Technical Assistance Report

Project Number: 48276-001
Capacity Development Technical Assistance (CDTA)
December 2014

Democratic Socialist Republic of Sri Lanka: Institutional Development of National Water Supply and Drainage Board

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 14 October 2014)

Currency unit	–	Sri Lanka rupee/s (SLRe/SLRs)
SLRe1.00	=	$0.00766
$1.00	=	SLRs130.55

ABBREVIATIONS

ADB	–	Asian Development Bank
MSWD	–	Ministry of Water Supply and Drainage
NRW	–	nonrevenue water
NWSDB	–	National Water Supply and Drainage Board
RSC	–	regional supporting center
TA	–	technical assistance
TOR	–	terms of reference

NOTES

(i) The fiscal year (FY) of the Government of Sri Lanka ends on 31 December. "FY" before a calendar year denotes the year in which the fiscal year ends, e.g., FY2013 ends on 31 December 2013.

(ii) In this report, "$" refers to US dollars.

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CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data — **Project Number:** 48276-001

Project Name	Institutional Development of National Water Supply and Drainage Board	**Department /Division**	SARD/SAUW
Country	Sri Lanka	**Executing Agency**	Ministry of Water Supply and Drainage
Borrower	Sri Lanka		

2. Sector	**Subsector(s)**	**ADB Financing ($ million)**
✓ Water and other urban infrastructure and services	Urban policy, institutional and capacity development	1.00
	Total	**1.00**

3. Strategic Agenda	**Subcomponents**	**Climate Change Information**	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Low

4. Drivers of Change	**Components**	**Gender Equity and Mainstreaming**	
Governance and capacity development (GCD)	Institutional development	Some gender elements (SGE)	✓

5. Poverty Targeting		**Location Impact**	
Project directly targets poverty	No	Rural Urban	Medium High

6. TA Category: B

7. Safeguard Categorization Not Applicable

8. Financing

Modality and Sources	**Amount ($ million)**
ADB	**1.00**
Sovereign Capacity development technical assistance: Technical Assistance Special Fund	1.00
Cofinancing	**0.00**
None	0.00
Counterpart	**0.10**
Government	0.10
Total	**1.10**

9. Effective Development Cooperation

Use of country procurement systems	No
Use of country public financial management systems	No

I. INTRODUCTION

1. In Sri Lanka, the National Water Supply and Drainage Board (NWSDB) is the primary service provider for water supply and sanitation management services across the country, except for the wastewater management service in Colombo City, which is under the mandate of the Colombo Municipal Council. NWSDB is presently operating 312 water supply schemes throughout the country. NWSDB also operates sewerage schemes and provides about 3% of the population with a piped sewerage connection. The Asian Development Bank (ADB) is one of the major development partners involved in Sri Lanka's water supply and sanitation sector, providing eight loans for a total amount of about $521 million since 1986.[1] Among them, NWSDB is the executing agency for seven loans, including four loans ongoing.

2. Over the past 10 years, NWSDB has made significant progress in improving access of urban residents to safe drinking water—the pipe-borne water supply coverage serviced by the NWSDB has increased from 19.0% of the population in 2004 to 34.5% by the end of 2013. In the "Mahinda Chinthana Vision for the Future," the Government of Sri Lanka highly prioritized further improving water supply and sanitation services, setting a target for providing access to safe drinking water and improved sanitation to all citizens by the year 2020, which requires a further increase in the pipe-borne water supply coverage to 60.0%.[2] This will require continued capital investment throughout the planned period to fill the sector's infrastructure gaps.[3] Furthermore, this will require significant institutional capacity development of NWSDB to manage new challenges and to continue as the sector's leading agency for infrastructure development and service provision.

