

Project Administration Manual

Project Number: 37381-023
November 2012

Proposed Loan for Additional Financing
Democratic Socialist Republic of Sri Lanka:
Dry Zone Urban Water and Sanitation Project

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Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The executing and implementing agencies are wholly responsible for the implementation of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with Government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by executing and implementing agencies of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At Loan Negotiations the borrower and ADB shall agree to the PAM and ensure consistency with the Loan agreement. Such agreement shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the PAM and the Loan Agreement, the provisions of the Loan Agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP) changes in implementation arrangements are subject to agreement and approval pursuant to relevant Government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval they will be subsequently incorporated in the PAM.

Abbreviations

ADB	=	Asian Development Bank
ADF	=	Asian Development Fund
AFS	=	audited financial statements
DMF	=	design and monitoring framework
EA	=	Executing Agency
EARF	=	environmental assessment and review framework
EIA	=	environmental impact assessment
EMP	=	environmental management plan
ERP	=	Enterprise resource planning
IA	=	Implementing Agency
ICB	=	international competitive bidding
ICTAD	=	Institute of Construction, Training and Development
IEE	=	initial environmental examination
MWSD	=	Ministry of Water Supply and Drainage
NCB	=	national competitive bidding
NGOs	=	nongovernment organizations
NWSDB	=	National Water Supply and Drainage Board
PAI	=	project administration instructions
PAM	=	project administration manual
PCC	=	project coordination cell
PID	=	Provincial Irrigation Department
PIU	=	project implementation unit
PMU	=	Project Management Unit
PPMS	=	project performance management system
QBS	=	quality based selection
QCBS	=	quality- and cost based selection
RO	=	Regional Office
RP	=	resettlement plan
RRP	=	report and recommendation of the President to the Board
SBD	=	standard bidding documents
SEA	=	strategic environment assessment
SGIA	=	second generation imprest accounts
SOE	=	statement of expenditure
SPRSS	=	summary poverty reduction and social strategy
SPS	=	Safeguard Policy Statement
TOR	=	terms of reference

I. PROJECT DESCRIPTION

1. Additional financing will finance \$40 million in cost overruns anticipated within the existing scale and scope of the original project to ensure that safe drinking water and sanitation services are provided to the drought affected, northern dry zone urban areas of Chilaw, Mannar, Puttalam, and Vavuniya.¹ After the end of a 30-year conflict in 2009, the Government of Sri Lanka (the government) initiated major post conflict rehabilitation, resettlement and redevelopment efforts in northern Sri Lanka to improve living conditions of conflict-affected people. Water treatment and sanitation schemes in particular are in urgent need of rehabilitation and expansion due to lack of investment and maintenance over 30 years. In the project areas, water is extracted from ground water sources² and water quality is often poor and unverifiable. Additional financing is needed to ensure that the development outcome of the original project is optimized through enhanced access to improved water supply and sanitation. In so doing, the additional financing will contribute to reducing disparities in Sri Lanka, consistent with the government's goal of equitable economic growth.³

2. In 2011, after completion of detailed surveys, the EA informed ADB of possible cost overruns for the construction, rehabilitation of the water treatment plants and related activities under Output 1. ADB requested revised estimates after completion of the detailed designs. By July 2012, due to budgetary limitations, the government requested additional financing⁴ from ADB of \$40 million to finance the remaining cost overruns to complete the original project scope.

3. The expected impact of the Project will be improved physical well-being of urban populations in Sri Lanka's northwestern urban dry zone. The expected outcome will be improved urban water and sanitation services and management in Sri Lanka's northwestern dry zone. The impact and outcome statements and indicators remain unchanged as a result of the additional financing.

4. The outputs will be (i) development of urban water supply and sanitation infrastructure in the northwestern dry zone which includes, development of water resources, expansion and rehabilitation of water supply and improvement of septage management and sanitation, (ii) strengthening of water institutions including support for decentralization of service delivery functions to regional offices and strengthening of water resource management, coordination and planning ability and increase in public awareness, and (iii) capacity development of project management and implementation.

¹ Sri Lanka's northern dry zone annual rainfall ranges from 1200mm–1900 mm but as low as 950 mm in Mannar. Residents in the project areas have been impacted by the 30 year conflict and drought conditions.

