Guidelines is basically a document that informs the customer of its rights and obligations and provides a guide on how certain customer related activities are carried out by the NWSDB.

67. As necessary, the PUCSL may develop additional guidelines and procedures to systematize its operations and enable it to attain its regulatory objectives.

E. Information and Reporting Requirements

68. The PUCSL will require access to information concerning the performance of the NWSDB. The information to be provided by the NWSDB needs to be detailed, accurate and timely to enable the PUCSL to make a well informed and balanced assessment of the performance of the NWSDB.

69. Following are the information that the NWSDB shall provide to the PUCSL in a form that will be agreed between the two parties include but not be limited to:

Service Performance Information

70. The NWSDB shall provide to the PUCSL not more than 30 days following the end of each calendar quarter a report of its technical and customer service performance (by Regional Support Center and consolidated) with respect to the provision of water and sewerage services in the service area. The Report shall be stated in the form of Performance Indicators.

Financial Information

71. The NWSDB shall provide to the Commission not later than 120 days following the end of each calendar year a report of the financial performance of the Board. Such report shall include (i) an analysis of revenue by source and revenue from other sources, (ii) an analysis of operating costs which distinguishes between water supply, sewerage and other services, (iii) an analysis of capital expenditures and investments which distinguishes between water supply, sewerage and other services, and (iv) such other information that may be required by the PUCSL.

72. On a quarterly basis, the NWSDB shall provide the PUCSL copies of financial reports such as the Consolidated Income Statement and Income Statement per Regional Support Center and a Balance Sheet and such other information that may be required by the PUCSL.

- (a) Copies of the annual audited financial reports shall be furnished to the Commission by the Board within 15 days from the receipt of the copy from the Auditor General's Office.
- (b) The schedule, frequency and form of reports to be furnished to the Commission by the Board shall be established and agreed between the parties at the commencement of the regulatory regime.

73. The provision of accurate, timely and sufficient information starts with a well articulated and discussed reporting requirements of the PUCSL to the NWSDB. For this purpose, the reporting requirements will be defined early on prior to the start of the regulatory regime. The types of information required, and the form and frequency in which it will be submitted shall be discussed and agreed between the PUCSL and the NWSDB.

74. On the part of the PUCSL, if it deems that there is some concern over the reliability of information submitted by the Board, the PUCSL may commission a third party to validate the documents submitted by the NWSDB.

F. Communications and Public Accountability

75. The PUCSL's role is key in balancing the interests of the NWSDB and the consuming public. In this regard, the PUCSL is expected to exercise the highest degree of independence, fairness and transparency in all its dealings with the NWSDB.

76. The need for transparency and being firm in making determinations should underpin the communications between the PUCSL and the NWSDB. The various determinations that the PUCSL will make may often involve difficult and controversial decisions. For this reason, it is advisable that the PUCSL develops a reasonable "arms length" relationship with the NWSDB so as not to compromise its ability to discharge its functions effectively. All important decisions, instructions or guidance from the PUCSL shall be communicated in writing, and organized in a manner which builds up a case history of the treatment of the relevant issues. Distinctions between decisions that should be public or kept confidential should be made. The default assumption should be that all formal communications are publicly available to all interested parties, with confidential information being restricted in cases where overall public interest in regulatory issues is outweighed by more important considerations. Formal communications that in general shall be made publicly available to interested parties may include the following:

- Determinations on water supply and sewerage tariffs proposal
- Determinations on applications for extra-ordinary price adjustment
- Statement of policy on the interpretation of the Regulatory Guidelines and Primers on Service Standards and Customer Service Guidelines

77. In cases where the PUCSL has yet to seek clarification on its findings on the NWSDB's performance, the PUCSL has to keep the communication confidential until such time that the matter is clarified. This is to give the NWSDB a chance to explain their side without unnecessarily embarrassing them before the public.

Consulting with Customers

78. The PUCSL has an important role to keep the interest of the customers at par with that of the NWSDB. To carry out this responsibility, the PUCSL has to maintain good communication lines with the customers. At the start of the regulatory period, the PUCSL may consider conducting an information campaign on the role of the regulatory office and the benefits that regulation will bring to the customers. This can be done through organized information campaigns or through other means such as including a note on regulation in the water bills and others.

79. On matters relating to proposed tariff adjustments, the PUCSL has the option to consult the customers; but on the decision or determinations that were already made, the PUCSL is mandated to inform the public by publishing said decisions.

Liaising with Quality Regulators

80. The PUCSL in order to carry out its function of monitoring service standards particularly those relating to water and wastewater quality has to develop close working relationships with the Sri Lanka Standards Institute, Central Environment Authority and the Marine Pollution Control Authority. Having close links with said offices will enable the PUCSL to better understand the operational implications of complying with various standards or on any anticipated changes in the enforcement arrangements or in the standards themselves.

3.0 Amendments to the Act and Regulatory Guidelines

A. Introduction and Background

Overall Approach and Process:

81. The approach in undertaking the TA was built on the lessons learned from previous initiatives to introduce regulation in the industries in the schedule of the PUCSL Act. Continuing consultations were conducted with the NWSDB, the MWSD, and the PUCSL up to the closing of the TA.

82. The maximum participation of the operating staff of the NWSDB was pursued in the developing the aspects of the Amendments especially those that relate to service standards, tariff setting methodology and customer service regulation. These were accomplished through the conduct of national and regional workshops where a significant number of operating staff from the regions participated and shared their views and comments.

83. Mid-way in the development of the amendments, awareness workshops and training activities on the fundamentals of economic regulation were conducted to raise the consciousness of the key organizations and appreciate the benefits of regulation. These workshops increased their understanding and appreciation of the required legislations that should be in place in order that the NWSDB can be regulated by the PUCSL. By the time the Interim Report was submitted, major inputs to the amendments have been contributed by the NWSDB and the PUCSL. Additional amendments not relating to regulation were also requested by the Board to be inserted in the Act to make use of the opportunity of having the Act amended by Parliament. These additional provisions are shown as Appendix G1.

84. In summary the following steps were undertaken by the consultants to ensure the attainment of the targets given the limited time in developing the amendments:

- Step 1: Identification of Options
- Step 2: Review of the NWSDB Act and related laws and regulations
- Step 3: Development of amendments based on identified option
- Step 4: Consultation on the first draft
- Step 5: Re-writing of the revised draft and submission as part of Interim Report
- Step 6: Consultation on the revised draft in national and local workshops
- Step 7: Submission of Final Draft in Final Report

B. Identified Options

85. The following options were identified on how the NWSDB will be regulated and the amendments will be developed:

- Option 1: PUSCL to regulate all water utilities
- Option 2: PUCSL shall undertake economic regulation NWSDB
- Option 3: PUSCL to regulate NWSDB tariffs only

Option 1: PUSCL to regulate all water utilities

86. At this point, it bears to stress that the project objective is to improve the performance of NWSDB by, among others, introducing the appropriate form of regulation to NWSDB schemes. Although the proposed regulation is not intended to apply to other water utility

operators in the immediate future, such as local authorities and community-based organizations and cover the entire water supply and sewerage industry; regulation of the entire industry is still the ultimate objective.

87. **Option 1** will require the introduction of a new Act or the amendment of existing provisions to the NWSDB Act. It is a more comprehensive exercise of widening the scope of the NWSDB Act to include other water supply and sewerage utilities, so as to empower the PUCSL to regulate the NWSDB and all water supply and sewerage utilities.

88. If it is the latter, then the proposed amendments would need to be drafted widening the scope of the NWSDB Act to cover other water supply and sewerage service utilities (e.g., local authorities and community-based organization), and to empower the PUCSL as the economic and technical regulator of all water supply and sewerage utilities, including the NWSDB. The NWSDB Act at present only applies to NWSDB schemes.

89. An advantage of this option is that it will cover all water supply and sewerage utilities (not just NWSDB schemes). This will reduce the risk that the proposal may be questioned as unconstitutional based on arguments of discrimination and/or unequal protection of the law and/or that it infringes the sovereignty of the people.

- (a) Considering that the proposed amended NWSDB Act will cover other water supply and sewerage utilities, it can be argued that the amending legislation forms an “industry act” as discussed above, for purposes of the PUCSL Act. However, further legal study will have to be made in this regard.
- (b) If the proposed amendment qualifies as an “Industry Act” for the purposes of the PUCSL Act, then with the enactment of the proposed amending legislation PUCSL will be in a position to exercise powers conferred on the PUCSL in terms of the PUCSL Act over the water supply industry [in addition to any other powers that may be conferred by the amending legislation].
- (c) If the proposed amendments are to deal with only a limited area of regulation (such as excluding contentious issues such as licensing etc.) the proposed amendment may be referred to as a “**Temporary Provisions Act**,” that will automatically cease when a more comprehensive industry act comes into force.
- (d) Widening the scope of the proposed amendments to include other public utility entities complicates the process of passing the bill and increases the chances of meeting obstacles along the way. The following risks and constraints are also present:

It shall be deemed as a matter within the Provincial Council List. Its passage will require compliance with Article 154G of the Constitution introduced by the 13th amendment to the Constitution.

Under Article 154G of the Constitution, after the publication of the bill in the Gazette and before it is placed on the order paper of the Parliament, the President is required to circulate the bill to every provincial council for the expression of its views within a specified period.

If all provincial councils agree, the bill may be passed by a simple majority of the members of Parliament, and thereafter becomes a law once certified by the Speaker.

If not all of the provincial councils agree and the bill is approved by simple majority, then it becomes a law only in the provinces of the provincial councils that agreed.

If it is passed in Parliament by at least 2/3rd votes and certified by the Speaker in the required form, it becomes a law in all provinces (including Provinces of the Provisional Councils that did not agree).

- (e) As the process of passing the proposed amendments under this option may not be much different from passing a more comprehensive “industry act”, it may be worthwhile to consider renewing efforts to pass the water sector reform bill instead, and learn from the experiences related to its passage.

Option 2: PUCSL shall undertake economic regulation of the NWSDB

90. The PUCSL shall undertake the economic regulation of the area covered by the Board and shall include tariff and financial aspects, technical aspects and customer service.

91. It was agreed during the stakeholders’ meeting on 30 March 2007, that the amendments to the NWSDB Act and guidelines should enable the full regulation of the NWSDB covering (a) tariffs and financial; (b) technical; and (c) customer service aspects. While the government seeks full regulation of the sector.

92. Option 2 is a more tenable proposal that will pave the way for the immediate introduction of regulation in the water supply and sewerage sector.

Option 3: PUCSL regulates tariffs only

93. Introducing amendments to the NWSDB Act was initially considered from the perspective of introducing some form of regulation into NWSDB’s operation and focused initially on less contentious areas of operation such as tariff approvals and service standards. Thus the third option considered was in the regulation of tariff changes by mandating the NWSDB to obtain the prior approval of PUCSL in connection with tariff revisions.

94. This option will require minimal amendment of Section 84 (1) of the NWSDB Act⁴ in order to vest the approval of NWSDB tariff revisions in the PUCSL, instead of the relevant Minister, who is generally the Minister in charge of the subject of water supply and drainage.

95. Under this option, the PUCSL is to review the proposed tariff proposal by taking into consideration the technical and financial performance of the NWSDB and underlying rationale for the change.

96. As the proposed amendment may not qualify as an “Industry Act” for the purposes of PUCSL Act [section 44 of the PUCSL Act defines an “Industry Act” to mean an Act that governs any specific public utilities industry the regulation of which is vested in or assigned to the Commission], it may be necessary to include in the proposed amendment, a reference to all the powers duties and functions that the PUCSL is to exercise over the NWSDB. Such powers, duties and functions to be conferred to the PUCSL over the NWSDB may need to be consistent with the objectives conferred on the PUCSL in terms of

⁴ Supplementary Appendix 5. National Water Supply and Drainage Board Act

the PUCSL ACT. This is to avoid a constitutional challenge, amongst others alleging an infringement of Article 3 and Article 4 of the constitution, on the basis that it violates the sovereignty of the People, as the powers, duties and functions to be conferred on the PUCSL in terms of the amendment are contrary to and/or inconsistent with the purpose and objective specified for the PUCSL in the already enacted PUCSL ACT, the principal enactment that established the PUCSL.

97. If this option is to be pursued, subject to further refinements, as far as the tariff approval process is concerned, the amendment to Section 84 (1) of the NWSDDB Act ⁵ may be worded as follows:

Box 1. Section 84 (1)

“84. (1) Subject to the provisions of this Law, the rates and charges levied by the Board for the supply of water and sewerage services in any area of authority of the Board shall be in accordance with such rates and charges fixed by the Board, with the approval of the Public Utilities Commission of Sri Lanka.

The PUCSL shall exercise its powers, functions and objectives as declared in the PUCSL Act of 2002 and its implementing rules, regulations and guidelines.”

98. Any additional specific powers, duties and functions that the PUCSL is to perform with respect to the NWSDB would need to be included in this Section.

99. One advantage of this option is that it may be possible to avoid attracting undue reaction from interest groups. The proposed amendment may also be relatively simpler as it is to be formulated to deal only with the NWSDB without impinging on other public utility entities (such as, local authorities and community based organizations). This should allow passage through Parliament without having to secure the consent of Provincial Councils.

100. However, the following risks or constraints should also be considered:

- (a) The situation of the NWSDB and other public utility entities providing a similar service to that of the NWSDB will not be congruent in the sense that while the NWSDB will be regulated by the PUCSL, other such public utility entities will continue to operate unregulated. Certain consumer groups or service providers may question the constitutionality of the proposed amendments alleging that the proposed amendment is unconstitutional as it is discriminatory towards a certain segment of the consumers of water and sewerage services, as it only regulates one operator and not the others. On that basis it may be argued that the provisions of the proposed Amendment violates amongst others, the fundamental right enshrined in Article 12 of the Constitution, which provides that all citizens are equal before the law and are entitled to the equal protection of the law.
- (b) It may also be urged that the proposed amendment infringes Article 3 and 4 of the Constitution, as well, for the very same reasons, in that the PUCSL Act, which is already an enacted legislation, has created the PUCSL to regulate an entire industry and not a single service provider and that therefore the proposed legislation violates the sovereignty of the People by proposing to enact legislation which is contrary to that objective and/or purpose.

⁵ Appendix M: National Water Supply and Drainage Board Act Sec 84 to 87

101. All options will require further legal study and validation through consultations with concerned stakeholders. It may also be necessary to review provisions of the NWSDB Act and other laws to ensure consistency with the new regulatory arrangement.

C. The NWSDB Act

Powers under the NWSDB Act

102. The National Water Supply and Drainage Board Law No. 2 of 1974 is the law that created the National Water Supply and Drainage Board (NWSDB). This law empowers NWSDB to: (i) develop, provide, operate and control efficient, coordinated water supply and sewerage systems; (ii) take over and carry on any water supply or sewerage undertaking transferred to the Board either through voluntary transfer or compulsory transfer order; and (iii) supply water and distribute or sell water in bulk or otherwise, to any Local Authority, government department, institution, organization or individual. It does not permit any person or body to supply water in any area of authority of NWSDB, except in areas supplied by a local authority if the water supply and sewerage undertaking of such local authority has not been transferred to NWSDB.

103. The law also confers upon NWSDB the power to purchase water in bulk and to enter into joint schemes with any Government department or body approved by the Minister for the provision, development and maintenance of water supply and sewerage services. It authorizes NWSDB to construct intakes, filters, tanks, aqueducts or other works to bring water to its service areas.