3. Against this background, the government requests ADB to provide the capacity development technical assistance (TA) to help NWSDB review and rationalize its institutional setup and conduct the most prioritized reform and capacity development activities. The TA is included in the ADB country operations business plan, 2013–2015 for Sri Lanka.[4] An ADB fact-finding mission was conducted 1–5 September 2014. This report is based on the understanding reached with the government and NWSDB regarding the TA impact, outcome, outputs, implementation arrangements, costs and financing arrangements, and outline terms of reference for consulting services. The design and monitoring framework is in Appendix 1.[5]

II. ISSUES

4. Established in 1975, NWSDB has developed into a large organization with more than 10,000 employees across the country. NWSDB has 12 regional supporting centers (RSCs) responsible for operating and maintaining the local system, collecting the water bill, and initiating new development projects at the local level.[6] However, NWSDB remains a highly centralized governance structure under a consolidated operation and financial management system, with all major decisions made at the headquarters in Colombo. Through this centralized management

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[1] Other main contributors to water supply and sanitation are Japan International Cooperation Agency, Agence Française De Développement, and the World Bank.

[2] Government of Sri Lanka, Ministry of Financing and Planning, 2010, Mahinda Chinthana Vision for the Future, Colombo. Mahinda Chinthana Vision for the Future is the development policy of Sri Lanka. It sets out Sri Lanka's development vision for the 10-year period 2010–2020.

[3] It is estimated that the country needs $5.38 billion investment to meet the 2020 targets for the water supply and sanitation sector in the Mahinda Chinthana Vision for the Future, 2010.

[4] ADB. 2012. *Country Operations Business Plan: Sri Lanka, 2013–2015*. Manila.

[5] The TA first appeared in the business opportunities section of ADB's website on 2 September 2014.

[6] The first batch of RSCs was established in 1987 to decentralize water supply activities and improve productivity primarily on operation and maintenance for better customer service.

system, NWSDB is able to allocate sector resources for development across different geographical regions and has attained its water supply and sanitation achievement to date.

5. At the same time, this structure has shortcomings. The system has made it difficult for NWSDB to establish a well-defined structure to measure the operational costs and efficiency among different schemes. It is difficult for its operational schemes to be managed as a self-sustained service provider like other utility companies. Many state of the art technologies for water supply system management cannot be applied due to lack of financial discipline and accountability at the local level. NWSDB's potential to involve other stakeholders, including the private sector, in infrastructure development and/or service provision is affected by the lack of a well-established financial model and cost recovery mechanism at the local or project level.

6. The overall operational efficiency of NWSDB's system is weak. In comparison with other well-performing utility companies in Asia, NWSDB has employed more staff for the same number of consumers, yet has been suffering a much higher level of system loss. The level of nonrevenue water (NRW) in Colombo is 49.0%, compared with 11.0% in Manila Water, 6.2% in Phnom Penh, and 4.4% in Singapore. In terms of staff employed per 1,000 connections, the Colombo water supply system requires 3.9 staff members, compared with 3.3 for Phnom Penh, 2.5 for Singapore, and 1.4 for Manila Water.[7]

7. Under the recently approved multitranche financing facility for Greater Colombo Water and Wastewater Management Improvement Investment Program,[8] ADB committed to help NWSDB improve its operational efficiency in the Greater Colombo area, with a target to reduce the NRW level in Colombo from 49% to 20% by 2020. Among other tasks, ADB will help NWSDB convert RSC–Western Central into an autonomous operational center, which can operate and maintain the expanded and upgraded water supply system for Greater Colombo on a sustainable basis and at an efficiency level compatible with international best practice.

8. In line with reforms initiated under the investment program, NWSDB needs new institutional setup to promote financial discipline, operational efficiency, and accountability at selected RSCs through a more decentralized decision-making and service-provision mechanism to better respond to the local needs in different regions or operational schemes. Furthermore, NWSDB will need to mobilize resources from the private sector to supplement public investment in achieving the sector development goals set in the "Mahinda Chinthana Vision for the Future."

9. Along with decentralization of service provision in the water supply and sanitation sector introduced under the investment program, the country will need to gradually develop an independent sector regulatory mechanism and capability to regulate a more diversified service provision system.

10. As the sector's leading agency, NWSDB has the mandate and responsibility to identify water supply and sanitation projects, prepare prefeasibility and feasibility studies for them, create designs, produce final drawings, and carry out processing and project implementation for public-funded projects. Considering the massive investment required in the sector, NWSDB needs to further strengthen its project preparation and implementation capacity. In particular, NWSDB needs to establish a new division to manage the environmental and social safeguards aspects during development project preparation and implementation. Furthermore, NWSDB needs to

[7] Good Practices in Urban Water Management ADB 2012.