² Alternative source includes ground water from tube wells and shallow open wells.

³ Ministry of Finance and Planning. 2006. *Mahinda Chintana: Vision for Sri Lanka (10-Year Development Framework (2006–2010))*. Sri Lanka: State Printing Corporation.

⁴ During the visit of the DG, SARD to Sri Lanka on 25 June 2012 and subsequently in a letter dated 24 July 2012 from the Department of External Resources of the Ministry of Finance and Planning.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Indicative Activities	Months							Who responsible
	Aug 2012	Sep 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	
Advance contracting actions	X							Executing Agency
Retroactive financing actions			X					Executing Agency
Establish project implementation arrangements	X							Executing Agency
ADB Board approval			X					ADB
Loan signing				X				Government and ADB
Government legal opinion provided						X		Government
Government budget inclusion					X			Government
Loan effectiveness							X	Government

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations – Roles and Responsibilities

Project Implementation Organizations	Management Roles and Responsibilities
<ul style="list-style-type: none"> • Executing Agency 	<ul style="list-style-type: none"> ➤ Ministry of Water Supply and Drainage (MWSD) through the National Water Supply and Drainage Board oversee the project at national level, advise and guide the project on strategic and, policy decisions.
<ul style="list-style-type: none"> • Project Steering Committee 	<ul style="list-style-type: none"> ➤ National Project Steering Committee will be responsible to guide the project on strategic and policy decisions on implementation, and coordinate inter-agency issues
<ul style="list-style-type: none"> • Implementing Agency: National Water Supply and Drainage Board through the Project Management Unit 	<ul style="list-style-type: none"> ➤ Overall responsibility for; (i) project management, (ii) coordinate implementation particularly with project implementation unit (PMU), and (iii) function as project implementation unit to assist in day-to-day project implementation of water supply, sanitation, water resource management, and capacity building components. ➤ preparing overall project implementation plan and consolidated annual work plan, ➤ appointing project consulting teams, ➤ approving design of investment components prepared by PM and consultants, ➤ preparing standard bid documents to comply with ADB guidelines, ➤ monitoring the bidding process, reviewing the bid evaluation and preparing bid evaluation reports for approval by ADB, ➤ procuring equipment and services for water, sanitation, and public awareness, ➤ reviewing community awareness and participation programs, ➤ ensuring project compliance with loan and grant covenants, ➤ coordinating with ADB on matters related to disbursements, ➤ undertaking institutional development assistance and capacity building programs, ➤ maintaining project documents and submitting timely reports to ADB and the Government including audit

	<p>reports,</p> <ul style="list-style-type: none"> ➤ organize monitoring and evaluation activities, oversee implementation and monitoring of social and environmental safeguards, ➤ supervise the implementation of the gender action plan and other activities under the summary, ➤ poverty reduction and social strategy, and ➤ obtain necessary clearances
<ul style="list-style-type: none"> • ADB 	<ul style="list-style-type: none"> ➤ monitor and review overall implementation in consultation with the executing agencies/implementing agencies including: project implementation schedule, actions required with reference to the summary of poverty reduction & social strategy, gender action plan, environment management plan, and resettlement plan if applicable, timeliness of budgetary allocations and counterpart funding, project expenditure progress with procurement and disbursement, statement of expenditure when applicable, compliance with loan covenants, and likelihood of attaining Project development objectives.

B. Key Persons Involved in Implementation

Executing Agency

Ministry of Water Supply and
Drainage

Mr. A. Abeygunasekara, Secretary
35 Lak Diya Medura
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National Water Supply and
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ADB