Review of the NWSDB Act

104. The NWSDB Act was reviewed in terms of its contents as they relate to regulation, performance standards and other aspects covered by the TA. It was observed that although the NWSDB Act is strong on establishing the NWSDB as the main water supply and sewerage utility, it is not put much emphasis in achieving a financially viable and sustainable operation. Furthermore, the Act is inadequate on matters that relate to: (a) detailed and transparent tariff setting process and methodology; (b) setting and monitoring of service standards and performance targets; and (c) protection of customer's interests.

105. In the review of the Act, the basic principles in economic regulation were referred to, especially with regards to having an independent economic regulator to undertake tariff review or determination; monitoring the financial viability of the utility; establishing minimum operational and service level standards; monitoring and enforcing compliance with set standards and resolution of customer complaints and disputes.

106. Thereafter, an incisive review of the NWSDB Act was made to determine how and what kind of amendments would be necessary with regards to regulation, performance standards and other aspects.

107. Overall, the NWSDB Act appears adequate in establishing the NWSDB as the main water supply and sewerage service utility entity. It contains comprehensive and detailed provisions relating to: (a) organization of the Board; (b) appointment and removal of members of the Board and General Manager; and (c) powers, function and duties of the Minister, Board and General Manager; (d) protection of the NWSDB, its assets and operation against unauthorized connection to water supply and sewer lines, unauthorized taking, use and sale of water supplied by the Board; and (e) expansion through voluntary and compulsory transfer, to cover water supply and sewerage undertakings of local

authorities and community-based organizations. It also contains some provisions relating to: (a) finance and audit of the Board; and (b) rates and charges of the Board.

108. The NWSDB Act is lacking or is inadequate on matters that relate to: (a) detailed and transparent tariff setting process and methodology; (b) setting and monitoring of service standards and performance targets; and (c) protection of customer's interests.

109. In most of the sections, there is emphasis on penalties for customers in general for non-compliance of the Board's utility operating procedures. However, the Act is silent on matters relating to ensuring customers' rights and promoting good customer relations,

110. Discussed in the table below are pertinent provisions of the Act that relate to the TA:

Table 2: Findings and Observations on the NWSDB Act

Area / Aspect	Existing Provision	Remarks
Objectives of the Board	Section 4- , "to exercise, discharge and perform within its areas of authority all the powers, functions and duties conferred or imposed on it under this Law"	Broad.
Powers, Functions and Duties of the Board	Part II	Broad
Powers of the Minister over the Board	<ul style="list-style-type: none"> • Section 5 (1) (a) - Minister appoints 4 of 8 members of the Board • Section 5 (2) Minister appoints Chairman and Vice-Chairman • Section 5 (5) Minister may remove any appointed member if he considers necessary without stating reason • Section 12 Minister may give the Board general or special directions • Section 15 Minister may declare any area in Sri Lanka to be an area of authority of the Board • Section 20 Minister decides with finality on disputes arising from exercise of powers of the Board • Section 21 Minister approves exemption from prohibition against undertaking supply of water in area of authority of the Board • Section 57 Minister orders the transfer of undertakings of the Department of Water Supply and Drainage to the Board, including all assets, rights, obligations and liabilities • Section 58 (2) Minister decides with finality any dispute with local authorities in connection with voluntary transfer schemes. • Section 59 and 60 Minister may direct the Board to prepare a compulsory transfer scheme of any water and sewerage undertaking of local authority • Section 63 and 64 Minister may approve 	<ul style="list-style-type: none"> • Minister has broad powers over the Board. Control over the Board appears to be strong.

Area / Aspect	Existing Provision	Remarks
	<p>and amend voluntary and compulsory transfer schemes.</p> <ul style="list-style-type: none"> • Section 65 Minister decides with finality any dispute relating to any voluntary or compulsory transfer scheme • Section 68 Minister approves appointment by the Board of General Manager • Section 81 (1) and (3) Minister concurs in Government guarantee on repayment of and payment of interest on stocks or loan, and determination of interest for any sum paid from Consolidated Fund • Section 83 (1) (c) Minister approves creation of reserve fund other than for insurance and capital works. • Section 84 (1) Minister approves rates and charges fixed by the Board. • Section 84 (4) Minister determines any disagreement between the Board and any local authority concerning rates payable by hereditaments. • Section 90 Minister may issue regulations to carry out and give effect to the principles and provisions of the Act. • Section 98 Minister approves rules issued by the Board 	
Regulation / Performance Monitoring	None	<ul style="list-style-type: none"> • There is no provision in the Act that relates to regulation or performance monitoring. • <i>It is our understanding that certain aspects of the Board's operation are already being regulated under other existing laws (such as environment, water quality standards etc.) Still, it may be useful to include a provision that would allow regulation (as regards tariff, technical, financial and service levels, etc.).</i> • <i>Performance Monitoring for internal use may be instituted through the issuance of appropriate internal rules, regulations and guidelines.</i>

Area / Aspect	Existing Provision	Remarks
Tariff Setting Methodology and Implementation	<ul style="list-style-type: none"> Section 84 (7) Rates and charges shall be so fixed as not to restrict the preparation of bills on a monthly, quarterly or half-yearly basis. Section 84 (7) (c) Rates and charges may include rent and other charges in respect of fittings provided by the Board. Section 85 Rates and charges may provide for charging of different prices for water services supplied for different purposes. 	<ul style="list-style-type: none"> The objectives for tariff setting with regard to cost recovery are not set out in the Act. <i>It would be useful if there is something in the Act that would set broad objectives for tariff setting ensuring cost recovery leading towards the long-term viability of the utility, protection of the interests of the public, etc. The objectives then will guide in designing the appropriate tariff setting methodology.</i> <i>Reference to Government issued policies may be able to clarify.</i>
Tariff Setting Process	<ul style="list-style-type: none"> Section 84 (1) Rates and charges are fixed by the Board, "with the approval of the Minister, who shall consult, before approving his approval, the Minister in charge of Finance, and any other Minister he considers necessary." Section 84 (5) Board is not precluded from charging special rates by agreement with any person or body. 	<ul style="list-style-type: none"> Under existing provision, approval process does not provide for any public participation/consultation. <i>Provision may be improved to provide for a more detailed, independent and transparent tariff setting process.</i>
<ul style="list-style-type: none"> Service Quality Standards Operational Performance Targets Financial Performance Targets Monitoring Service Quality and Performance Levels 	<ul style="list-style-type: none"> Section 16 (1) (a) Board has the duty "to develop, provide, operate and control and efficient, coordinated water supply and distribute water for public, domestic or industrial purposes" Section 16 (1) (b) Board has the duty "to establish, develop, operate and control and efficient and coordinated sewerage system" 	<ul style="list-style-type: none"> There are no standards defined for service other than the generic use of efficient and coordinated water supply. <i>May be improved to provide clearer guiding principles for setting standards and targets, as well as monitoring of performance and service level.</i> <i>Can be clarified in supporting regulations and guidelines.</i>
Water Service Obligations	<ul style="list-style-type: none"> Section 16 (1) (e) Board has the duty "to provide a supply of water and distribute it or sell water in bulk or otherwise xxx" 	<ul style="list-style-type: none"> Does not specify the water service obligations and make no mention on the quality, quantity of water service to be provided. Service obligations may be specified in supporting regulations, guidelines or service agreement
Customer Protection	None	<ul style="list-style-type: none"> There is no provision in the Act that relates to customer protection. <i>Reference to other existing laws, such as the Consumer Affairs Agency Act may be made.</i> <i>May be clarified further in rules, regulations, guidelines and</i>

Area / Aspect	Existing Provision	Remarks
Public Participation	<ul style="list-style-type: none"> Section 17 (b) Board may carry out investigations and to collect and record data concerning the provision, development and maintenance of water supply and sewerage services. 	<p><i>service agreements.</i></p> <ul style="list-style-type: none"> Investigation, data collection and research may be a way of getting customer feedback. <i>Still, existing provisions may be improved to ensure sufficient transparency and meaningful public participation.</i>
Billing Policy	<ul style="list-style-type: none"> Section 17 (f) Board may conduct research into matters affecting the provision, development and maintenance of water supply and sewerage services. Section 87 (2) (a) and (b) water supply and sewerage charges are payable within 30 days from date of receipt of billing, or if disputed billing within 15 days of final determination of the amount charged. Section 88 (1) General Manager may discontinue water supply service to customer neglecting to pay water supply or sewerage charges. 	<ul style="list-style-type: none"> Adequate
Customer Complaint / Dispute Resolution	<ul style="list-style-type: none"> Section 86 Questions as to whether or not any rate or charge is applicable, or as to which rate or charge is applicable shall be determined by the Board, with finality without recourse to court. Section 87 (3) Billing may be disputed within 21 days from date of receipt by written communication to the Board specifying the amount and reasons. Section 84 (5) (b) Billing disputes shall be determined by agreement, or if no agreement is reached, to be determined by the Board in "its absolute discretion." Board's determination is final and may not be questioned in court. Section 87 (6) and (7) Board's determination of billing dispute is enforceable by writ of execution issued by the court on the basis of a certificate issued by the General Manager. 	<ul style="list-style-type: none"> Decisions rendered by the Board may be perceived as partial considering that the subject of dispute is its billings, made even worse by the fact that its decisions are final and may not be questioned in court. <i>May be improved by the introduction of an independent regulator.</i>
Appeals Process	<ul style="list-style-type: none"> None, except by recourse to the courts inherent power of judicial review as provided in the Constitution. 	<ul style="list-style-type: none"> Resort to court on judicial review is not practical. <i>May be improved by the introduction of an independent regulator.</i>
Authority to Issue	<ul style="list-style-type: none"> Section 90 (2) (J) Minister may issue 	<ul style="list-style-type: none"> <i>It may be useful to add</i>

Area / Aspect	Existing Provision	Remarks
Rules and Regulations	regulations on matters relating to, among others, (a) preservation and maintenance of the water works; (b) control the use of water supplied from said waterworks; (c) prevent the waste, misuse, undue consumption or contamination of water supplied for public or private use; and (d) recovery of charges due in respect of water services; and (e) control of discharge of wastes to the sewerage system.	<i>standards and targets setting, and performance and service level monitoring among matters that can be subject of regulations.</i>

D. Development of the Proposed Amendments

111. The development of the Amendments to the NWSDB Act went through a process of presentations and consultation with the key officers of the stakeholders and up to the level of operating staff of the NWSDB in the regional offices, including representatives of a few local government agencies. During the series of consultations and meetings, the project team deemed that in order for the NWSDB to be effectively regulated by the PUCSL, substantial and minor amendments to certain provisions of the NWSDB Act are needed. The development of the amendments also considered existing national policies on water supply and sanitation.

112. The **1st version** of the draft amendments was presented in an awareness workshop on Economic Regulation on 23 May 2007. Thereafter, a series of separate and joint meetings with the PUCSCL, the NWSDB and the MWSD were held to discuss the first draft. Minor changes in the draft amendments were incorporated in the **2nd version** submitted in the Interim Report on June 15, 2007. See *Appendixes F1, F2, and F3* for the Minutes of Meetings held.

113. The highlights of the proposed amendments were presented in a national workshop that was attended by key govt. officers in the water sector on 17 July 2007. (*Appendix H3-Minutes of National Workshop*.)The amendments were also presented for information and comments of regional staff of the NWSDB in Kandy, Anuradhapura, Mattara, Greater Colombo and Western regions between the period July 20 to September 27, 2007. (Minutes of Local Workshops is attached as *Appendix H4*).

114. Further consultation meetings between the NWSDB and the PUCSL were conducted in late July and early August to discuss contentious provisions or the lack of certain provisions that were noted by the PUCSL. The PUCSL subsequently submitted its comments and suggested revisions to the amendments. A copy is attached as *Appendix G2*. Based on said comments, a meeting between the Chairman and the Director General of the PUCSL with the presence of the consultants was held to clarify any remaining disagreement on the Amendments. (Minutes of Meeting of said meeting is in *Appendix F4*).

115. After the meeting on July 30, with the Chairman, additional comments were provided by PUCSL to the MWSD in a letter dated 15 August 2007, (*Appendix G3*). These comments along with the results of the discussion last July 30; the 1st set of comments from PUC (Appendix G2) and the additional requested provisions by the NWSDB (*Appendix G1*) were incorporated in the 2nd Version and **the 3rd Version** which were submitted in the Draft Final Report last September 15.

116. The **3rd Version** was presented and discussed in a stakeholders' meeting on 4 October 2007. Comments from the MWSD are as follows:

The words “approve or determine” was questioned and instead the words “review and approve” was suggested in so far as tariff regulation by the PUCSL is concerned

The word “Ministry” was seldom mentioned; hence it was requested that it should be included in instances where the NWSDB needs to be consulted.

117. The **3rd Version** was then revised to reflect the comments requested by the MWSD. The revised or the **4th Version** was again discussed in a wrap up meeting with the ADB, the MWSD (represented by the Secretary), NWSDB and the PUCSL on 9 October 2007, where previous comments/revisions suggested by the MWSD were again challenged by the PUCSL. The disagreements were sorted out except on the issue on whether the words “review and approve” will be used instead of “approve or determine.

118. It was agreed among the parties that the MWSD in consultation with the PUCSL and the NWSDB shall come up with the final comments, if any, to forward these comments no later than 19 October for incorporation into the final version. (Please refer to Minutes of wrap-up meeting, *Appendix F5*).

119. The second set of requested provisions were submitted by the NWSDB (not relating to regulation) and were incorporated into the **5th or Final Version of the Amendments**. Except for these requested provisions from the NWSDB, no additional comments were submitted by the MWSD after October 19, 2007.

120. Shown below are the remaining activities until approval of the Amendments by Parliament. The timetable for the submission of the amendments were agreed among the parties in the October 9 meeting and as contained in the Aide Memoire⁶:

Table 3: Review and Approval Process – Amendments to the Act

Date	Activity/Step	Responsibility
October	Submitted to Legal Draftsman of the Ministry of Justice	MWSD
October 15	Legal Draftsman forwards to Attorney General's Office	Legal Draftsman
October 26	AG issues certificate of conformity to the constitution	Attorney General's Office
October 26	MWSD prepares a cabinet paper and forwards to Cabinet for approval	MWSD
November 5	NWSDB Board provide approval	NWSDB
November 30	Cabinet reviews and approves paper	Cabinet of Ministers

⁶ Aide Memoire, ADB, October 2007

Date	Activity/Step	Responsibility
November 30	Legal Draftsman receives and forwards to Ministry of Water Supply and Drainage	Legal Draftsman
December 15	MWSD submits to Parliament for approval	MWSD
January 15	Expected Parliamentary Approval	

E. Highlights of the Proposed Amendments

121. The revised amendments are shown in Section A of Volume II and already include the Statement of Legal Effect, a requirement for submission to the Legal Draftsman. The Cabinet Paper for submission was prepared by the Consultant and submitted to the MWSD. Refer to (Appendix G4) for the Cabinet Paper.