[8] ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Greater Colombo Water and Wastewater Management Improvement Investment Program*. Manila (Loan 0072-SRI)

upgrade its design manual and techniques through adopting the state-of-art techniques in engineering design and assets management to improve operational efficiency.

III. THE CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE

A. Impact and Outcome

11. The TA impact will be improved operational efficiency and accountability of NWSDB. The TA outcome will be improved institutional and technical capacity of NWSDB. A new Regulatory Division, an Environment and Social Division, and an NRW Management Division will be established and in operation. The Planning and Design Division will be enhanced using updated design manuals and management tools.

B. Methodology and Key Activities

12. The TA will help NWSDB review its institutional structure and propose a more efficient and accountable set-up. The TA will recruit an international water utility management expert to review the NWSDB's institutional structure and set-up. Since NWSDB has developed rapidly from a small size to a relatively large organization, it needs an efficient institutional structure to enable it to meet its business needs.

13. The TA will promote NWSDB's institutional development through decentralization as well as through establishing new functions (e.g., regulation, environment and social safeguards, and NRW management) and enhancing and upgrading the existing functions (e.g., planning and design). It is important to note that more autonomous centers can be piloted in RSCs in relation to operation and maintenance, human resource, and finance and procurement. The NWSDB headquarters will need to enhance the functions of quality control, monitoring, auditing, and coordination. As the first step, the TA will help the government set up a regulatory division within NWSDB to initiate sector regulatory function over the decentralized autonomous RSCs. The division will be responsible for drafting amendments to the NWSDB Act and proposing—in anticipation of an independent sector regulator being established—an initial set of sector regulations that takes into account the need for interaction and cooperation with the Ministry of Water Supply and Drainage and the Public Utilities Commission of Sri Lanka.[9] The TA will introduce appropriate regulations, set up a relevant regulation structure, and establish necessary policies and procedures. The regulatory division will also oversee operational service quality and monitor the adequacy of the water and wastewater tariff structure.

14. The key TA outputs include: (i) strengthened institutional structure of NWSDB concerning its functional and the associated operational management system, and (ii) implemented training and skills development program for NWSDB. For the first output, the recommended development strategy and restructuring plan and Change management plan will be prepared based on a review of NWSDB's overall institutional structure which would include decentralization and establishment of various divisions, taking into account the best international practice in utility management and challenges faced by NWSDB to deliver improved water supply and sanitation service for a rapidly growing country-wide urban population. The knowledge and position baseline, and decentralized time bound plan need to be developed. For the second output, the TA will support enhanced awareness and consensus on

[9] The Public Utilities Commission of Sri Lanka was established in 2003 to technically regulate Sri Lanka's electricity industry, which may cover utilities with water sector and petroleum industries as well. Currently the commission ensures that Sri Lanka's electricity sector has adequate investments, greater availability, efficient supply, and improved quality of services for electricity consumers with an affordable tariff.

the need for institutional development and strengthened staff training. This will be achieved through a consultation workshop on NWSDB institutional enhancement to be organized with participation of more than 50 stakeholders. In addition, Training needs assessment and training plan will be developed. Key staff members for both enhancement divisions and new establishment divisions under the executing and implementing agencies will be trained. The training will include geographic information system software applications, trainers' training for engineers, and organizing key decision makers and managerial and technical staff to visit well-structured and well-managed water utilities in other countries for exposure to international best practice in utility operation. Both in the workshop and training, about 30% of participants will be female.

15. The TA will be implemented to achieve these outcomes through (i) helping ensure that NWSDB is effectively and efficiently managed through enhancing its institutional structure, (ii) improving NWSDB staff capacity to implement and manage water supply and sanitation projects, (iii) improving the quality of water supply and sanitation service operations, and (iv) developing the capacity of staff employed in all relevant divisions of the NWSDB (e.g., planning and design, environment and social, regulatory, and NRW) to implement and manage both local- and foreign-funded projects.