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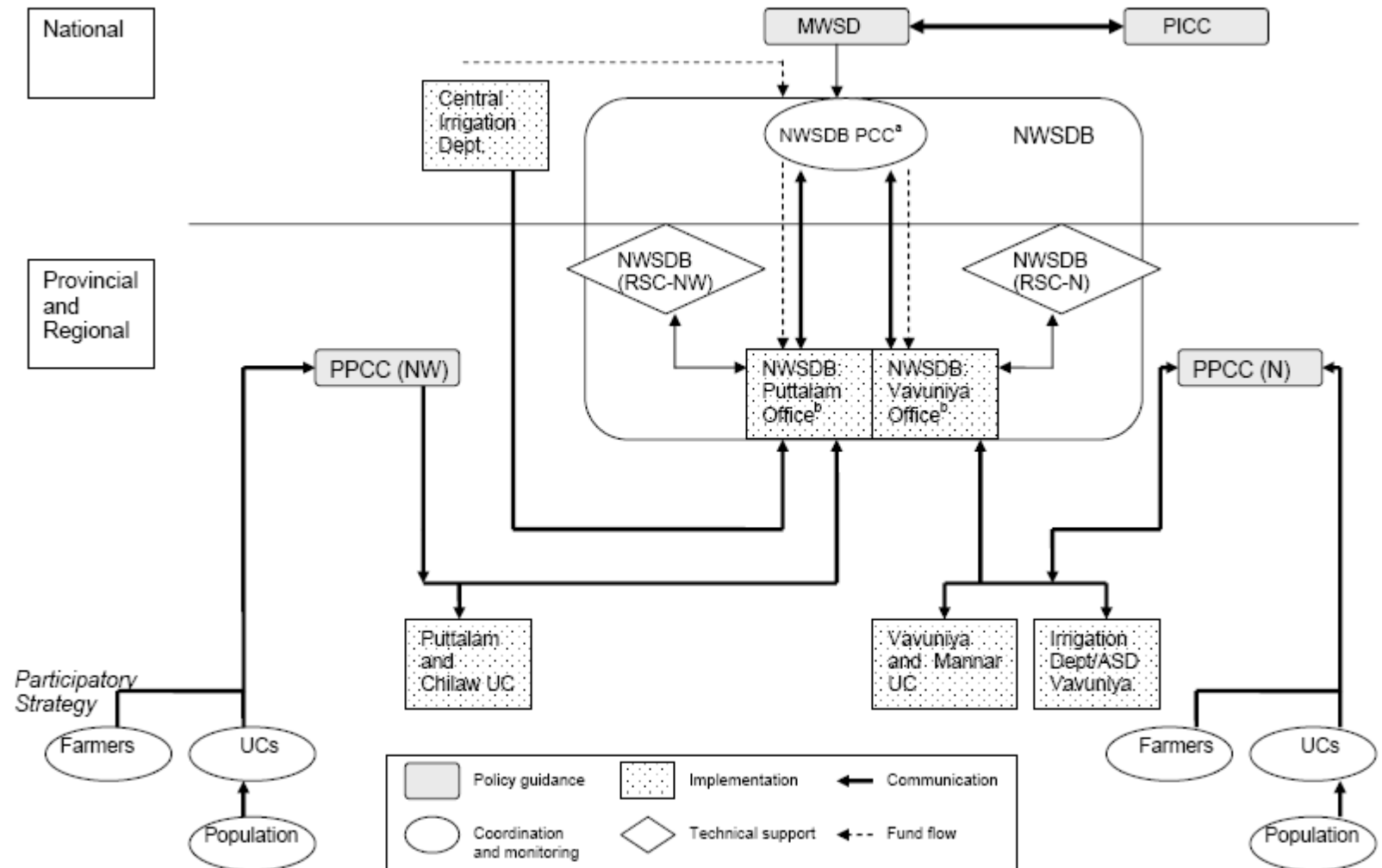
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C. Project Organization Structure



ASD = Agrarian Services Department, MWSD = Ministry of Water Supply and Drainage, N = Northern Province, NW = North Western Province, NWSDB = National Water Supply and Drainage Board, PICC = project implementation coordination committee, PPCC = provincial project coordination committee, UC = urban council.
^a Imprest account. ^b Second generation imprest account.
 Source: Asian Development Bank assessment.