Main Amendments

122. Following are the main amendments to the NWSDB Act:

- (a) By providing in Section 16 that the duties and objectives of the NWSDB include providing water supply and sewerage services at fair, reasonable and affordable prices and ensuring the viability and sustainability of its systems and operations.
- (b) By introducing a new Section 83A with subsections (1) to (4) which expressly vests the PUCSL with regulatory powers over the NWSDB's operation of water and sewerage systems, and defines the specific powers and functions of the PUCSL.
- (c) By introducing a new Section 83B which requires the PUCSL to formulate, in consultation with the NWSDB, standards for operational performance and service levels, and to monitor, report and ensure NWSDB's compliance with established standards.
- (d) By introducing a new Section 83C which requires the NWSDB to develop, in consultation with the PUCSL, its customer service guidelines setting out the rights and obligations of its customers.
- (e) By introducing a new Section 83D which authorizes the PUCSL to impose penalties for failure to meet standards and/or grant incentives for meeting or exceeding standards.
- (f) By providing in Section 84 (1) that rates and charges to be levied by the NWSDB must be approved by the PUCSL and that any changes without the approval of the PUCSL shall be invalid and unenforceable.
- (g) By introducing a new Section 84 subsection (1B) which requires the PUCSL to adopt a methodology for determination of rates and charges that would allow recovery of reasonable, prudent and efficient costs.
- (h) By introducing a new Section 84 subsection (1D) which authorizes the PUCSL to levy regulatory fees.

- (i) By providing in Section 85 that rates and charges may provide for charging of different prices for water provided for different purposes in different areas or schemes.
- (j) By introducing a new Section 86 which authorizes the PUCSL to resolve customer complaints and disputes through investigation or mediation.
- (k) By providing in Section 90 that the Minister may issue regulations in relation to the proposed amendments, with the recommendation of the PUCSL.

Minor Amendments

123. As a necessary consequence, minor amendments to certain provisions in the NWSDB Act are also necessary in order to ensure consistency with the aforesaid proposed substantial amendments, specifically:

- (a) Section 84 (7), which provides that approval of rates will not restrict preparation of billings;
- (b) Section 87 (a), which provides that where the amount of water supply charge or sewerage charge is disputed, the same shall be decided by agreement of the NWSDB.
- (c) Section 87 (b), which would provide that in the absence of an agreement, the amount shall be determined by the PUCSL; and
- (d) Section 100, which would provide additional definitions for “PUCSL” and the “Public Utilities Commission of Sri Lanka Act or PUCSL Act”.

Parallel provisions with the PUCSL Act

124. Certain amendments in the NWSDB Act would allow the PUCSL to exercise certain powers and functions in accordance with the PUCSL Act as follows:

- (a) Section 83A (2) provides that the PUCSL shall exercise its powers and functions consistent with the objectives and principles declared in the PUCSL Act
- (b) Section 83A (3) provides that, in accordance with Section 28 of the PUCSL Act, the PUCSL shall appoint a Consumer Consultative Committee, whose functions, among others, shall be to promote awareness of the standards prescribed or determined, and the rights of consumers with respect to those standards.
- (c) Section 83A (4) provides that the PUCSL may, in discharging any of the powers and functions conferred under Section 83 (1) of the amended NWSDB Act, and where it is deemed necessary in the public interest, exercise such powers conferred under Section 18 Subsection (2) of the PUCSL Act which enumerates PUCSL’s powers relating to conduct of hearings.
- (d) Section 83A (5) provides that the PUCSL shall abide by its regulatory manual containing a code of good practice governing the functions of the PUCSL which was prepared and may be revised in accordance with Section 17 (c) of the PUCSL Act.

- (e) Section 86 (2) provides that the practice and procedure to be followed in the resolution of customer complaints or disputes shall be such as the PUCSL shall set out by rules made under the PUCSL Act.

F. Regulatory Guidelines

125. Details on how the amendments are suggested to be implemented were prepared along with the amendments. The PUSCL and the NWSDB may refer to these guidelines when a regulatory regime is established. The guidelines shall be updated and revised with the agreement of the PUCSL and the NWSDB. From time to time, the PUCSL may issue guidelines to implement certain aspects of the amendments. The Regulatory Guidelines is attached as Section A of Volume II of the Report.

126. The Regulatory Guidelines is divided into the following parts:

- Part 1: Regulatory Framework
- Part 2: Functions and Responsibilities of the Commission
- Part 3: Water Supply and Sewerage Tariff
- Part 4: Service Obligations
- Part 5: Customer Service Regulation
- Part 6: Performance Monitoring and Performance Indicators
- Part 7: Dispute Resolution and Appeals
- Part 8: General Requirements to Provide Information
- Part 9: Operation and Budget of the Commission

127. It is intended as a reference primarily for the PUCSL when it undertakes its regulatory functions. The contents of the Regulatory Guidelines are consistent with the Primers that were prepared for the NWSDB.

G. Issues and Concerns

128. Uniform pricing and national and regional service standards - the proposed Amendment to the Act regarding tariff setting considers the principle of linking tariffs to the levels of service that the NWSDB shall commit to deliver to its customers. However, since the national policy on setting tariffs for water and sewerage services provides for a uniform and national tariff, it is expected that the NWSDB shall be constrained to meet the said objective of economic regulation. In the future, it may thus be necessary to review the appropriateness of the current policy on uniform tariff and study how it can be reconciled to the principle of linking tariffs to levels of service.

129. The Minister in-charge under the NWSDB Act has the power to issue regulations on any matter covering water supply and sanitation. It is important to ensure that the regulations that the Minister in-charge shall issue will not be in conflict with the economic regulations and guidelines that may be issued by the PUCSL as regards water regulation.

130. There is potential overlap in the roles of the PUCSL and the Consumer Affairs Authority as regards consumer protection. To avoid possible overlaps and confusion, a provision in the Act has been made to address this issue.

131. Regulatory Fees. The setting of regulatory fees will be left to the government agencies involved and shall not be covered by an amendment. In this case, there is more

flexibility afforded the stakeholders at this stage where a regulatory regime is yet to be introduced and the extent of responsibilities and corresponding work involved have not been clearly established.

132. Penalties and Incentives. Provision for penalties and incentives is a mechanism adopted by many regulatory regimes to ensure compliance. However, it may be untimely at this stage to introduce such mechanism and it is recommended that further consideration and study on its implementation be undertaken first.

H. Next Steps

133. Information and Education Campaign. While it is seen that approval of the proposed amendments will be obtained from the Parliament without much problem, its implementation may see some rough sailing given the political climate in the country. The proposed economic regulation of the Board while primarily aimed at improving services in the water sector and protecting customers' rights is often confused by moves to privatize and hence is unpopular with the public. The public, particularly the customers who are the most affected sector have to be informed and educated on the purpose and scope of regulation and how they can benefit from it. The Board and the PUCSL shall need to undertake concerted efforts to furnish information and education campaigns on the proposed regulation of the sector to ensure that there is wide understanding and appreciation of the subject matter. The Board for its part should start an information campaign among the union members for their understanding and support for the issue.

134. Planning and coordination meetings. More frequent coordination and planning meetings to discuss the operational details, reporting system shall be conducted immediately, and agreement on the Primers, the tariff methodology to be adopted should be reached as soon as approval of the Amendments is obtained by the Cabinet of Ministers.

135. Operational Plan. A plan to operationalize the PUCSL and start the regulatory regime shall be developed by PUCSL and coordinated with MWSD and NWSDB. The plan shall among others include, but not be limited to the following:

- (a) Further capacity building on water utility operation and regulation
- (b) Manning the unit or team to undertake the regulatory functions and preparation of corresponding job descriptions
- (c) Preparation of a working budget
- (d) Adoption of regulatory rules on processes which include the service standards, KPIs, tariff methodology and tariff regulation procedures, monitoring and reporting procedures
- (e) Preparation of a schedule of regulatory activities that are planned to be undertaken within the next 2 years and which schedules shall be made known to NWSDB.

4.0 Water Supply Tariff Methodology

A. Background and Rationale

136. In compliance with the TOR of the TA, alternative approaches to tariff setting were studied and proposed. The NWSDB is considering the adoption of an alternative approach that will enable it to attain financial viability and at the same time address the concerns of the low income group in line with the goal of improving access to water supply and sanitation.

137. The proposed methodology that will be developed under the TA is an option that the PUCSL and the NWSDB may consider adopting when the regulation of the NWSDB shall become effective.

B. Existing Tariff Methodology, Structure and Tariff Approval Process

Cost Recovery Framework and Tariff Policies

138. The current methodology for determining tariff is based on the recovery of operation and maintenance expenses, debt service or depreciation expense, whichever is higher. A uniform tariff is applied to all water supply schemes of the NWSDB, regardless of the varying revenue requirements. As a result, there is heavy cross-subsidy among the regions, with Greater Colombo providing the surplus to cover the operating losses of the rest of the regions.

139. The operation of the NWSDB is organized into six (6) separate Regional Support Centers (RSC) based on the geographical division, and 297 independently operated water supply schemes. As depicted in the chart, approximately fifty percent (50%) or majority of water is consumed in the Greater Colombo region followed by the Southern Region (19%) and the Central Region (14%).

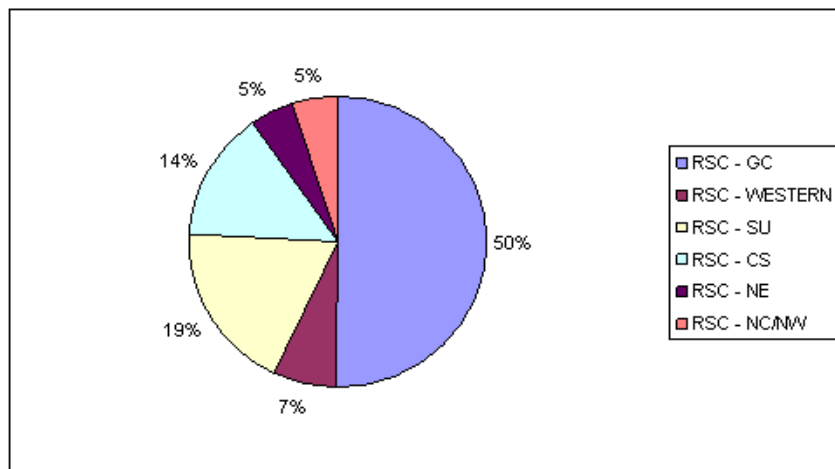


Figure 1. Distribution of Water Billing by RSC

Tariff Determination Process:

140. The NWSDB uses the cash basis approach in tariff setting based on the document found to support the last tariff adjustment of year 2005. The tariff setting process involves the following processes:

First, the identification of the level of required cash which will enable payment of the following: operating and maintenance expenses, capital expenses for rehabilitation and the higher of debt service or depreciation.

Projections for operating and maintenance expenses are computed based on unit costs e.g., for each staff to compute for salaries and wages, and unit cost per volume of production for power, chemicals, establishment, repair and maintenance expenses which comprise the direct costs.

Next, the revenues that will be generated from a set of recommended tariff for the different customer classes are computed and compared with the cash requirements. Since the worksheet does not show how the tariff per customer class and the corresponding tariff per slab were arrived at, it is surmised that iterations are performed to arrive at the desired level of recovery of the computed cash requirements.

Tariff Structure:

141. The NWSDB currently implements a two-part tariff that provides for a fixed charge and an increasing commodity charge per consumption block as the volume of consumption increases. There are 9 schedules of rates that apply to 24 different categories of consumers. Table 4 below illustrates the tariff structure and schedule that was implemented in March 2005.

Table 4. Existing Water Supply Tariff Schedule

	FIXED MONTHLY CHARGE	TARIFFS FOR EXISTING BILLING BLOCKS							More than 51 cum
		1-10	11-15	16-20	16-25	16-30	16-40	16-50	
Domestic / Hsg. Authority	50	1.25	2.5	8.5	30	50	60	70	75
Religious	50	4	4	4	4	4	4	4	12
Stand posts / Garden Taps	50	7	7	7	7	7	7	7	7
Government / Industrial	70	42	42	42	42	42	42	42	42
Commercial	70	50	50	50	50	50	50	50	50
Bulk to CBOs	70	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Bulk to LGUs	70	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
Shipping	70	250	250	250	250	250	250	250	250
Bowser	70								

142. The broad classification into domestic and non-domestic is the basis for the fixed monthly charge. Non-domestic users are also charged higher fixed charges based on the size of the connection. The table would further show only the domestic connections are subject to increasing block tariffs applied for consumption higher than 16 m³

143. Customer Classification. In the existing customer classification, per summary shown in Table 5 below, there are about 24 customer classes broadly referred to as belonging to domestic or non-domestic consumers. While ninety-two percent of the total served connections is accounted for by the domestic consumers, revenues generated are about forty-six percent (46%). There are nine sets of tariff charges used for the twenty-four (24) customer classes resulting to multiple cross-subsidy between the customer classes. The highest subsidy between customer classes goes to schools, stand posts, bulk sales to Local Authorities/CBOs and religious connections. Conversely, the shipping and commercial connections are billed more than sixteen (16) times and more than three (3) times, respectively, than the domestic consumers.

Table 5. Service Connection and Billing Summary, 2006

CONSOLIDATED FIGURES 2006 ACTUAL DATA	Number of Connections	Billing in cum	Billing in Rupees	Rate/Cum	% to Dom. Rate	Monthly ¹ Consumption	% Connections to Total	% Revenue to Total
DOMESTIC								
Domestic/Govt Qtrs Board Quarters Govt. Quarters Tenement Gardens NWSDB Premises Housing Authority	906,072	176,631	3,220,140	18.23	1.00	16.97	91.76%	46.35%
NON-DOMESTIC								
Schools	2,225	3,200	16,178	5.05	0.28	121.92	0.23%	0.23%
Stand Posts/Garden Taps	5,435	6,800	56,225	8.27	0.45	104.56	0.55%	0.81%
Government Institutions / Construction	9,196	37,229	1,775,483	47.69	2.62	361.14	0.93%	25.56%
Commercial	974	1,643	80,667	49.08	2.69	142.81	0.10%	1.16%
Shipping	58,449	26,814	1,601,660	59.73	3.28	39.68	5.92%	23.06%
Religious	14	155	44,860	288.69	15.84	1,035.93	0.00%	0.65%
Bulk A	4,999	4,269	45,046	10.55	0.58	73.45	0.51%	0.65%
Bulk B	4	2,585	25,686	9.94	0.55	47,861.74	0.00%	0.37%
Bowser	17	2,695	31,970	11.86	2.35	16,638.46	0.00%	0.46%
	8	993	48,825	49.19	2.70	11,816.93	0.00%	0.70%
	987,393	263,015	6,946,739	26.41		266.37	100%	100%

144. As shown above, the broad classification into domestic and non-domestic is the basis for the fixed monthly charge. Non-domestic users are also charged higher fixed charges based on the size of the connection. The table further shows that only the domestic connections are subject to increasing block tariffs applied for consumption higher than 16 m³.

145. Consumption Pattern: As shown in *Figure 2*, it is estimated that a majority of the population in all RSCs (national average, approximately 53%) have consumed less than 10 m³ per month in 2006, vis-à-vis only approximately ten percent (10%) having a consumption of more than 25 m³ currently spread over seven (7) tariff consumption slabs. The consumption slabs starting at 16 m³ are subject to substantial increments between slabs up to the last slab for consumption of > 150 m³. The same graph shows ninety percent (90%) of consumers fall within the 25 m consumption.