16. The basic assumption is that the government and NWSDB will remain committed to strengthening NWSDB and making it more efficient and accountable in the water and sanitation sector across the country. It is also assumed that the government will provide budgetary support to the new divisions and the regulatory body, and assurance for staff security of tenure. Another assumption is that the government will approve the proposed amendments to the NWSDB Act and the initial set of sector regulations. In addition, both the board of directors and the labor union will have no objections to the enhancement in the new institutional structure.

17. The main risk is that trained staff with high technical skills in planning, design, and geographic information system mapping will be transferred to other divisions under the conventional promotion system. The TA will need to include criteria for long-term stay of staff in the relevant divisions and ensure knowledge transfer if reassignment of the TA trained staff cannot be avoided. The TA may also introduce a bond arrangement with the trained staff prior to their participating in the TA training programs.

C. Cost and Financing

18. The TA is estimated to cost $1,100,000, of which $1,000,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-V). The government will provide counterpart support in the form of counterpart staff including in-house institutional expert, office accommodation, and other in-kind contributions. The cost estimates and financing plan are in Appendix 2.

D. Implementation Arrangements

19. The executing agency will be the Ministry of Water Supply and Drainage. The ministry will provide overall policy guidance and oversight for the TA. The implementing agency will be NWSDB, which will manage TA activities. As a long-term partner of ADB, NWSDB has adequate capacity to manage and implement the TA in accordance with ADB operational policy and procedural requirements.

20. The TA will be implemented over a 3-year period from July 2015 to June 2018. The TA requires consulting services totaling 70 person-months (27 person-months international and 43 person-months national). The international consultants will provide expertise in water utility management, water sector institution and finances, water and wastewater regulation, water and wastewater planning and design, environment, social safeguards, and NRW management. The national consultants will provide support on water utility management, water sector institution and finances, water and wastewater regulation, water and wastewater design and planning, and environment, social safeguards, legal, and training coordination. In addition to consultants, resource persons may be invited to speak at workshops to provide the latest knowledge concerning water utility and institutional development matters. The TA will engage 15 experts: 7 international consultants and 8 national consultants under a consultant firm.

21. ADB will engage the consultants and resource persons in accordance with the Guidelines on the Use of Consultants (2013, as amended from time to time). ADB inputs will be the provision of consultants to carry out the TA. Experts in utility organization and regulation, and with hands-on experience in the analysis and development of utility structures will be engaged. ADB will engage a consultant firm for the duration of the TA. A draft outline terms of reference for the TA consultants is provided in Appendix 3. The consultant firm will be selected using quality- and cost-based selection, with a quality–cost ratio of 90:10, and full technical proposals. The disbursements under the TA will be made in accordance with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time).

22. The team of consultants will submit four major reports: (i) an inception report within 2 months after contract commencement date, (ii) an interim report within 1 year after contract commencement date, (iii) a draft report 30 months after contract commencement date, and (iv) a final report after the receipt of comments from government and ADB on the draft report.

IV. THE PRESIDENT'S DECISION

23. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of $1,000,000 on a grant basis to the Government of Sri Lanka for Institutional Development of National Water Supply and Drainage Board, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Improved operational efficiency and accountability of NWSDB	By 2020 At least 6 of 12 RSCs become autonomous cost centers. (Baseline: 0 in December 2014.) A permanent and independent sector regulatory body is established. The safeguard or project documents prepared by NWSDB are compliant with national and international standards.	 NWSDB annual report MWSD annual report NWSDB annual report	**Assumptions** Government provides budgetary support to the new divisions and the regulatory body. Government approves the proposed amendments to the NWSDB Act and the initial set of sector regulations.
Outcome Improved institutional and technical capacity of NWSDB	By 2018 The new Regulatory Division, Environment and Social Division, and NRW Management Division are established and in operation. The PDD uses updated design manuals and management tools. NWSDB fully delegates its O&M functions, including their human resource and financial management, to 50% of RSCs.	 NWSDB annual report NWSDB annual report NWSDB annual report	**Risk** Trained staff with high technical skills in planning, design, and GIS mapping are transferred.
Outputs 1. Strengthened institutional structure of NWSDB 2. Implemented training and skills development program for NWSDB	By 2018 NSWDB development strategy and restructuring plan including decentralization is approved by the board of directors and MWSD and implemented Change management plan developed and implemented in support of new organization. 30 NWSDB staff are trained in various software applications, including the GIS (including 30% female participants)	 NWSDB Institutional Report NWSDB Institutional Report NWSDB Institutional Report	**Assumption** The labor union has no objections to the enhancement in the new structure.