IV. COSTS AND FINANCING

Item	Total Cost	% of Total Base Cost
A. Investment Costs		
1 Civil Works	46.34	30%
2 Road Reinstatement	0.33	1%
3 Construction Equipment and Materials	56.97	26%
4 Surveys	0.96	1%
5 International Consultants	2.36	2%
6 National Consultants	2.82	3%
7 Training	0.5	0%
8 Resettlement Compensation	0.504	0%
9 Land Acquisition	0.27	0%
10 Office Equipment and Furniture	0.03	0%
11 Taxes and Duties	22.46	12%
Subtotal (A)	133.544	75%
B. Recurrent Costs		
1 Project Administration	4.43	1%
2 Taxes and Duties	0.55	0%
Subtotal (B)	2.72	2%
Total Base Cost	125.43	77%
C. Contingencies		
	21.09	21%
D. Financing Charges During Implementation		
	3.71	2%
Total Project Cost (A+B+C+D)		
	163.32	100%

A. Detailed Cost Estimates by Expenditure Category

	Original			Revised			% of Total Base Cost
	Foreign	Local	Total	Foreign	Local	Total	
	Exchange	Currency	Cost	Exchange	Currency	Cost	
A. Investment Costs							
1 Civil Works	6.61	24.66	31.27	17.78	28.56	46.34	30%
2 Road Reinstatement	0.00	1.81	1.81	0.00	0.33	0.33	1%
3 Construction Equipment and Materials	23.01	2.56	25.57	40.4	16.57	56.97	26%
4 Surveys	0.00	1.32	1.32	0.00	0.96	0.96	1%
5 International Consultants	1.87	0.00	1.87	2.36	0.00	2.36	2%
6 National Consultants	0.00	3.54	3.54	0.00	2.82	2.82	3%
7 Training	0.00	0.67	0.67	0.00	0.5	0.5	0%
8 Resettlement Compensation	0.00	0.17	0.17	0.00	0.5	0.5	0%
9 Land Acquisition	0.00	0.34	0.34	0.00	0.27	0.27	0%
10 Office Equipment and Furniture	0.42	0	0.42	0.03	0	0.03	0%
11 Taxes and Duties	0.00	15.07	15.07	0.00	22.46	22.46	12%
Subtotal (A)	31.91	50.14	82.05	60.57	72.97	133.54	75%
B. Recurrent Costs							
1 Project Administration(incremental Recurrent Cost)	0.00	1.31	1.31	0.00	4.43	4.43	1%
2 Taxes and Duties	0.00	0.2	0.2	0.00	0.55	0.55	0%
Subtotal (B)	0.00	1.51	1.51	0.00	4.98	4.98	2%
Total Base Cost	31.91	51.65	83.56	60.57	77.95	138.52	77%
C. Contingencies							
1 Physical ^a	2.52	3.78	6.3	4.3	7.11	11.41	6%
2 Price ^b	4.57	13.83	18.4	2.42	3.95	6.37	13%
3 Risk Allowances ^c	1.61	1.7	3.31	1.6	1.7	3.3	2%
Subtotal (C)	8.7	19.31	28.01	8.32	12.76	21.08	21%

D. Financing Charges During Implementation

1	Interest During Implementation ^d	2.21	0.00	2.21	3.71	0.00	3.71	2 %
2	Commitment Charges	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Subtotal (D)	2.21	0.00	2.21	3.71	0.00	3.71	2 %
Total Project Cost (A+B+C+D)		42.82	70.96	113.78	72.6	90.71	163.32	100%

^a Physical contingencies computed at 10% for civil works, resettlement, and consultancy; 5% for all other items. From 2012 onwards contingencies calculated at 10% from civil works and equipment, 15% for International and Local consultants, Training at 20% and Surveys at 18%.

^b Price contingencies computed at 6.8% for foreign exchange costs for 2008, 0.7% for 2009, 1.4% for 2010, 0.4% for 2011. For 2012 onwards price contingencies are calculated 6% of the total civil works and equipment cost and 3% from international and local consultants.

^c Risk allowance applies to Mannar and Vavuniya, and is estimated at 10% of total civil works and equipment. From 2012 onwards risk allowances is not calculated as there is no conflict in these areas.

^d Financing charges are estimated as 1% per year during the grace period and 1.5% during the amortization period for the Asian Development Fund loan.

Source: Asian Development Bank estimates.

B. Allocation and Withdrawal of Loan Proceeds

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS (Dry Zone Urban Water and Sanitation Project)			
CATEGORY			ADB FINANCING BASIS
Number	Item	Total Amount Allocated for ADB Financing USD Category	Percentage and Basis for Withdrawal from the Grant Account
1	Civil Works	6,500,000	75% of total expenditure
2	Construction Equipment and Materials	25,070,000	100% of total expenditure*
3	Consultancy	1,250,000	100% of total expenditure*
4	Incremental Project Administration Costs	400,000	100% of total expenditure*
5	Interest Charge	1,500,000	100% of total amount due
6	Unallocated	5,280,000	
	Total	40,000,000	

* Exclusive of taxes and duties within the territory of the borrower.