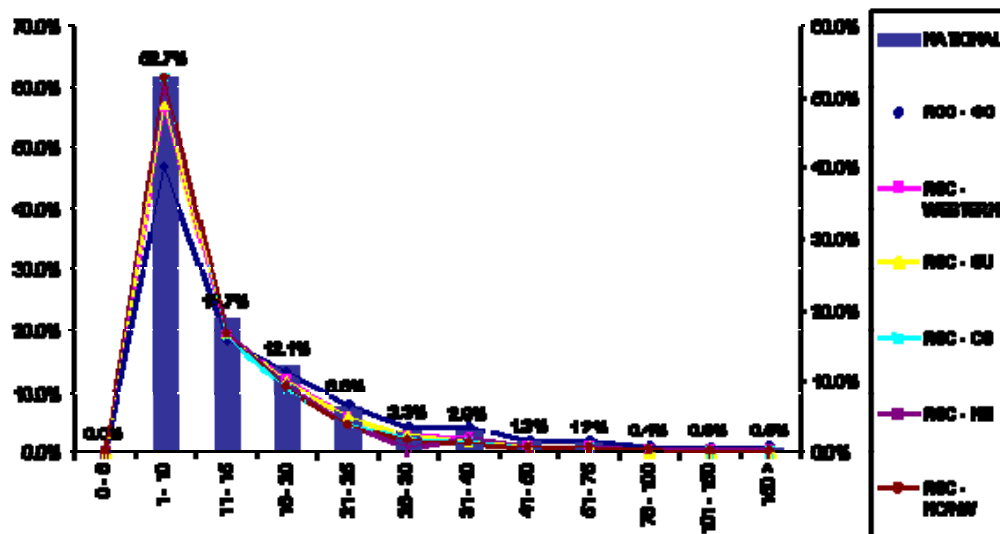


Figure 2. Distribution of Consumption by Consumption Slabs

Tariff Setting and Approval Process:

146. Under the NWSDB Act, Section 84 (5) (*Supplementary Appendix 5*) and in practice, tariff adjustments are determined by the NWSDB and approved by the Minister in consultation with relevant ministries such as the Ministry of Finance. Following is the process based on existing practice in tariff setting and approval:

The tariff proposal in the past, as in during the last adjustment in 2005, was prepared by the Planning and Monitoring Department of the NWSDB with inputs from the Finance and Commercial Departments.

The proposal is then reviewed by the General Manager and submitted to the NWSDB's Board of Directors through the Chairman for evaluation.

The Board of Directors then reviews the proposal and after its approval and adoption of the proposal forwards it to the Minister in-charge of water supply and sewerage.

The Minister decides on the proposal in consultation with other ministries within an undefined period of time. After approval by the Minister, the new tariff schedule is then gazetted and becomes binding and effective.

147. The most recent adjustment in March 2005 took some 14 to 15 months from submission to the Minister until final implementation. The long time that it takes for a tariff adjustment to be implemented was a concern raised during our investigation. When the adjustment was implemented, the prices of commodities have gone up by more than 2x or 3x, making the new tariff again insufficient to meet full costs of operating and maintenance expenses.

C. Proposed Tariff Methodology

Development of the Proposed Tariff Methodology:

148. The Consultants in the development of the tariff methodology referred to the requirements of the TOR of the TA and studied the current financial performance of the NWSDB, and its plans for the next 5 years as contained in the Corporate Plan. While the study calls basically for the development of a water supply tariff methodology, the Consultants went beyond the hypothetical exercise of developing a tariff calculation formula, and conducted an in-depth water supply tariff study that considered the existing conditions in the NWSDB and in general the water supply condition in Sri Lanka. The consultants involved the NWSDB officers and staff in the entire process, from establishing the most feasible cost recovery framework up to the review and finalization of the financial model that was developed to support the methodology.

149. Bearing in mind the draft policy of the GoSL on the water supply tariff which proposes a full cost recovery framework, the Consultants first determined the tenability of implementing a full cost recovery framework through consultations with key officers of the NWSDB. While it is the ultimate objective of the NWSDB to fully recover its costs and generate sufficient surplus to meet system replacement and expansion, it can be concluded from the consultations conducted, that the NWSDB is not yet ready within the immediate future (within the next five years) to implement the said cost recovery framework. Adjusting the existing very low existing tariffs based on full cost recovery will result to staggeringly high tariffs, which a significant part of the consuming public will have difficulty with.

150. The Consultants proceeded to the development of the tariff methodology and adopted a modified cost recovery framework that provides for the recovery of Operation and Maintenance Expenses, Depreciation, Interest and Financing charges on Loans, Taxes and other levies.

151. The existing tariff structure was also evaluated including the existing customer classification to determine the impact of any proposed changes in the structure on the various types of consumers.

152. In the tariff calculation, actual NWSDB data were used in the process to demonstrate the effect of the recommended methodology and structure on the existing level of tariffs. Consultations were conducted on the results of the tariff studies. A list of officers and staff consulted on the tariff methodology is attached as *Appendix F6*.

153. The proposed water supply tariff methodology along with the financial model was presented to top management of the NWSDB on two (2) occasions in July. The first was during the conduct of the training on Tariff Setting and Financial Regulation last 13 July 2007. Highlights of the presentation are shown in Appendix F7. In that presentation, initial agreement was reached on the cost recovery framework and the proposed tariff structure when the senior officers of the NWSDB supported the recommendations, subject to the following changes in the methodology and structure below. The Summary of suggested revisions is shown in F8.

- Inclusion of a block for the 0-6 consumption;
- Inclusion of another category for religious groups and schools
- Separate category for bowzers
- Provision for Increasing linear tariff to promote water conservation

154. On 30 July, the key officers of the MWSD, NWSDB and PUCSL again met to discuss in more detail the proposed methodology. There was general agreement among those present that rationalization of the tariff methodology for water supply to enable sustainable operations is indeed necessary. While there was an apparent need to fully recover the costs of operations and provide for a reasonable surplus to cover asset replacement and service expansion, there was a consensus during the meeting that the NWSDB felt it untimely to implement a full cost recovery that will result to high increases in tariff levels. A consensus on the framework that considers the recovery of all costs but without a provision for a return on investments or a return on assets was reached during the said meeting. (See *Appendix F9* for the Minutes of Meeting on 30 July).

155. The proposed revisions of the July 30 meeting were incorporated in the version submitted in the Draft Final Report last September 15. The proposed methodology and the supporting Excel based financial model was again presented during the Coaching/Mentoring Workshop conducted from Oct. 3 to 5. During the workshop, the participants were trained on the use of the financial model that will aid the tariff calculation, and the finer features and workings of the model were evaluated together with the participants. (See Minutes of Coaching/Mentoring in *Appendix H5*). The financial model and the Primer on the Tariff Methodology were revised and are submitted together with the Final Report.

Framework for Development

156. In the development of the methodology for tariff setting, the existing practice was analyzed against generally accepted tariff goals of good governance, economic efficiency, financial sustainability and fair pricing⁷ in Table 6 below:

157. Essentially, the methodology is focused on the goal of achieving financial sustainability while addressing affordability concerns of the less privileged sector in Sri Lanka. The appropriate lifeline consumption applicable to Sri Lanka was also looked into and how this will be incorporated in the structure. The structure of the existing rate and its impact on affordability and revenue generation, as well as ease in application were also evaluated. A summary of issues is shown in succeeding Table 7.

Table 6. Principles of Tariff Setting

Aspect	Explanation
Good Governance	This is especially appropriate if the public might expect that the use of the service was a right or a public good and that it is provided to the public as a whole without charge. If such is the expectation and the utility intends to provide the service on a different basis, then the tariff should be simple, transparent and predictable (Dole and Bartlett, 2004 ⁸). Simplicity affects the tariff structure while transparency and predictability relate more to the process of setting tariffs.
Financial sustainability.	This requires the utility to have sufficient funds to meet their obligations as they occur.
Economic efficiency.	This is applicable in setting a tariff and results if prices in an economy are all equal to the marginal social costs.
Fair pricing.	This involves setting a tariff with users paying the net social cost associated with the use of the public service unless the society has decided to subsidize some users.

Cost Recovery Framework

158. The long-term goal of tariff setting in the NWSDB considers the recovery of all costs of service delivery plus the provision of a reasonable surplus (return on investment or a return on assets) to finance the costs of service expansion and asset replacement.

159. In the immediate future, the recommendation for cost recovery for water supply tariff is recovery of all costs, which shall include the (i) costs of operating and maintaining the system, (ii) depreciation expense (iii) cost of capital or financing charges for loans obtained for capital programs; and (iv) taxes and levies. There is no provision for a return on investment or return on assets (within the next five years) since the current water tariffs are at unrealistically low levels. Implementing full cost recovery to allow for surplus generation will significantly hurt the consuming public, particularly the poor sector at this time.

⁸ Dole and Bartlett, 2004

Table 7. Summary of Findings on the Existing Tariff Methodology

Area	Issues in existing tariff setting procedures / Methodology	Impact on Achievement of Tariff Goal/s / Constraints	Proposed Measure
Policies on the Levels of Service	The policy of government is a national tariff for water supply and sewerage which is not linked to the levels of service that the customers get.	Linkage of service levels to the price that customers pay	This issue cannot as yet be addressed without a change in the national policy. It is important though that the proposal to consider scheme specific tariffs should be considered and studied seriously.
Written Guidelines and Procedures	Without a written reference to adopted specific guidelines and procedures in tariff setting, data and their bases to be used for arriving at the required revenue requirements cannot be verified	Good governance (transparency)	Excel based worksheet to show input data linked to historical operating information and submitted business plan against which future actual results will be compared and evaluated.
Performance targets and indicators	Tariff review geared towards monitoring achievement of projected revenue set in tariff computation is yet to be institutionalized	Economic efficiency Periodic review of adequacy and attainment of operating targets need to be established.	As part of the regulatory lag that will be set in the methodology (i.e., the period during which a tariff will be enforceable), an annual tariff review will be part of monitoring exercises of the Board
Cost recovery	Pending establishment of a reliable asset register	Financial sustainability Inclusion of depreciation in the revenue requirements for cost recovery may raise doubts on adequacy of projected amounts	Creation of a reserve fund to accommodate both the periodic asset renewal and replacement plus provision for equity participation in expansion projects will enable the Board to annually update its programs for capital investments
Tariff Computation	Forecast of revenues a) Linkage of number of connections to target service area coverage and regional support center target coverage or target population to be served classes and their slab consumption based on one month data	Financial Sustainability Number of connections to be targeted by the regional support centers shall be committed and be used to measure their operational performance in the next tariff setting period	All targets of level of service shall be reflected in the methodology worksheets which shall also be used for evaluating performance of the Board

Area	Issues in existing tariff setting procedures / Methodology	Impact on Achievement of Tariff Goal/s / Constraints	Proposed Measure
Tariff Setting and Approval Process	Unclear procedures and undefined timeframes for tariff setting in the NWSDB, and review and approval process concerning the Ministry	Good Governance, and Financial sustainability Delays in tariff approval and eventual implementation increase operating losses and results to poor financial performance of the NWSDB.	Tariff Guidelines prescribe a 6-month preparation period by the Board and 6-month period of review /dies/approval by the PUC. A 5-year regulatory lag will enable the Board to provide the public / authorities scheduling of tariff adjustments
Availability of Sufficient Information	Pending establishment of a reliable asset register	Financial sustainability. The level of revenues to be covered by tariffs includes either the depreciation or the debt service on loans and therefore requires a reliable asset register.	The record of assets and corresponding method of depreciation shall be an integral part of the worksheet for tariff computation. The NWSDB has to maintain the integrity and reliability of asset records and depreciation methods.
Consumer consultation	The current system does not provide for customer consultation on proposed tariff adjustment	Transparency and fair pricing	Customers shall be consulted either through a public hearing as the PUCSL deems appropriate or through the conduct of customer information and education campaigns.
Affordability to Pay	No basis for judging whether water rates and charges are within the capacity to pay of the users	Distributive Justice Without establishing the basis for evaluating whether tariffs are still within the people's affordability to pay, there is a tendency to arbitrarily set the rates	Adopt a ceiling for allocated spending for water of households set as a (%) of income of low-income households that will guide the assessment of whether tariffs are still affordable. A range of not higher than 5% of the average income of low-income households is acknowledged to be an acceptable ceiling for allocated spending for water.
Tariff Structure	a) Too many customer classification and blocking arrangements	Good governance	The proposed methodology reduced the number of customer classification and the consumption slabs subject to usage charges

Features of the Tariff Methodology

160. Features of the tariff methodology and tariff structure: The recommended methodology and structure has the following features:

The tariffs to be charged to the customers shall be linked to the levels of service that will be provided by the NWSDB. Service levels will be agreed at regional and national levels; while the basis for any tariff proposal is the national level which is assumed to be the average of regional level tariffs required to meet their revenue requirements. This is proposed to be achieved through consultation with the six (6) regional support centers on their committed operating targets and operational efficiency level. The past five years historical costs of a particular revenue support center will be averaged as a form of benchmark for computing costs and determining the revenue requirements.

The resulting revenue requirements however, cannot be translated into RSC level tariff due to the existing policy on a national tariff. Determining the revenue requirements per RSC will be a useful exercise though to determine the shortfalls in revenue requirements and the extent of subsidization between RSCs. Data on operating targets will afford the head office a basis for monitoring and comparing performance between each RSC. This will ensure that the projected water costs are for an efficiently run system observing minimum required standards.

Consumption blocking shall consider the lifeline consumption (basic need) of the poor to make water affordable to vulnerable sector as currently practiced. Using the lifeline tariff, the small domestic users shall be billed a lower-than-average-financial-cost tariff (usage charge) for the use of 15 m³. The lowest rate applied with a 0.25 factor on the average tariff is for users of < 6 m³. This consumption is considered what a family needs to use for basic health like sanitation, cooking and washing. This consumption ranges from 5 – 15 m³ in other countries. Further studies to support the suggested lifeline consumption of 6 m³ are recommended to be conducted to have a solid basis in determining the tariff structure for water supply in Sri Lanka.

Tariffs computed shall be tested against the affordability to pay of the poor. The benchmark used as a realistic ceiling on affordability for water supply and sanitation services for Asian countries is 5 percent of the average income of poor households⁹. The resulting monthly water bill of the domestic users of the first two slabs or consumption of up to 15 m³ can be compared to the Sri Lanka Median Income to assess if the resulting monthly bill falls within the 4 percent-of-income affordability level.

Fair and equitable pricing is aimed to be achieved by limiting cross-subsidy among users. The number of customer categories and consumer slabs or blocks will be reduced significantly. The proposed tariff structure provides for eight (8) categories of customers and five (5) consumption slabs.

Proposed Tariff Structure.

161. The proposed tariff structure follows the existing structure but with some modifications on the consumption slabs. The structure consists of a two-part tariff consisting of a basic or fixed charge that is computed to cover the fixed administration

⁹ Asian_Water_Supplies, Chapter 11, p. 78, Asian Development Bank

costs. The second part of the tariff structure is a consumption charge per m³ starting at 1 m³ for five (5) consumption slabs for domestic connections and a uniform rate per m³ regardless of consumption for non-domestic connections. For non-domestic connections, a uniform rate per cubic meter shall be charged. Higher rates are computed according to the meter service factor for different meter sizes (fixed charges) and increment factor for customer category (usage tariff).