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	A trainers' training program for at least 10 Planning and Design Division engineers is conducted (including 30% female participants)	NWSDB Institutional Report	
	At least 20 project management staff are trained on project management including planning and design, procurement, regulation, environment and social safety, as well as NRW management (including 30% female participants)	NWSDB Institutional Report	
	About 50 policy makers or key staff members of the executing agency and implementing agency are trained on institutional development and new management and technology in utility operation and management (including 30% female participants)	NWSDB Institutional Report	

Activities with Milestones	**Inputs**
1. Strengthened institutional structure of NWSDB 1.1 Review current NWSDB structure, regulations, policies and procedures, and international best practice in water utility operations by Q3 2015. 1.2 Review the regulation function with possibility under MWSD and/or Public Commission by Q4 2015. 1.3 Prepare draft report and recommendation for NWSDB institutional development, including policy guidelines and operational procedure for the regulatory body, and the NRW management and the environment and social divisions by Q4 2015. 1.4 Conduct a consultation with the board of directors and the labor unions and obtain agreement for implementing new institutional structure by Q1 2016. 1.5 Conduct a consultation workshop with the participation of more than 50 stakeholders (including 30% female participants) on the proposed institutional development program and other options and finalize the program by Q2 2016. 1.6 Approve the proposed new institutional structure by Q3 2016. 1.7 Implement new institutional set-up by Q4 2017. 1.8 Complete procurement and installation of software packages for the PDD by Q1 2018. 1.9 Extract lessons from TA implementation and provide recommendations for scaling-up and replication in other areas of Sri Lanka and possibly other countries by Q2 2018. **2. Implemented training and skills development program for NWSDB** 2.1 Conduct training needs assessment for NWSDB by Q3 2015. 2.2 Prepare training program for the new divisions and enhancement PDD by Q2 2016. 2.3 Execute training programs by Q2 2018.	**ADB: $1,000,000** Note: The government will provide counterpart support in the form of local counterpart facilities including office accommodation, meeting venues, and selected facilities, and other in-kind contributions.

ADB = Asian Development Bank, GIS = geographic information system, MWSD = Ministry of Water Supply and Drainage, NRW = nonrevenue water, NWSDB = National Water Supply and Drainage Board, O&M = operation and maintenance, PDD = Planning and Design Division, RSC = regional supporting center, TA = technical assistance.
Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN

($'000)

Item	Amount
Asian Development Bank[a]	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	550.0
ii. National consultants	245.0
b. International and local travel	55.0
c. Reports and communications	5.0
2. Equipment[b]	50.0
3. Training, seminars, and conferences	70.0
4. Surveys	5.0
5. Contingencies	20.0
Total	**1,000.0**

Note: The technical assistance (TA) is estimated to cost $1,100,000, of which contributions from the Asian Development Bank (ADB) are presented in the table above. The government will provide counterpart support in the form of counterpart staff, office accommodation, office supplies, secretarial assistance, and other in-kind contributions. The value of government contribution is estimated to account for 9% of the total TA cost.

[a] Financed by ADB's Technical Assistance Special Fund (TASF-V).

[b] Equipment will be mainly software to improve planning and design. Equipment costs include license, development, and maintenance. The consultants will be hired to develop a more detailed list.

Source: ADB estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Scope of Work

1. The scope of work under the capacity development technical assistance (TA) comprises five main tasks: (i) reviewing the overall structure and weakness of, and bottlenecks for, the National Water Support and Drainage Board (NWSDB) and proposing a more efficient and accountable institutional set-up; (ii) establishing a regulatory division within NWSDB; (iii) enhancing the capability of the Planning and Design Division, particularly in preparing design and build contracts and managing projects; (iv) establishing an environment and social division including water quality control and water resource management; and (v) introducing a nonrevenue water (NRW) management division.