C. Detailed Cost Estimates by Financier

	ADF Loan		ADF Additional Financing		ADF Grant		WFPF		Government		Total
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	
A Investment Costs											
1 Civil Works	23.45	51%	6.50	14%	13.95	30%	0.00	0%	2.44	5%	46.34
a Water Treatment Plant and Septage (ADF Original) *	23.45	75%	0.00	0%	0.00	0%	0.00	0%	1.80	7%	25.25
b Water Treatment Plant and Septage (ADF Additional) *	0.00	0%	6.50	75%	0.00	0%	0.00	0%	0.24	4%	6.74
c Geographical Investigation *	0.00	0%	0.00	0%	13.95	72%	0.00	0%	0.40	3%	14.35
2 Road Reinstatement	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.33	100%	0.33
3 Construction Equipment and Materials	24.16	42%	25.07	44%	1.22	2%	0.49	1%	6.03	11%	56.97
a Water Treatment Plant and Septage (ADF Original)	24.16	100%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	24.16
b Water Treatment Plant and Septage (ADF Additional)	0.00	0%	25.07	100%	0.00	0%	0.00	0%	0.00	0%	25.07
c Geographical Investigation (ADF Grant)	0.00	0%	0.00	0%	1.22	100%	0.00	0%	0.00	0%	1.22
d Geographical Investigation (WFPF Grant)	0.00	0%	0.00	0%	0.00	0%	0.49	100%	0.00	0%	0.49
4 Surveys	0.00	0%	0.00	0%	0.56	58%	0.40	42%	0.00	0%	0.96
a Soil investigation, topographical and ground water surveys	0.00	0%	0.00	0%	0.56	100%	0.00	0%	0.00	0%	0.56
b Surveys related to water resource management and socio-economic activities	0.00	0%	0.00	0%	0.00	0%	0.40	100%	0.00	0%	0.40
5 International and National Consultants	0.00	0%	1.25	24%	3.28	63%	0.65	13%	0.00	0%	5.18
a Consultancy (Package A)	0.00	0%	0.00	0%	2.44	100%	0.00	0%	0.00	0%	2.44
b Consultancy (Package A) - Additional Financing	0.00	0%	1.25	100%	0.00	0%	0.00	0%	0.00	0%	1.25
c Consultancy (Package B)	0.00	0%	0.00	0%	0.84	100%	0.00	0%	0.00	0%	0.84
d Consultancy (Package C)	0.00	0%	0.00	0%	0.00	0%	0.65	100%	0.00	0%	0.65
6 Training	0.00	0%	0.00	0%	0.34	68%	0.16	32%	0.00	0%	0.50
a Institutional Development Training	0.00	0%	0.00	0%	0.34	100%	0.00	0%	0.00	0%	0.34
b Water resource management related training	0.00	0%	0.00	0%	0.00	0%	0.16	100%	0.00	0%	0.16
7 Resettlement Compensation	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.50	100%	0.50
8 Land Acquisition	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.27	100%	0.27
9 Office Equipment and Furniture	0.00	0%	0.00	0%	0.03	100%	0.00	0%	0.00	0%	0.03
10 Taxes and Duties	0.00	0%	0.00	0%	0.00	0%	0.00	0%	22.46	100%	22.46
Subtotal (A)	47.61	36%	32.82	25%	19.38	15%	1.70	1%	32.03	24%	133.54
B Recurrent Costs											
1 Incremental Project Administration Costs	0.00	0%	0.40	9%	0.00	0%	0.00	0%	4.03	91%	4.43
NWSDB recurrent expenditure	0.00	0%	0.40	9%	0.00	0%	0.00	0%	4.03	91%	4.43
2 Taxes and Duties	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.55	100%	0.55
Subtotal (B)	0.00	0%	0.40	8%	0.00	0%	0.00	0%	4.58	92%	4.98
Total Base Cost	47.61	34%	33.22	24%	19.38	14%	1.70	1%	36.61	26%	138.52
C Contingencies											
1 Physical	4.76	42%	3.34	29%	2.18	19%	0.25	2%	0.88	8%	11.41
2 Price	2.86	45%	1.93	30%	1.01	16%	0.05	1%	0.53	8%	6.38
3 Risk Allowances	2.34	71%	0.00	0%	0.66	20%	0.00	0%	0.30	9%	3.30
Subtotal (C)	9.96	47%	5.27	25%	3.85	18%	0.30	1%	1.71	8%	21.09
D Financing Charges during Implementation											
1 Interest during implementation	2.21	60%	1.50	40%	0.00	0%	0.00	0%	0.00	0%	3.71
Subtotal (D)	2.21	60%	1.50	40%	0.00	0%	0.00	0%	0.00	0%	3.71
Total Project Cost (A+B+C+D)	59.78	37%	39.99	24%	23.23	14%	2.00	1%	38.32	23%	163.32