Table 8. Proposed Tariff Structure

Customer Category	First Part	Consumption Charge
Domestic	Basic or Fixed Charge	0-6 m ³ 7-15 m ³ 16-25 m ³ 26-40 m ³ Over 40 m ³
Non- Domestic		Uniform rate per m ³

162. Customer Classification. To simplify and reduce arbitrariness in tariff setting, the number of customer categories was reduced to eight (8), whereby customers with similar usage or service demands have been grouped together. Consumption behavior and the existing tariffs including special rates accorded to some of the existing customer categories were also taken into consideration in lumping together the categories. The model does not provide for sub-categories with a major category as current practiced

CUSTOMER CLASSIFICATION
1. Domestic
2. Large Domestic
3. Government / Construction
4. Commercial / Industrial
5. Religious Institutions
6. Schools
7. Shipping
8. Browsers (sold)

163. Options Considered. In the design of consumption slabs for domestic connections, 2 options were initially considered and presented to NWSDB. In both options, the consumption charge starts at 7 cubic meters and is progressive as consumption increases.

Table 9. Consumption Blocking Options

	FIRST OPTION			SECOND OPTION			
Domestic Consumption Blocks	0-6	7-25	over 25 cu.m.	0-6	7-15	16-25	over 26

164. The final structure included in the Primer considered the following suggestions of the NWSDB:

- Inclusion of a block for 0 – 6 m³
- Separate categories for religious groups and schools
- Separate category for browsers
- Increasing linear tariff to promote water conservation

Tariff Calculation

165. The approach recommended to be used in the calculation of tariffs is accrual based; which means that the tariff to be recovered shall be based on the revenue requirements to be generated or realized and not on the revenues that will be collected. If the cash basis is used, where revenue requirements is based on projected revenues to be collected, there is a big tendency for tariff to go up since the collection efficiency has to be factored in. When collection efficiency is not favorable, the customers are made to bear the effect of poor performance in collection of the NWSDB.

166. The revenue requirements are determined for the 5-year period and divided by the service connections and consumption volume as follows:

Table 10. Tariff Computation

<p><u>Fixed Charge/Minimum Charge :</u> Fixed Administration Costs / No. of Connections</p> <p>Where: Fixed administration Cost = Administrative Overhead Costs No. of Connections (increment factor for user classification imputed in the number)</p>
<p><u>Usage Charge (Domestic):</u> Total Revenue Requirements – Fixed Administration Costs / Equivalent volume</p> <p>Where: Equivalent Volume = m³cu m. billing where increment factor for increasing block tariff imputed in the total water billed</p>

167. The average tariff is then converted into a tariff schedule that will be implemented over a five-year period. There could be annual adjustments, every two-years or every 5 years depending on the strategy for implementation that maybe adopted by the NWSDB. A staggered implementation strategy to lessen the impact of abrupt and steep increases.

168. In the absence of an affordability to pay assessment, the affordability of the resulting tariffs is tested by comparing the monthly water bill of a domestic user against the average monthly income in the Rural/Estate sector. Using the Sri Lanka Central Bank data, the Rural/Estate sector is where the lowest income is registered. A 5% of average income has been internationally acknowledged as an affordable limit to water spending. For this study, it is proposed that a 4% limit be adopted by NWSDB (used in India). Nevertheless, the various iterations and schemes undertaken showed that full cost recovery is attained within the 4% of income ceiling (average of 2.3% for five years) for monthly spending for water.

Tariff Model

169. To facilitate the calculation of the tariff using the proposed methodology, a financial model is being developed. It is composed of linked worksheets using Excel which will compute automatically the tariff schedule (Table 11) based on assumptions and other inputs in the model. The model shall allow for designing different tariff structures using various consumption blocks or slabs (Table 12)

Table 11. Tariff Schedule

2008-2009													
Meter Size	Meter Service Factor	DOMESTIC	NON-DOMESTIC	Consumption Block	Increment Factor	DOMESTIC / RESIDENTIAL	STAND POSTS / GARDEN TAPS	BULK	RELIGIOUS / SCHOOLS	GOVERNMENT	COMMERCIAL / INDUSTRIAL	SHIPPING	BOWSER
		FIXED CHARGES					USAGE CHARGES						
				Increment Factor		1.00	1.00	1.00	1.00	4.00	5.00	20.00	5.00
1/2"	1.00	96				4	14	14	14	57	71	283	71
1/2"	1.40		135	0 - 6	0.25								
3/4"	2.80	270	270	7 - 15	0.50	7	14	14	14	57	71	283	71
1" - 2"	5.60	540	540	16 - 25	1.00	14	14	14	14	57	71	283	71
2" - 3"	14.00	1,350	1,350	26 - 40	2.00	28	14	14	14	57	71	283	71
>3	28.00	2,701	2,701	Over 40	4.00	57	14	14	14	57	71	283	71
Average Consumption / Month						17	128	20,606	100	352	42	889	89,460
Average Water Bill		(SLR)				235	1,796	288,487	1,401	20,040	2,982	251,524	6,351,664
Average Rate / cu.m.		(SLR)				14	14	14	14	57	71	283	71

Table 12. Tariff Structure and Computation

COMPUTATION OF FIXED CHARGES															
2008															
Meter Size	Meter Service Factor	Domestic Connections					Equivalent Connections	Non-Domestic Connections					Equivalent Connections	Grand Total	
		Domestic	Religious & Schools	Stand posts & Garden Tops	Bulk	Total		Meter Service Factor	Government	Commercial & Industrial	Shipping	Bowser			Total
1/2"	1.00	971,731	4,828	5,825	36	982,420	982,420	1.40	6,699	45,427	15	-	52,141	72,997	1,055,417
3/4"	2.80	104,448	1,240	68		105,756	296,117	2.80	1,739	11,016	-	-	12,756	35,716	331,833
1" - 2"	5.60	12,656	1,439	410		14,505	81,230	5.60	3,386	11,527	-	-	14,913	83,514	164,745
2" - 3"	14.00	87	54	6		146	2,050	14.00	816	298	-	-	1,114	15,592	17,642
>3"	28.00	180	102	-		283	7,912	28.00	515	216	-	-	731	20,462	28,375
Total Equivalent Connections							1,103,111	1,369,729						228,281	1,598,011
Total Administration Overhead Costs															1,849,586
Fixed Cost 1/2' Domestic Connection															96.45
COMPUTATION OF USAGE CHARGES															
2008-2009															
Consumption Block	Increment Factor	Block Consumption					Equivalent Volume	Non-Domestic Connections					Equivalent Volume	Grand Total	
		Domestic	Religious & Schools	Stand posts & Garden Tops	Bulk	Total		Government	Commercial & Industrial	Shipping	Bowser	Total			
Increment Factor		1.00	1.00	1.00	1.00			Increment Factor	4.00	5.00	20.00	1.00			
0 - 6	0.25	13,536,598		-		13,536,598	13,536,598						-	-	
7 - 15	0.50	33,570,764				33,570,764	33,570,764						-	-	
16 - 25	1.00	41,151,259				41,151,259	41,151,259						-	-	
26 - 40	2.00	86,634,229				86,634,229	86,634,229						-	-	
Over 40	4.00	43,317,114	9,143,084	9,203,684	6,610,328	68,274,211	68,274,211	43,544,709	33,753,539	159,664	1,089,624	78,547,535	-	68,274,211	
Total Equivalent Vc		218,209,964	9,143,084	9,203,684	6,610,328	236,556,732	243,167,061	174,178,835	168,767,695	3,193,278	5,448,118	351,587,924	351,587,924	594,754,985	
Total Revenue Requirement															8,425,566
Usage Charge / cu.m.															14.17

170. The financial model consists of the following sheets (Table 13)

Table 13. Financial Model Sheets

Financial Model Sheets	
“Inputs” and “Workings” Sheets	<ul style="list-style-type: none"> • Production capacity • Non-revenue water • Collection efficiency ratios • Inflation rates • Balance Sheet account movements • and other data
Data Input and Projection Sheets	<ul style="list-style-type: none"> • Loans schedule (disbursements, debt service, project loans) • Fixed Assets. • Supply and Demand • Cost Recovery
Output Sheets	<ul style="list-style-type: none"> • Tariff Structure • Projected Income Statement • Projected Balance Sheet • Financial Indicators

Tariff Setting Process and Approval

171. Following is the tariff setting process that is recommended to be adopted by the NWSDB.

- (a) Beginning January of the 5th year of the tariff regulatory period, the NWSDB shall develop the 5-year corporate plan and corresponding business plan/financial projections. Among others the business plan shall establish the projected level of operations and how these are proposed to be met. It shall include projected supply and demand for water, the corresponding operation and maintenance costs and capital investment requirements that are necessary to meet the projected levels of services.
- (b) After thorough consultation and deliberation with the six (6) regional support centers the Commercial, Finance, Engineering and Corporate Planning and Strategic Planning Divisions (under the Planning and Monitoring Departments) shall submit input data which shall be consolidated by the Corporate Planning Office.
- (c) The draft proposal shall then be reviewed by the General Manager of the NWSDB, and endorsed to the Board of Directors (BoD) of the NWSDB for approval.
- (d) The final tariff proposal that was approved by the BoD shall then be forwarded to the PUSCL for its review and approval. The review and approval process including necessary validation tests and investigations shall take no longer than 6 months from the time it is received, that is at the latest by December 31 of the 5th year. By December 31, the PUSCL shall issue its decision to the NWSDB and publish it in a paper of national circulation for 2 weeks. Within three months from its publication, the said rates shall be gazetted by the NWSDB and shall become binding and effective.
- (e) Should the Board find the decision of the Commission unacceptable, it can file for a motion for reconsideration with the Commission within 1 month from date of notice

of decision. The PUC and NWSDB shall both act on the petition and final decision must be received by NWSDB not later than three (3) months from filing of the petition. The final decision shall be binding and shall be published within one month from April 30 in a paper of national circulation for a period of two (2) weeks.

D. Tariff Regulation

Tariff Setting Regulatory Requirements

172. The NWSDB shall observe certain practices to conform with tariff regulations that may be prescribed by the PUCSL as follows:

- (a) NWSDB shall prepare and maintain an asset management plan for tariff setting activity and annual budgeting. This shall be the basis for the projection of capital expenditures / asset renewal, replacement and rehabilitation and equity provision for financing of expansion projects during the tariff period.
- (b) NWSDB's tariff shall be enforceable for the established regulatory lag (five years, the fifth year being the start of the next tariff setting exercise). The tariffs may be adjusted as often as annually, using the window for extra-ordinary price adjustment.
- (c) NWSDB shall monitor its compliance to target performance as set out in the business plan using a set of key performance indicators. To protect itself against price shocks or determine the need for extraordinary price adjustments until the next tariff setting period, there shall be compulsory conduct of annual tariff reviews.
- (d) The PUCSL shall conduct its own, independent checks and audits, as may be necessary or called for when requests for extraordinary price adjustments are received from the NWSDB and as part of its tariff regulation policy.

Extraordinary Price Adjustments

173. In the event that tariffs have to be increased beyond the level that is approved for the 5-year period, as a result of extra-ordinary events the NWSDB may apply for an extra-ordinary price adjustment (EPA). The grounds for EPA shall include (i) events or occurrences that have significantly increased the costs that the NWSDB has to recover from water tariffs such as damages to the NWSDB's assets due to fortuitous events, (ii) abnormal increases in the cost of, power, fuel, fluctuations in foreign exchange, and (iii) other expenses that were not foreseen or would have been difficult to project in the determination of the water rates and which resulted to losses in operations which can no longer be absorbed before the next scheduled tariff adjustment.

174. Justification to support the EPA will be submitted by the NWSDB to the PUCSL and shall consist of the following documents:

- (a) Actual and projected losses incurred as shown in actual cash flow and income statements;
- (b) Laws and pronouncements resulting to the extraordinary increases in power, fuel, labor and foreign exchange;
- (c) Copies of official receipts or proof of payment, labor, power, fuel, and payments made using foreign currencies or directly affected by foreign exchange like interest and principal payments on debt service made by the NWSDB.

175. It is proposed that the PUCSL shall act on the application for EPA within sixty (60) days from receipt of the application. This is to ensure that immediate action is taken so that the NWSDB can recover its losses from the grounds of EPA cited above.

176. The following guidelines are recommended to be adopted in the processing for approval of NWSDB's application for EPA:

- (a) The EPA shall serve as an interim measure until the next tariff review where the effects of EPA grounds may be reflected in the tariff computation;
- (b) The EPA shall be computed on a price /m³ allowing the recovery of actual losses incurred for a particular period and applied as an additional item in the water bill for a specific period until such actual losses have been fully recouped
- (c) As an illustration:
Power Cost Adjustment for a Specific Month:

((This Month's Power Cost @ Last Month's Production / Last Month's m³ Produced) - (Last Month's Power Cost / Last Month's m³. Produced)) * (Production Last month / Billing Last Month)

$$= ((150,000 / 100,000) - (100,000 / 100,000)) * (100,000 / 75,000)$$

$$= \text{LKR } 0.67 / \text{m}^3$$

Recovery:
 $= 0.67 * 75,000$
 $= \text{LKR } 50,000$

Note that any change in NRW level shall not be considered in computing the amount of losses to be recovered from the power cost increase.

Issues and Concerns

177. Ensuring that the tariff being charged to customers is linked to the level of service provided is a foremost objective of economic regulation. Under the existing condition where the national policy on water supply and sanitation provides for a uniform tariff nationwide, linking tariffs to service levels cannot be fully realized. Customers all over Sri Lanka that are under the operation of the NWSDB receive different levels of service, but pay the same level of tariffs. Some customers may benefit from the practice and some are at a disadvantage when they pay the same tariff for perhaps less than satisfactory service.

178. As an initial step, the NWSDB can consider putting a differentiation between rural and urban tariffs to correct the disparity in the level of service and cost recovery, while addressing affordability concerns. Initially, the differentiation between rural and urban tariffs can be incorporated in the basic or fixed charge, where it is likely that tariffs for urban tariffs will be higher since the revenue requirements will be higher and where the levels of service may be higher than the rural water supply. On the other hand, the lower revenue base for rural areas may also result to the same or higher fixed charges. Further studies to substantiate the need for a tariff differentiation between geographical location and level of service may thus be necessary before a change in policy may be considered.

179. The basis for lifeline consumption has to be supported also by further studies. Whilst the 6m³ lifeline consumption may seem a realistic figure, based on the definition of lifeline consumption of low income users, it needs to have a strong basis for adoption.

Next Steps

180. Consideration of Critical Issues. The NWSDB and the MWSD should consider within the immediate future the conduct of studies and surveys (i) to establish the lifeline consumption, and check to which block the lower income users fall into; and (ii) the linking of tariffs to levels of service.

181. Further Training on the Use of the Model. More hands-on training on the Financial Model is necessary to develop familiarity with its features and capabilities. The NWSDB staff will have another opportunity to be trained on the use of the model in the Business Planning workshop that will be conducted in November 2007 under ADB TA 4853. The participants will learn the model in-depth while being able to prepare a business plan that will support the NWSDB's Corporate Plan for 2007-2011.

182. Institutionalizing Tariff Setting in the NWSDB. The process of conducting a tariff study and tariff setting should be institutionalized, so that expertise and capability in tariff setting is developed among the staff and that the proper and adequate documentation of tariff setting process is ensured. The Consultants upon the request of the Chairman of the NWSDB has submitted a list of six (6) NWSDB staff that can be assigned in working groups involved in the conduct of tariff studies on a more regular basis.