2. The NWSDB organizational structure will be reviewed, and a functional institutional structure will be recommended to enhance the productivity of the entire NWSDB to achieve its vision and mission. The improvement will mainly target achieving goals outlined in NWSDB action plans. The proposed structure will include producing terms of reference (TOR) for all staff to increase accountability of their work.

B. Expert Inputs and Assignment Duration

3. The expected inputs include (i) the team leader with international utility management, (ii) international institutional and financial expert, (iii) international water supply and wastewater planning and design expert, (iv) international water and wastewater regulation expert, (v) international environment expert, (vi) international social safeguard expert, and (vii) international NRW management experts, supported by (viii) deputy team leader with national utility management, (ix) national institutional and financial expert, (x) national water supply planning and design expert, (xi) national water and wastewater regulation expert, (xii) national environmental expert, (xiii) national social safeguard expert, (xiv) national legal expert, and (xv) national training experts.

C. Consultants' Terms of Reference

1. Team Leader and International Water Utility Management Specialist (6 person-months)

4. The team leader shall take overall responsibility for the successful implementation of the TA. He or she will be responsible for the following tasks: (i) recommending institutional development strategy for NWSDB approved by the Ministry of Water Supply and Drainage (MWSD) for implementation; (ii) overseeing quality control and timely completion of all deliverables and supervising team staff; (iii) leading the team in discussions with stakeholders such as the secretary to MWSD, senior MWSD staff, chairman, general manager, the board of directors, labor unions, and other staff of NWSDB, and senior staff of other relevant institutions who will contribute to the TA; (iv) liaising with team members working on the other NWSDB projects (as well as consultants working on any other relevant projects); (v) providing regular updates to the Asian Development Bank (ADB) team leader; and (vi) acting as the principal point of liaison and contact for the assignment.

5. The team leader shall lead the institutional development work components and oversee work plan and work streams critical to achieving the goals and objectives with the team. Other responsibilities include the following: (i) coordinate and liaise with team members; (ii) represent

the team activities with the executing and implementing agencies, as well as with other donors and/or agencies with projects related to TA tasks and activities; (iii) design, with inputs from other experts, strategic approaches to capacity building in line with specific division and/or section needs and identify suitable mechanisms with the NWSDB; (iv) ensure an incrementally programmatic annual approach to capacity building, focusing on the institutional set-up from headquarters down to the regional supporting center (RSC) level; (v) coordinate with the manpower development and training division and the human resource division on human resource assessment and capacity building regarding critical aspects and challenges to sustainable capacity building at RSC level, in line with current government policies; (vi) recommend appropriate international training exposure for maximal benefit to the MWSD and NWSDB; (vii) conduct consultation workshop and training sessions on institutional development programs; and (viii) advise and assist NWSDB in developing and implementing awareness campaigns and briefings, and educate the labor unions for smooth institutional enhancement.

6. As a specific task, the team leader shall review overall existing NWSDB structure, board acts, regulations, policies, and reports to develop strategies and a new institutional structure and set-up to improve NWSDB's capacities for institutional efficiency and accountability.

7. The team leader should have at least a postgraduate degree in engineering, finance, business, economics, international development, or any other related field with a minimum of 20 years' experience in reputed international or multinational organizations, of which a minimum of 8 years shall have been in water utility management. Similar experience in water utility organizations will be an advantage. The team leader should have strong interpersonal skills and experience leading and managing a diverse team of professionals with technical resources. The team leader should have proven excellent international managerial skills; global management reporting and excellent team-building capacities; well-developed oral and written communication skills; and excellent skills in project planning, institutional development and stakeholder facilitation, training, and capacity building. Exposure to management of finance, budgeting, accounting, costing, management information systems, audit, and statutory requirements will be an advantage. Similar experience in the South Asia region and working with development partners will be preferred.