5.0 Sewerage Tariff

A. Introduction and Background

183. Section 87 of the National Water Supply and Drainage NWSDB Act No 2 of 1974 (Supplementary Appendix 5) empowers the NWSDB to levy a sewerage charge on any person whose property is connected to the sewerage system.

184. However, it was not until 2002 that a decision was made to exercise this power when the government approved (by decision dated 30 September 2002) a NWSDB proposal for the recovery of O&M costs by means of a wastewater service charge levied as part of the water bill. The NWSDB Paper indicated that the charge would be implemented on an introductory basis from January 2004 for consumers connected to the sewerage networks of the NWSDB serving Mattegoda, Soyzapura, Jayawadanagama, Hantana, Maddumagewatta, Ranpokunagama, Kataragama, Dehiwala-Mt Lavinia and Kolonnawa; and for major commercial customers in Colombo.

185. The regulation of wastewater tariff is equally important as regulating water supply tariff. Under the TA, alternative approaches in setting sewerage tariff are being explored to provide the PUCSL and the NWSDB guidance on how to determine and charge future sewerage tariffs. Currently, the first sewerage tariff for sewerage schemes under the NWSDB is waiting to be gazetted and finally implemented, following its approval in July by the Minister. The tariff will be applicable to all customers of the NWSDB with a sewer connection. Attached is a copy of the sewerage tariff *Appendix J*.

B. Existing Tariff Methodology, Structure and Tariff Approval Process

Cost Recovery Framework and Tariff Policies

186. The national policy on sanitation provides that sewerage tariff shall be calculated based on the recovery of Operation and Maintenance Expenses which includes the following:

- Personnel cost
- Pumping cost
- Chemicals
- Repairs and maintenance
- Establishment Expenses
- Other Operation and Maintenance Expenses

187. The soon to be implemented first set of sewerage tariffs shown in the table below was determined based on the above cost recovery principle. Similar to the water supply tariff, the sewerage tariff is also a national tariff applied uniformly across the country to all sewered connections based on a volumetric charge. There are seven (7) rates per m³ depending on the consumption slab, while for the non-domestic connections there are two (2) rates per cubic meter; i.e. LKR 12/m³ for the 0-10,000 m³ slab and LKR 15/M³ for consumption above 10,000 m³.

Table 14. Sewerage Tariff Schedule

Water Consumption In m ³	Sewerage Tariff per M ³ (LKR)
1-10	1
1-15	2
1-20	2
1-25	3
1-30	4
1-40	6
1-50	8
over 50	10

C. Proposed Sewerage Methodology

Framework for Development:

188. In the development of an alternative methodology for sewerage tariff the existing policies as well as the same principles for water supply tariff setting were considered. While there is more flexibility in the recovery of water supply tariff, the setting of sewerage tariff is limited by the current policy that only operation and maintenance expenses can be recovered.

189. Given this limitation, the development of an alternative methodology for sewerage is focused instead on the tariff structure and design. There have been similar studies on sewerage tariff that proposed different cost recovery principles; and proposing another approach that considers other cost recovery framework departing from the current policy does not seem practical and beneficial at the moment. There is little chance that government policies can have a dramatic shift in determining sewerage tariff within the immediate period, given that the NWSDB has yet to implement its maiden sewerage tariff. It is more likely that the government would prefer to see first the impact and acceptability of charging sewerage fees before another cost recovery framework for sewerage tariff is adopted.

Features of the Proposed Methodology:

190. The tariff shall be applied on a uniform basis nationwide and shall be differentiated between domestic and commercial/industrial connections. It shall be calculated based on actual water consumption. Industry practice, assumes that almost all water consumed eventually becomes wastewater, hence the sewerage charge shall be equal to average sewerage charge multiplied by the cubic meter consumption.

191. The methodology considered the following guidelines and principles provided under the draft national policy on sanitation as follows:

- (d) Sewerage tariff will be a national tariff and shall be applied uniformly across the country.
- (e) The domestic and commercial consumers shall be charged based on the water consumption using a single volumetric tariff;
- (f) Indicate the tariff charge separately in the monthly water bill where:

Billing of domestic connections shall be based on the basic sewerage tariff;

Non-domestic connections shall make payments based on the commercial tariff which is twice the basic sewerage tariff;

192. Applicable to all service connections. In addition, sewerage tariff will be applied to all connections whether or not connected to a sewerage system based on the “user pays” principle. This assumes that everyone who consumes water generates wastewater and therefore has to share the responsibility in reducing water pollution by contributing to the costs of providing sewerage services. In fact, it is now the practice in most countries that those who are connected to a sewerage system shall pay a higher sewerage tariff than those customers who have sewer connections, because they account for more pollutants in the environment.

193. The effect of allocating sewerage costs to all connections instead of limiting this to sewer connections will also provide economies of scale minimizing the increase in consumers’ water bills. When the effect of an additional charge in the water bill due to a sewerage tariff is hardly felt, the acceptability of a sewerage tariff is enhanced. To illustrate the effects of the extent of applications, two options were studied and presented in this report. The financial model shows two schemes where (i) only sewer connections and all non-domestic connections are subject to the sewerage tariff and (ii) all connections are charged the sewerage tariff. The report illustration shows the first scheme (resulting to higher sewerage tariff).

194. Uniform tariff .The tariff per m³ is proposed to be a uniform charge regardless of consumption but differentiated between domestic and commercial/industrial customers. Applying the principle of water conservation and demand management to sewerage tariff will hurt the customers twice, since the same set of customers have already been penalized with a higher tariff for higher water consumption. Implementing a uniform tariff simplifies the administration of the sewerage tariff instead of having different charges for different consumption slabs (which is the current practice.)

195. The proposed design of the sewerage tariff in the meantime did not consider, but does not preclude the incorporation in the future of an additional charge for industrial and commercial consumers for the discharge of biodegradable effluent in the public sewers based on the strength of the effluent to be treated. The financial model that was developed for water supply tariff includes the calculation of sewerage tariff and may be revised once the NWSDB has established the additional charge for the discharge of biodegradable effluents.

Calculating the Sewerage Tariff

196. In 2006, the cost of operation and maintenance associated with the operation of sewerage services amounted to LKR 128.174 Million. If the amount of the sewerage operating costs will be recovered from all customers totaling 989,391, a straightforward charge of sewerage costs would yield an amount equivalent to LKR 130 per customer on top of the water bill.

Table 15. Historical Sewerage Expenses

	Historical					Five-Year Average (Historical)
	2002	2003	2004	2005	2006	
SEWERAGE EXPENSES						
Western RSC						
Salary costs	38,440	37,705	50,613	43,396	58,375	45,706
Utility costs	6,822	9,974	9,419	5,032	13,056	8,861
Chemical costs	6	84	20	12	10	26
Repairs and maintenance	5,693	6,427	5,872	5,462	4,320	5,555
Establishment expenses	3,360	3,809	4,182	3,558	5,878	4,157
Security and rent	6,667	6,762	3,417	1,955	3,347	4,430
	60,988	64,761	73,523	59,415	84,986	68,735
Other RSC						
Salary costs	43,060	43,795	30,887	38,104	23,125	35,794
Utility costs	9,959	6,807	7,362	11,749	3,725	7,921
Chemical costs	2,594	2,516	2,580	2,588	2,590	2,574
Repairs and maintenance	114	- 620	- 65	345	1,487	252
Establishment expenses	477	28	- 345	279	- 2,041	321
Security and rent	10,982	10,887	14,232	15,694	14,302	13,219
	67,186	63,413	54,651	68,759	43,188	59,439
TOTAL EXPENSES	128,174	128,174	128,174	128,174	128,174	128,174

197. Other costs such as taxes and other levies have been incorporated in the recovery of water supply tariff and are not to be included in the calculation.

198. The average sewerage tariff is calculated by dividing revenue requirements by the equivalent volume. The resulting average tariff is then expressed as a unit rate per cu. m. of water billed for domestic connections. The commercial/industrial connections shall be charged twice the base (domestic) sewerage tariff.

$$\text{Average Tariff} = \frac{RR}{EV}$$

Where: **RR** = revenue requirements (O & M Expenses)
EV = equivalent volume of domestic and commercial/industrial consumption

computed as:

Domestic : actual consumption x 1

Non-Domestic: actual consumption x 2

199. The data supporting the computation of the sewerage tariff shall be presented in the tariff model and shown in the following table. The five-year historical data showing the number of sewer connections with the ratio of commercial connections shall be presented. This is to get the ratio of sewer connections to total service connections.

200. The ratio of sewer connections to total water supply connections shall be used to determine the weighted ratio of sewerage expenses to total water supply expenses. In the absence of concrete data of forecasts of sewerage connections for the next five years which ideally, should be used to project the corresponding sewerage expenses, the average historical sewerage expense ratio to total is used to forecast the sewerage expenses. These shall represent the revenue requirements to be recovered from the sewerage tariff.

201. Table 16 below shows that sewerage connections currently number 8.5% of the total water connections. The expense of LKR 128 Million represents 34% of the weighted total water expense for sewerage connections numbering 8.5%-of-total sewerage connections. The proportionate water expense was obtained and used to compute for the relative sewerage expense. This ratio is now used to forecast the sewerage expenses for the next five years assuming a growth rate for sewerage connections (% of sewerage connections to total connections) for the forecast period. It was further assumed that only 90% (discharge factor) of the initial revenue requirement will be recovered from the sewerage revenue hence the factor used is 32%. The revenue requirement for sewerage is computed at 32% x weighted average water expense for 8.5%-of-total sewer connections.

Table 16. Historical Data Relating to Sewerage

	Historical					Five-Year Average (Historical)
	2002	2003	2004	2005	2006	
	Not updated	Not updated	Not updated	Not updated	Not updated	
NUMBER OF SEWERAGE CONNECTIONS						
Western RSC	37,083	37,083	37,083	37,083	37,083	37,083
Other RSC	41,055	41,055	41,055	41,979	42,021	41,433
TOTAL NUMBER OF SEWERAGE CONNECTIONS	78,138	78,138	78,138	79,062	79,104	78,516
assumed % sewerage commercial connections	20%	20%	20%	20%	20%	20%
TOTAL NUMBER OF WATER CONNECTIONS	907,616	907,616	907,616	907,616	989,391	923,971
SEWERAGE CONNECTIONS AS % TO WATER CONNECTIONS	8.6%	8.6%	8.6%	8.7%	8.0%	8.5%

Option 1: Sewerage Connections only

202. To compute for equivalent volume or the sewerage revenue base, the water billing for sewerage domestic connections and all non-domestic connections (Option 1 as previously discussed) is derived. A 90% discharge factor is used for the purpose of forecasting the equivalent volume / sewerage revenue base. The following table shows that using the derived figure for sewerage revenue base, the resulting sewerage tariff is LKR 1.56 for the 5-year projected period. Using the rounded figure of LKR 1.50 and LKR 3.00 for domestic and non-domestic sewerage tariff, respectively, the average five-year revenue is LKR 262 Million from sewerage revenue. This was computed by adding up the products of (average) 19,137 Million m³ to the 1.50 domestic sewerage tariffs and 155,626 Million m³ to the LKR 3.0 non-domestic sewerage rate. A comparison of resulting sewerage revenues to the sewerage revenue requirements shows there are adequate revenues to cover the latter. Tables 17 and 18 present the figures for the foregoing discussion.

Table 17. Computation of Revenue Requirements for Sewerage

Status:	5-year Average	Base year 2007	Forecast years					5-year Average
			2008	2009	2010	2011	2012	
Total water expenses (LKR 000's) (Excluding depreciation and finance charges)	4,495,851 10.52%	6,469,040	7,278,061	8,087,216	9,016,773	9,954,154	10,737,190	9,014,679
Total sewerage connections as % to water connections	8.51%	8.51%	8.51%	8.51%	8.51%	8.51%	8.51%	8.51%
Weighted average water expenses (LKR 000's)	381,200	550,304	619,125	687,958	767,033	846,773	913,384	766,855
Total sewerage expenses (LKR 000's)	128,174	158,636	211,483	198,318	262,006	244,100	311,997	245,581
% to weighted average water expenses	34.16%	28.83%	34.16%	28.83%	34.16%	28.83%	34.16%	32.03%
YoY change	0.00%		33.3%	-6.2%	32.1%	-6.8%	27.8%	16.04%
Estimated sewerage rev as a % to water rev			32.0%	32.0%	32.0%	32.0%	32.0%	32.03%
Revenue Requirements for Sewerage			198,280	220,324	245,649	271,186	292,519	245,592

Table 18. Computation of Sewerage Tariff (Option 1)

Status:	Forecast years					5-year Average
	2008	2009	2010	2011	2012	
OPTION 1						
SEWERAGE TARIFF FOR SEWERED DOMESTIC & ALL NON-DOMESTIC						
Sewerage Revenue Base						
(90% of water consumption - cbm)						
Sewered Domestic	153,755	166,447	181,073	193,661	197,461	20,483
Non-Domestic	18,277	19,153	21,052	22,609	21,325	157,996
	135,478	147,294	160,021	171,052	176,135	
<i>Base Sewerage Tariff (Domestic)</i>	1.29	1.32	1.36	1.40	1.48	1.37
Sewerage Tariff						
- Domestic	1.40	1.40	1.40	1.40	1.40	1.40
- Non-Domestic	2.80	2.80	2.80	2.80	2.80	2.80
Sewerage Revenue	215,257	233,026	253,502	271,126	276,445	249,871

Option 2: All Service Connections

203. Table 19 shows the tariff for Option 2 where all connections, domestic and non-domestic will be charged for sewerage. The resulting tariff is only half as much if only the sewered domestic connections were billed. The net income from sewerage which will be incorporated as a line item in the NWSDB income statement is presented in Table 20.

Table 19. Computation of Sewerage Tariff (Option 2)

Status:	Forecast years				
	2008	2009	2010	2011	2012
OPTION 2					
SEWERAGE TARIFF FOR ALL CONNECTIONS					
Sewerage Revenue Base					
(90% of water consumption - cbm)					
Domestic	386,419	410,856	449,504	478,444	492,067
Non-Domestic	235,889	247,197	271,703	288,386	296,361
	150,531	163,660	177,801	190,058	195,706
<i>Base Sewerage Tariff (Domestic)</i>	0.51	0.54	0.55	0.57	0.59
Sewerage Tariff					
- Domestic	0.60	0.60	0.60	0.60	0.60
- Non-Domestic	1.20	1.20	1.20	1.20	1.20
Sewerage Revenue	231,852	246,514	269,702	287,066	295,240

Table 20. Income from Sewerage

	Forecast years					5-year Average
	2008	2009	2010	2011	2012	
(Option 1: Sewered Domestic & Non-Domestic Sewerage						
Revenue	215,257	233,026	253,502	271,126	276,445	249,871
Expenses	(211,483)	(198,318)	(262,006)	(244,100)	(311,997)	(245,581)
INCOME FROM SEWERAGE	3,773	34,708	-8,504	27,026	-35,553	4,290

6.0 NWSDB's Obligations, Service Standards and Performance Indicators

A. Background and Rationale

204. The NWSDB as the major provider of water supply and in the future of sewerage services in Sri Lanka is mandated under the NWSDB Act to provide water supply and sewerage services. It has both service obligations and operating and financial responsibilities that need to be clearly defined for the benefit of the customers and the regulator – PUSCL. The tariffs that the customers pay is tied to the levels of service or service standards of the NWSDB, hence these should be clearly articulated to inform the customers, guide the regulator on what it will monitor and review; and for the NWSDB to understand its obligations.

205. The Primer was prepared to document existing obligations and standards and to have a user friendly reference for both the PUSCL and the NWSDB. It is acknowledged that most of these standards and guidelines that are presented in the Primer are already being practiced, but needs to be put together to form part of the regulatory materials. As soon as the Primer is adopted by the NWSDB and the PUSCL, it will be a guide for the NWSDB in understanding and carrying out its functions and for the PUSCL in monitoring and reviewing the performance of the NWSDB.

206. The objective of Primer in ensuring efficiency of operations is closely linked to tariff regulation since the costs associated with operating, maintaining, improving, and expanding the water supply and/or wastewater infrastructure to meet the expected levels of service is the basis for determining the tariffs charged to customers.

B. Findings and Observations

207. Following are the findings and observations on the existing practices and systems on service standards and performance monitoring:

Levels of Service/Service Standards

- (a) The minimum standards of service or levels of service that the NWSDB is under obligation to provide its customers is not sufficiently defined and adopted as standards to be complied with by the NWSDB. In practice, there are assumed ideal service standards such as, for instance, the number of operating hours, residual pressure, water quality and others. These standards however are not consistently and frequently monitored and assessed due to the lack of a well instituted performance monitoring and reporting system.
- (b) While the NWSDB in its corporate planning session conducted last year agreed on certain service standards and identified also the service levels that it targets to provide during the next five (5) years, these outputs are defined only on a national level and yet to be supported by individual targets at RSC levels.
- (c) Several schemes all over Colombo were visited as shown in "F10". There is a large disparity particularly between the regions and that of Greater Colombo in the size and level of operations. While some schemes are on the high and satisfactory side of service standards, some schemes deliver below standards of service.
- (d) Applying national service standards in monitoring scheme or regional performance is not appropriate considering the wide disparity in the operations between the regions,

schemes and overall national standards. To address this concern, a range of service standards and operating targets may be adopted to allow for flexibility in assessing performance. The range is the minimum acceptable standard and performance target and the maximum is the accepted industry standard or those standards set by regulatory bodies.

- (e) Other aspects of service standards such as water quality are prescribed by other government agencies. Sri Lanka has a national standard (SLS 614-1983) for drinking water quality which is being followed by the NSWDB. Physical, chemical, chlorine residual and micro-biological tests are regularly conducted by the 17 NWSDB laboratories existing in the various regions and treatment plants. The NWSDB had carried out micro-biological tests on 7050 samples during 2005 in the 291 schemes under operation (1920 samples were tested in 2004) In addition, external independent surveillance was performed by the different Municipal Councils within the NWSDB coverage area and the National Building Research Organization (NBRO) within the Greater Colombo area.
- (f) There are also national standards for waste water (effluents) discharged into island surface water or coastal sea water. Monthly wastewater effluent test results on ph, total suspended solids, Bio Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) are being submitted every month to determine compliance to standards.

Performance Indicators and Performance Targets

208. The NWSDB uses several key performance indicators to monitor its overall performance. A major unit within the NWSDB called the Planning and Monitoring headed by an Additional General Manager is responsible for the monitoring the performance of all operating units. All water supply schemes are asked to submit monthly information to the Regional Support Centers (RSCs) which in turn submits to the Corporate Planning Division (under the Planning and Monitoring Office) for collation, analysis and information dissemination. The data list required to be submitted by the RSCs on a monthly basis are quite comprehensive. These include the following:

- (a) Operations: Water produced; NRW; number and types of connections for water and sewerage; connections and disconnections made; number of staff; number of staff and staff cost/thousand connections; power cost; consumer complaints per 1,000 connections; number of complaints resolved; meters rectified; and major status of TA activities.
- (b) Financial: Data on Revenues and O&M; Expenditures; Billing and Collection data; Production Cost data; Capital Expenditures; Average Monthly Consumption and Billing per Connection, Collection Efficiency Ratios, Operating Ratios, and other financial ratios.

209. Performance targets are set out every five-year period when the NWSDB prepares its Corporate Plan. However, after these targets are adopted, there is no serious monitoring and review of accomplishments against the targets. The NWSDB has yet to institutionalize a system of accounting for discrepancies between actual and target figures.

C. Development of the Primer

Framework for Development

210. The Primer on NWSDB's Responsibilities, Service Standards and Performance Indicators were developed in close consultation with the NWSDB. A number of field visits to

conduct interviews and data gathering were conducted, including a series of workshops, coaching and mentoring sessions where the NWSDB staff participated in defining standards on a regional level and provided feedback on the draft Primer that was provided to them. These workshops included the national and local workshops on the amendments that were conducted for the 6 RSCs, where the service standards were also discussed; the training on Technical Regulation and the coaching and mentoring sessions that were participated by a significant number of NWSDB staff from the head office and the regional offices.

211. As a preliminary step, a number of water supply and sewerage schemes were visited and assessed as shown in Appendix F7 to obtain a better understanding of the current situation on service standards of the schemes which are being operated and maintained by the NWSDB. Discussions were also conducted with the officials of the said NWSDB regional offices to obtain their views on current status of the levels of service of the water supplies of the schemes within their purview and understand the existing operation and maintenance practices.

212. The Primer was developed bearing in mind that there are existing disparities between the levels of service and the tariffs that the customers pay. Some customers from one region may be enjoying 24 hours supply, while other customers hardly get 4 or 6 hours of supply. For purposes of monitoring, it is not fair then to evaluate the performance of each region by applying a national standard, when one region is constrained by some reasons to provide a national standard which could be a higher level of service than what the said region is able to provide. To address these concerns, the minimum standards currently prevailing in the regions were adopted as the minimum requirements and the generally accepted ideal standards were adopted as the long-term targets that should be achieved by each of the regions. A 5 to 10 years phase-in period that will allow each region to achieve the long-term target was considered in the Primer.

D. Scope and Objectives

213. The Primer defines the obligations of the NWSDB, establishes the service standards and the performance indicators that the NWSDB may use for internal monitoring of the performance of the local offices. The PUCSL shall refer to the Regulatory Guidelines and to the Primer when it undertakes its regulatory functions. In summary following are the coverage of each section of the Primer:

- (a) Service Obligations and Service Standards - defines the service obligations of the NWSDB relating to the provision of water supply and sewerage services; the service standards or levels of service with which the obligations will be undertaken. These include hours of supply, residual pressure, drinking water quality standards, etc.
- (b) Operational and Finance Performance – includes the NWSDB's obligation to achieve operational efficiency, in terms of maintaining an economic level of non-revenue water, having a sound asset management plan; achieving efficiency in personnel management, production, etc. The NWSDB is also expected to be financially viable during the entire life of its operation by undertaking specific tasks and responsibilities.
- (c) Customer Service Obligations – defines the responsibilities of the NWSDB in ensuring that the customers' rights are protected; that there is in place a well running customer support system that will take care of customers' concerns and promote good customer relations. In connection with the customer service obligation, the NWSDB is obligated to develop and disseminate a Customer Service Code that shall inform the customers of the services to be provided by the Board, their rights as customers and corresponding role in enabling a sustainable water supply operation.

- (d) Performance Indicators and Performance Monitoring – the Primer presents performance indicators covering system performance and service standards on the different aspects of water supply and sewerage services and operational and financial indicators such as indicators of profitability, sustainability, collection efficiency, marketing efficiency and others.

E. Next Steps

214. The Primer has to be formally adopted by the NWSDB and the PUCSL to form part of the regulatory materials for establishing the bases for monitoring and assessing the performance of the NWSDB by the PUCSL. It shall be updated and further refined as more information becomes available in areas where more realistic service standards are necessary.

7.0 Customer Service Guidelines

A. Background and Rationale

215. An important aspect of economic regulation is ensuring that the customers' rights are considered in the provision of water supply and sewerage services. While there are specific provisions in the Amendments that enable the protection of customers' rights, these provisions need to be further defined to enable a clearer understanding of how these rights can be protected. It also necessary to establish the mechanism or the system that the NWSDB shall implement to ensure good customer relations and provide the PUCSL the context with which it will assess NWSDB's compliance in protecting customers' rights.

B. Findings and Observations

216. Consumer complaints are attended to on a regular basis at different operating levels. The NWSDB headquarters has a separate division for public relations which receives complaints, suggestions, and inquiries, either through mass media or from individual communications. The Regional Support Centres (RSCs) and Regional Offices of NWSDB also have small units for consumer relations while responsible officers are assigned to take care of consumer related functions on a full time basis. The Officer-in-Charge (OIC) of the operating units and his staff attend to consumer complaints at the grass-root level and via an individual scheme level. However, the NWSDB does not have a well established mechanism for customer protection, or a uniform and well-set out guidelines governing customer service in place. Each operating centre follows its own set of procedures and standards for handling customer service and ensuring customer protection, the results of which may put other consumers at a disadvantage over the others.

217. Consumer complaints have mainly been reported on the following areas: (i) Erroneous water meter readings and related billing; (ii) Regular breakdowns and respective down time; (iii) Conflicts with operational staff (disagreement on meter readings, status of repairs, water issues on zonal basis etc.); (iv) Discrepancies at level of service (water cuts, low pressure supplies, non acceptable water quality etc); (v) Third party damages or environmental hazards at new development/construction activities; (vi) Ignorance on consumer care & protection.

218. Monthly reports sent by the RSCs include data on customer complaints received, those that were resolved and meters rectified. As an example, for the month of November 2006, the Western RSC reported the following for their Gampaha Region (35,000 connections).

Table 21. Customer Complaints Gampaha

Consumer Complaints/ 000 connections:	12.51
Complaints Resolved / 000 connections	13.84 (includes backlog)
Meters Rectified / 000 connections:	4.97

(Western RSC, November 2006)

219. Though there is an existing system for handling customer complaints and service requests, improvements are still necessary to make the NWSDB a customer focused organization. A well defined system that will promote good customer relations is lacking; and there are no well written and clear customer guidelines. Standard response time for handling complaints and requests have yet to be established as well.

220. A coaching/mentoring workshop on customer service was conducted on October 1, 2007 to establish among others the standards for response time to customer complaints and service

requests. The table showing the results from the different RSCs is shown as Appendix H2a. As can be gleaned from the said table, there are wide disparities in the response time and in many instances, there are no established response time at all.

C. Highlights of Proposed Customer Service Guidelines

221. The Customer Service Guidelines that is being developed for the NWSDB is a statement of customers' rights as well as the role and obligations of the customers. It defines the different customers' rights which include (i) right to receive the committed level of service ;(ii) right to information; and (iii) right to a healthy environment.

222. The customers' role and obligations in the promotion of an efficient and sustainable water operation are defined in a separate section of the Guidelines

223. It also includes a section for Standard Response Time for handling customer complaints and service requests which were developed based on the responses in the coaching and mentoring workshop on Customer Service (*Appendix H2 & H2a.*)

D. Next Steps

224. The Customer Guidelines that was prepared is intended as a guide to provide a framework for a more focused and detailed Customer Service Code that the NWSDB has to prepare for its customers.

225. It is recommended that further consultations and studies on response time for complaints; procedures for handling customers; complaints and service requests and other customer related matters be conducted at the regional offices. It may also be worthwhile to conduct consumer consultations to obtain feedback on the service being provided and how these can be improved and such other matters affecting customer service like incentives and penalties.

226. Based on the results of the consultations, the Customer Service Guidelines shall be revised and transformed into a Customer Service Code. The Code shall then need to be officially adopted by the NWSDB. The PUCSL shall refer to the Code when monitoring customer service performance.

227. After the Code is finalized and adopted by the NWSDB, it is recommended that information dissemination campaigns be conducted on the Code.

8.0 Capacity Building Component

A. Introduction and Background

228. An important part of the TA is to develop the capacity of the NWSDB, the PUCSL and the MWSD in undertaking their roles under a regulatory regime. This was planned to be achieved by equipping them with the necessary skills and knowledge and adequate exposure to good regulatory practices in other countries. These objectives were the bases upon which the capacity building component was established. Aside from enabling the effective economic regulation of the water supply sector, the capacity building activities that were conducted are targeted to help improve operational efficiency in the NWSDB and increase appreciation within the Ministry for regulatory needs. (The original and actual training schedules are shown in Appendix K & L).

229. The capacity building component of the TA was started with the conduct of the Awareness Workshop last 23 May 2007 with 30 participants from the NWSDB, PUC, MWSD and other government offices. It was followed by a series of trainings on economic regulation and information/consultation workshops at the national and local levels during the period July to September 2007 to present the proposed amendments to the NWSDB Act and elicit comments and gauge general acceptability on the proposed regulation of the NWSDB by the PUCSL. A total of 13 training and workshops were conducted over the 6-month period.

230. Following is the summary of trainings and workshops conducted in July:

Table 22. Summary of Trainings and Workshops

Date Conducted	Name of Training/Workshop	Venue	No. of Participants
July 10, 2007	Fundamentals of Economic Regulation	Mt. Berjaya Hotel, Colombo	23
July 11	Technical and Customer Service Regulation	Mt. Berjaya Hotel, Colombo	23
July 12 - 13	Tariff Setting and Financial Regulation	Mt. Berjaya Hotel, Colombo	23
July 17	National Workshop on the Proposed Amendments	Cinnamon Grand Hotel, Colombo	23
July 20	1 st Local Workshop on the Proposed Amendments	Hotel Topaz, Kandy	24
July 24	2 nd Local Workshop on the Proposed Amendments	Hotel Miridiya, Anuradhapura	25
July 26	3 rd Local Workshop on the Proposed Amendments	Hotel Lalitha, Matara	24
Sept. 3 - 11	International Benchmarking on Utility Operations and Regulatory Practices	Singapore and the Philippines	8
Sept. 27	3 rd Local Workshop on the Proposed Amendments	Trans Asia Hotel, Colombo (Greater Colombo and Western)	42
Oct. 1	Coaching/Mentoring on Customer Service	Mt. Lavinia Hotel, Colombo	23
Oct. 2	Coaching/Mentoring on Service Obligations and Standards	Mt. Lavinia Hotel, Colombo	22
Oct. 3 to 5	Coaching/Mentoring on Service Obligations and Standards	Trans Asia Hotel, Colombo	21

231. The workshops where the proposed amendments were presented and discussed were well received, especially in the local level where the participants from the regions showed great interest in the TA and strongly supported the proposed regulation of the NWSDB by the PUCSL.

232. Owing to the peace and order problem in the Northern region, it was decided not to hold a workshop there and instead invite the participants from the said region to join the other local workshops. The remaining workshops for the 2 regional support centers of Greater Colombo and Western were instead combined and held in Colombo on 27 September 2007.

B. Summary of Capacity Building Activities

233. Following is a brief description and the highlights of each training and workshop conducted:

234. **Fundamentals of Economic Regulation** - the basics of economic regulation and a presentation of good practices in regulation in other countries were discussed in a 4 -day training from July 8 to 11, 2007. These fundamental workshops were designed to provide those who are new to regulation to better appreciate the basic principles of economic regulation, its scope and objectives, the linkage between technical regulation, customer service with tariff regulation. The participants showed great interest in the topics that were presented, particularly to tariff setting principles and practices.