2. Other International Experts (21 person-months)

8. **International planning and design (water and wastewater) specialist** (4 person-months). The international planning and design specialist shall be responsible for developing NWSDB's Planning and Design Division for water and wastewater sectors. The specialist will be responsible for the following tasks: (i) review current structure of the division, proposing enhancement to make the operation more efficient, if necessary; (ii) standardize project identification reports, prefeasibility and feasibility reports, specifications, bid documents, rate books, and other relevant documentations for both local and foreign-funded projects; (iii) improve engineering design drawings to international standards; (iv) establish efficient and effective coordination between headquarters of NWSDB and RSCs Planning and Design Divisions and Operation and Maintenance Divisions; (v) identify and facilitate the installation of software packages necessary for planning and design activities to provide high quality reports and drawings; (vi) complete and finalize ongoing design manuals updates; (vii) organize and conduct modern technology (short and long-term) training programs (including training of trainers) on engineering designs, water and wastewater treatment technologies, pipe network models, and advance geographic information systems; and (viii) review to reorganize the mapping division to Planning and Design Division for better coordination and provide web link access to all RSCs to produce online mapping data directly to Planning and Design Division.

9. The specialist shall be a professional or chartered engineer with a minimum of a postgraduate degree in the relevant field and/or engineering and a minimum of 15 years' experience in reputed international or multinational reputed organizations, of which a minimum of 5 years shall have been in planning and designing of water and wastewater projects, including development of planning and design divisions.

10. **International institutional and financial specialist** (3 person-months). The international institutional and financial specialist shall be responsible for assessing NWSDB's institutional set-up and designing a more effective and efficient structure, complemented by TORs for managerial staff to increase accountability for their work; conducting analysis of NWSDB's financial performance; and updating and/or developing financing arrangements to support the proposed institutional development strategy for NWSDB.

11. The specialist should have a bachelor's degree—and preferably also a postgraduate degree in finance and/or chartered accountant or equivalent and/or a master's degree in business administration in finance or equivalent—and at least 10 years of relevant experience in reputed international and/or multinational organizations, of which at least 4 years shall have been in developing tariff models and financial projections for utility institutions. Similar experience in the South Asia region and working with development partners will be preferred.

12. **International water supply and wastewater regulation specialist** (4 person-months). The international water supply and wastewater regulation specialist shall be responsible for establishing a new regulatory division at NWSDB. The specialist will be responsible for (i) reviewing the NWSDB's monitoring and regulatory tasks and activities, (ii) evaluating NWSDB's actions with regard to the introduction of policies, rules, regulations, and amendments to NWSDB Act, (iii) assessing the regulator's functions pertaining to the water and sewerage sectors, (iv) assessing and determining an appropriate regulatory structure, and preparing TORs and identifying qualifications needed for major posts, and (v) updating the regulatory guidelines manual.

13. The specialist should have a master's degree in finance, economic, social science, international development, or any other related field with a minimum of 15 years' experience in reputed international and/or multinational organizations, of which it is preferred that a minimum of 5 years shall have been in reviewing and developing policies, rules, regulations, and amendments of acts in the utility sector (water and wastewater sector). Similar experience in the South Asia region and working with development partners will be preferred.

14. **International environmental management specialist** (3 person-months). The environmental management specialist shall be responsible for establishing a new environmental and social safeguard division. The specialist will be responsible for (i) conducting consultations and/or discussions with NWSDB senior management, particularly the deputy general manager for planning, design, and establishment of the new division, (ii) coordinating with the international social safeguard specialist to prepare the division's staff structure; and (iii) preparing work scope of the division and TOR, and identifying qualifications of the environmental management staff.

15. The specialist should have a master's degree in environment engineering or relevant field, with a membership in a reputed professional institution and at least 10 years of relevant experience in reputed international and/or multinational organizations, of which at least 5 years of experience shall have been in environmental assessment and monitoring. The specialist

should have a working knowledge of different international financial institution safeguard principles, particularly ADB, and the ability to apply these principles locally, alongside sovereign legislation and regulations.

16. **International social safeguard specialist** (3 person-months). The international social safeguard specialist shall be responsible for establishing a new environmental and social safeguard division. The specialist will be responsible for coordinating with the international environmental management specialist to formulate methodology for establishing the new division, prepare social safeguard staff structure for the division, and assist in obtaining cadre approval for staff allocation.

17. The specialist should have a bachelor's degree and also preferably a postgraduate degree in social science or relevant field, with membership in a reputed professional institution and at least 10 years of relevant experience in reputed international and/or multinational organizations, of which at least 5 years shall have been in social safeguards. The specialist should have a working knowledge of different international financial institute safeguard principles, particularly ADB, and the ability to apply these principles locally, alongside sovereign legislation and regulations.