235. The **National Workshop** was well attended with the key officers of the NWSDB, PUCSL, MWSD, and representatives from the Ministry of Finance, Central Environmental Authority among others. It was a good opportunity for the key agencies to sit down and discuss the issues and concerns regarding the proposed regulation. There was a healthy exchange of views which help clarified the general position on issues such as the scope of regulation, tariff regulation, penalties and incentives among others. The different views on said matters are summarized in the attached breakout minutes (Appendix H3). The workshop also paved the way to raising consciousness on economic regulation and in enabling commitment to take the activity forward until the amendments gets approved by Parliament.

236. **Local Workshops**. A total of 4 local workshops were conducted between the period July 20 and September 27, 2007 in Kandy, Anuradhapura, Mattara, and Colombo (for Greater Colombo and western regions.) The comments and suggestions provided by the regions were mostly on the development of service standards and tariff regulation. One of the more critical issues that were raised in almost all of the local workshops is the need to revise the policy on national tariff. In some instances, the regional offices believe that in order to achieve financial viability and sustainability in operations, they should be given the authority to set their own tariffs. The minutes of the workshops is attached as (Appendix H4).

237. The **International Training in Singapore and the Philippines** was conducted successfully from Sept. 3 to 11, 2007 with 8 participants (2 from PUCSL, 3 from the NWSDB and 3 from the MWSD). The participants were introduced to various regulatory practices in the Philippines as follows:

Philippines:

238. Metropolitan Water and Sewerage System – Regulatory Office, regulates two concession agreements

239. Local Water Utilities Administration – regulator of public owned and managed water utilities (numbering about 500 throughout the Philippines).

240. Subic Bay Water Regulatory Board – regulator of Subic Water under a JV venture arrangement

Singapore:

Public Utilities Board – lone major provider and regulator of the water supply and sewerage in Singapore.

241. The participants had also the opportunity to benchmark their utility operations with those in the Philippines and Singapore. They visited different water utilities under varying types of ownership and management in the Philippines such as the:

San Jose del Monte Water District, publicly owned and managed
Manila Water and Maynilad Water, 2 concessionaires of the MWSS, and operates the water supply and sewerage facilities in Metro Manila
Subic Water – under a JV agreement

242. The participants expressed that the international benchmarking activity has been a very fruitful experience for them as they learned much on how water supply and sewerage operations are being undertaken in other Asian countries and how various regulatory arrangements can be useful for both public and privately run utilities. (Please refer to the International Training Program in Volume 3 of the Report.)

243. **Coaching/Mentoring on Customer Service** – the one-day workshop was participated mostly by staff from the commercial units from the head office and regional offices. To many of the participants, who are mostly customer service staff, the topics on enabling effective customer relations were highly relevant. It also afforded the Consultants the opportunity to validate the contents of the proposed Customer Service Guidelines and generate suggestions on the standard response time for specific customer service requests and complaints. The Minutes of the Coaching/Mentoring workshop on Customer Service is presented as Appendix H1.

244. **Coaching/Mentoring on Service Obligations, Service Standards and Performance Indicators**. The coaching session was planned to generate information at the RSC levels regarding the different levels of service that are currently provided to customers; and from these information obtain a basis for defining service standards in the Primer. The participants who were mostly junior and non-technical staff of the NWSDB provided limited inputs on the required information.

245. **Coaching/Mentoring on Tariff Setting** – The coaching on tariff setting was attended by a good mix of participants from the finance and commercial units in the RSCs and from the head office. The coaching which was conducted for three (3) days allowed the participants to go deep in the proposed water supply tariff setting and be trained on the financial model. It was also an opportunity to pilot test the model and be able to identify the flaws and or deficiencies in it. For most of the participants from the regions, it was their first time to be trained on tariff setting, since tariff studies have always been undertaken by the head office. Despite the lack of basic training, there was in general a clear understanding of the proposed methodology. The participants made a number of useful comments and suggestions on how to further improve the methodology and the model. See Appendix H5 for the Minutes of the Workshop.

246. The presentation materials, programs, and registration sheets of the workshops and trainings were compiled and submitted Volume 3 of the Final Report.

C. Next Steps

247. Following are the identified activities proposed to be undertaken in preparation for the implementation the regulation of the PUCSL:

Comprehensive orientation of the PUCSL on the organization and operations of the NWSDB – to obtain a deeper understanding of the organization structure and staffing, roles and functions of each department, relationship between the national and local offices, services currently provided by the NWSDB, overview of financial systems and practices and other relevant information.

Follow-up training and intermediate courses on economic regulation for the regulatory unit in the NWSDB that will be set up to coordinate with the PUCSL

On the job training on regulation for the PUCSL staff who will be assigned to regulate the NWSDB

248. Continuing capacity building for the PUCSL, especially in water utility operations to better understand the service obligations, service standards and their linkage to tariff regulation is suggested. The PUCSL should prepare and implement a comprehensive training program in preparation for the eventual implementation of the proposed amendments.

9.0 Operationalizing the PUCSL

A. Current Regulatory Capacity of the PUCSL

249. The Consultant Team conducted an initial assessment of the PUCSL to determine its current capacities in terms of the regulatory functions it undertakes at the moment, the functions under the PUC Act that may be activated with the amendment of the NWSDB Act and its organization and staffing. Part of the activities to be undertaken in the TA will be to assist the PUCSL prepare an operational action plan and to provide necessary capacity building activities that will prepare it for its role as a regulator of the NWSDB. Understanding where the PUCSL is coming from will be useful in adopting the right approach to the capacity building of the organization. The Team also took note of the recent development in the regulation of utilities and lessons learned in previous initiatives to introduce the regulation of utilities in Sri Lanka, as said experience could be useful in the selection of options for the amendment of the Act.

Organization and Staffing

250. The PUCSL is organized by functions, rather than by sectors and is currently manned by 10 professional staff. As there is no regulation being carried out yet in the water sector, the skills and experience that are specific to the water supply regulation are limited in the PUCSL. The PUCSL recognize this limitation in the required expertise, and is prepared to recruit the appropriate personnel as soon as there is concrete development in the amendments moving forward. They do not foresee the need to organize a specific unit that will be in-charge of the NWSDB's regulation, but will instead maintain the set up where they are organized by functions. This position of the PUCSL though may need to be reviewed when they eventually get into regulating the NWSDB.

251. Throughout the capacity building component of the TA, there were at least 2 or more representatives from the PUCSL who were constantly present in all of the activities. It is expected that there has been significant awareness building on the economic regulation of water utilities. On the other hand, given the profile of the existing professional staff that have relatively good academic background, it is deemed that appropriate training in economic regulation and exposure to the water utility operations will be sufficient to develop their capacities in water. Attached is the profile of the existing professional staff of the PUCSL, *Appendix M*.

Experience in Regulation

252. Although the Act establishes the PUCSL as the economic regulator of all public utilities, industry acts are required to further define the powers and functions of the PUCSL as regards specific utility industries. Furthermore, the PUCSL Act specifies the utility industries falling in the coverage of the Act in the Schedule. At present, the only industries named in the Schedule are the electricity industry and the water supply and sewerage services industry. There is an intention to include the petroleum industry, but it has not yet been included into the Schedule. The Parliament could by resolution amend the Schedule, either by adding or removing from the said Schedule any Public Utilities Industry, where Parliament is of the view that such addition or removal is considered necessary or expedient in the public interest.

Current Functions

253. Under the current situation where no industry acts have been passed by Parliament for electricity and water, the PUCSL cannot and is not discharging any regulatory functions. In the

absence of an industry Act, the PUCSL can only carry out the following functions with regards to industries included in the schedule: (i) Advise the Government, as the PUCSL deems appropriate, on all matters concerning any industry included in the Schedule of the PUCSL Act; (ii) Collect, record and disseminate information concerning any public utilities industries; and (iii) Determine by mediation disputes arising in any public utilities industry.

B. Functions and Responsibilities of the PUCSL

254. It is envisaged that with the proposed amendment of the NWSDB Act, the regulatory powers of the PUCSL shall emanate from the amended NWSDB Act. The PUCSL will carry out the following economic regulatory functions as provided for in the amendments.

255. The Commission have the following powers and functions:

- (a) Advise the Government, through the Minister in charge of water and sewerage and the Board on policies relating to water services with a view to promoting efficiency, expanding coverage and improving services;
- (b) Review and approve water supply and sewerage tariff and charges to be levied by the Board in any area of authority in accordance with subsection (1B) of Section 84;
- (c) In consultation with the Board, formulate operational performance and service level standards to be adopted by the Board, and evaluate and report compliance with such standards;
- (d) Investigate, mediate and resolve customer complaints and disputes;
- (e) Consult, to the extent the Commission considers appropriate, any person or group who or which may be affected, or likely to be affected, by the decisions of the Commission;
- (f) Conduct or cause to be conducted periodic audit or assessment of the Board's performance as the Commission may deem necessary;
- (g) Conduct or commission investigations, surveys and studies in relation to the activities of the Board;
- (h) Require the production and submission of reports, statements and such other documents as may be deemed necessary by the Commission;
- (i) Levy appropriate regulatory fees and charges;
- (j) Impose penalties or grant incentives to ensure compliance with established operational performance and service level standards;
- (k) Issue rules and guidelines as may be necessary to effectively perform its powers and functions under this Law; and;
- (l) Undertake all incidental or ancillary powers and functions as may be necessary for the effective discharge of its functions.

256. To undertake the above functions, the PUCSL's regular operating activities may comprise among others the following:

- (a) Tariff review and determination every five year period; with activities peaking on the 5th year (review period) and 1st year (of implementation) of the tariff.
- (b) Financial performance monitoring and review every quarter; and detailed annual reviews based on audited financial statements
- (c) Technical and customer service performance monitoring and review every quarter
- (d) Asset examination every 5 years or as deemed needed
- (e) Review and processing of requests for extra-ordinary price adjustments

- (f) Attending to customer complaints elevated to the PUCSL
- (g) Settling disputes between the NWSDB and the customers
- (h) Commissioning special reviews or assignments that the PUCSL will determine to be necessary:

C. Organization and Staffing Requirements

257. Two (2) options may be considered in responding to the staffing needs of the PUCSL.

- (a) **Option 1: Creation of a Water Regulatory Unit within PUCSL** that will be in-charge of the regulation of water supply and sewerage services under the NWSDB. The unit shall be manned with adequate no. of staff with the appropriate skills to undertake the functions and responsibilities discussed in the foregoing.
- (b) **Option 2: Identification of functional experts within the PUCSL** that will be assigned to the regulation of the NWSDB. This option is preferred by PUCSL, since the PUCSL is currently organized by functions that cut across the different regulated industries. The PUCSL also believes that the Commission should be kept as a lean organization. Initially, during the early years of the regulatory regime where the volume of work is still minimal, assigning a few experts without creating a separate unit or organization may be a more practical option.

258. It is the objective to keep the water regulatory unit lean, maintain only key regulatory staff to undertake the regular functions and outsource instead the activities requiring highly specialized skills. This is to ensure the efficient and economic use of resources, as any increase in the cost of regulation will eventually be borne by the consumers.

259. In either case, following are the required expertise at the minimum to enable the PUCSL carry out its responsibilities:

- Finance or economics expert – tariff review, financial monitoring and evaluation
- Water supply engineer – handle the technical aspects such as service obligations monitoring, asset performance monitoring
- Legal and institutional expert – review compliance with regulatory laws, guidelines, handling of customer complaints and settling of disputes

260. As the volume of work being undertaken by the PUCSL increases, it may be necessary to review the manpower requirements or even explore the need to establish a separate unit within the PUCSL.

261. The recruitment and employment of Commission staff for the water sector regulation shall be governed by existing regulations under the Commission Act. Compensation and benefits of the water staff shall be fixed and aligned with the salary scale for the whole Commission.

D. Operational Plan

262. Following is a suggested Operational Plan that shall be undertaken in preparation for the start of the regulation in the NWSDB once the amendments are approved by Parliament. It is estimated that at least 6 months preparation will be required to undertake the necessary activities. See *Appendix N*.

Organize the Regulatory Unit or Body in the NWSDB and the PUCSL:

263. Within the NWSDB, a small unit that will coordinate and liaise with the PUCSL on regulatory matters shall be established. The same unit will also undertake internal monitoring and review of regional operations; compile operating results and submit the required reports to the PUCSL.

264. The PUCSL shall either establish a separate unit or division that will be in charge of the regulation of the NWSDB or identify a few key staff, three (3) at the minimum with the required expertise above. The specific functions and responsibilities of each of the staff will be established.

265. The operating budget for 5 years will be determined based on the identified functions and planned activities which will include personnel costs, travelling expenses for monitoring regional operations, establishment costs, costs of special assignments to be outsourced and others.

Adopt Regulatory Systems and Processes:

266. The core functions and responsibilities of the PUCSL shall be translated into detailed operating guidelines. These operating guidelines shall define the regular activities that will be undertaken, who will be assigned to the tasks and the processes and procedures involved in the conduct of the activities. The Regulatory Guidelines prepared under this TA shall be referred to in the preparation of the operating guidelines.

267. The PUCSL shall prepare 5-year operating plans, defining the activities that will be undertaken and advise the NWSDB on the calendar of activities for the next 5 years. This is to prepare the NWSDB in complying with its obligations to the PUCSL.

268. The PUCSL, NWSDB and the MWSD shall discuss and agree on the scope of (i) service obligations, (ii) the service standards, (iii) performance indicators and monitoring system; and the (iv) tariff setting methodology for water supply and sewerage. Initially, the NWSDB and the PUCSL shall formally adopt the Primers that were prepared under the TA and during the later stage of the regulation; the PUCSL shall issue guidelines on service standards and parameters.

Conduct organizational and coordination meetings:

269. As soon as the Amendments are submitted to the Parliament, the parties shall agree to meet on a more frequent and regular basis to prepare for the start of the regulatory regime. During these organizational and coordination meetings, the regulatory processes and procedures, the reporting requirements, how monitoring will be undertaken and others will be discussed and agreed between the parties concerned.

Develop and implement a follow-up capacity building program for the PUCSL:

270. The PUCSL shall develop its expertise in water utility economic regulation through formal and on the job training on water utility operations. As a follow up program to the capacity building activities undertaken under the TA:

- (a) The PUCSL shall be exposed to the operating details in the NWSDB. The NWSDB shall conduct orientation workshops to explain its operations to the PUCSL ; and the organizational set up in the regional and head office;
- (b) The PUCSL shall attend training on more advanced topics on economic regulation, particularly in the field of tariff setting in the water sector.

E. Regulatory Budget

271. The Commission shall be entitled to charge the Board a regulatory fee to defray the costs of regulating the Water Board. The regulatory fee shall be based on a reasonable amount that will be discussed and agreed between the Commission and the NWSDB. Such amounts shall be paid to the Commission no later than the 30th of April of each year.

272. The regulation fees shall be used to cover the cost of operation of the water regulatory unit in the Commission and shall be adequate to meet the following costs:

- Salaries, wages and benefits
- Office running costs
- Traveling expenses to conduct visits of field offices
- Other costs needed to undertake the functions and responsibilities as defined in the Act.

273. In the discharge of the Commission's regulatory functions, it shall identify special activities, examinations or studies that need to be undertaken to establish the reliability of data submitted by the Board to enable and/or further assess the performance of the Water Board. Such studies may include but not be limited to the conduct of technical and operations audit, asset valuation studies, non-revenue water audit, and etc.

274. The cost of conducting said studies or activities shall be borne by the Board and will be part of the recoverable expense. The budget of the studies will be agreed between the Commission and the Board.