18. **International nonrevenue water management specialist** (4 person-months). The international NRW management specialist shall be responsible for establishing a new NRW management division at NWSDB. The specialist will be responsible for (i) coordinating with the team leader and assisting NWSDB in setting up the division to include basic process and/or operational policies and procedures and formulation of methodology; (ii) coordinating with the team leader to prepare staff structure for the division and get cadre approval for staff allocation; and (iii) preparing work scope of the division and TOR, and identifying qualifications of the staff.

19. The specialist shall be a professional and/or chartered engineer with minimum of a postgraduate degree in the relevant field and/or engineering and a minimum of 15 years' experience in reputed international and/or multinational water utility organizations, of which a minimum of 5 years shall have been in implementing NRW management programs. Consultancy experience in implementing NRW management programs in the South Asia region will be an advantage.

3. National Water Utility Management Specialist and Deputy Team Leader (12 person-months)

20. The deputy team leader shall assist the team leader to take overall responsibility for successful TA implementation. The deputy will be responsible for (i) assisting the team leader on institutional development strategy activities for NWSDB, (ii) assisting the team leader on quality control and timely completion of all deliverables and supervision of all team staff, (iii) leading the team in discussions and negotiations with all stakeholders in the absence of the team leader, (iv) assisting the team leader and liaising with the team to ensure effective and proper project coordination, (v) providing regular updates to the ADB team leader, and (vi) acting as an alternate point of liaison and contact for the assignment.

21. In the absence of the team leader, the deputy shall coordinate with all consultants, lead the institutional development work components, and oversee work plan and work streams that are critical in achieving project goals and objectives with the team. The deputy will also be responsible for all other activities assigned to the team leader, including (i) coordinating and liaising with team members and reviewing all pertinent project outputs to help ensure effective

and proper project coordination; (ii) representing the team activities with the executing and implementing agencies as well as with other donors or agencies with projects related to the TA tasks and activities; (iii) with inputs from other experts, designing strategic approaches to capacity building in line with specific division or section needs and identifying suitable mechanisms with the NWSDB; (iv) ensuring an incrementally programmatic annual approach to capacity building, focusing on the institutional set-up from headquarters down to the RSC level; (v) coordinating with the manpower development and training division and the human resource division on human resource assessment and capacity building with respect to critical aspects and challenges to sustainable capacity building at the RSC level, in line with current government policies; (vi) recommending appropriate international training exposure for maximum benefit to the MWSD and NWSDB; (vii) conducting consultation workshop and training sessions on institutional development programs; and (viii) advising and assisting NWSDB in developing and implementing awareness campaigns and briefings, and educating the labor unions for smooth institutional enhancement.

22. The deputy should have at least a master's degree in engineering, finance, business, economics, or any other related field with a minimum of 15 years' experience in managing water utilities, of which a minimum of 6 years shall have been in institutional development in utility operation organizations. Similar experience in water utility organizations will be an advantage. The deputy should have strong interpersonal skills and experience leading and managing a diverse team of professionals with technical resources. The deputy should have proven excellent managerial skills, excellent team-building capacities, well-developed communication skills, both oral and written, institutional development capacities, and training and capacity-building experience. Similar experience working with development partners will be preferred.

4. Other National Specialists (31 person-months)

23. Other national specialists include (i) the national planning and design (water and wastewater) specialist, (ii) national financial specialist, (iii) national water supply and wastewater regulation specialist, (iv) national environmental management specialist, (v) national social safeguard specialist, (vi) national legal specialist, and (vii) national training coordinator and/or specialist. The individual tasks and expected outputs as well as minimum qualification requirements for the above-mentioned experts are in the detailed TORs for the consultant firm.

5. Resource Persons

24. Two international and several national resource persons (one international water utility manager and one international NRW expert) are needed for the TA. Each expert will contribute 10 days. The internationally well-known water utility manager and NRW expert will review the interim report provided by the consultant firm based on first-hand experiences. The resource persons will provide the presentation in, and bring good practice to, the workshop.