D. Detailed Cost Estimates by Outputs/Components

	Total Cost	Developing Water and Sanitation Infrastructure		Strengthening Water Sector Institutions		Building Management and Implementation Capacity	
		Amount	%	Amount	%	Amount	%
A. Investment Costs							
1 Civil Works	46.34	46.34	31%	0.00	0%	0.00	0%
2 Road Reinstatement	0.33	0.33	0.2%	0.00	0%	0.00	0%
3 Construction Equipment and Materials	56.97	56.63	38%	0.34	9%	0.00	0%
4 Surveys	0.96	0.27	0.2%	0.40	11%	0.29	3%
5 International Consultants	2.36	0.00	0%	0.59	16%	1.77	17%
6 National Consultants	2.82	0.00	0%	0.71	19%	2.11	21%
7 Training	0.50	0.00	0%	0.35	10%	0.15	1%
8 Resettlement Compensation	0.50	0.50	0.3%	0.00	0%	0.00	0%
9 Land Acquisition	0.27	0.27	0.2%	0.00	0%	0.00	0%
10 Office Equipment and Furniture	0.03	0.00	0%	0.03	0.8%	0.00	0%
11 Taxes and Duties	22.46	21.47	14%	0.39	11%	0.60	6%
Subtotal (A)	133.54	125.81	84%	2.81	76%	4.92	48%
B. Recurrent Costs							
1 Incremental Project Administration Costs	4.43	0.00	0%	0.40	11%	4.03	39%
2 Taxes and Duties	0.55	0.00	0%	0.04	1%	0.51	5%
Subtotal (B)	4.98	0.00	0%	0.44	12%	4.54	44%
Total Base Cost	138.52	125.81	84%	3.25	88%	9.46	92%
C. Contingencies							
1 Physical	11.41	10.38	7%	0.37	10%	0.66	6%
2 Price	6.37	6.20	4%	0.06	2%	0.12	1%
3 Risk Allowances	3.30	3.30	2%	0.00	0%	0.00	0%
Subtotal (C)	21.09	19.88	13%	0.43	12%	0.78	8%

D. Financing Charges During Implementation

1	Interest During Implementation	3.71	3.71	2%	0.00	0%	0.00	0%
	Subtotal (D)	3.71	3.71	2%	0.00	0%	0.00	0%
	Total Project Cost (A+B+C+D)	163.32	149.40	100%	3.68	100%	10.24	100%

^a Physical contingencies computed at 10% for civil works, resettlement, and consultancy; 5% for all other items. From 2012 onwards contingencies calculated at 10% from civil works and equipment, 15% for International and Local consultants, Training at 20% and Surveys at 18%.

^b Price contingencies computed at 6.8% for foreign exchange costs for 2008, 0.7% for 2009, 1.4% for 2010, 0.4% for 2011. For 2012 onwards price contingencies are calculated 6% of the total civil works and equipment cost, and 3% from international and local consultants.

^c Risk allowance applies to Mannar and Vavuniya, and is estimated at 10% of total civil works and equipment. From 2012 onwards risk allowances is not calculated as there is no conflict in these areas.

^d Financing charges are estimated as 1% per year during the grace period and 1.5% during the amortization period for the Asian Development Fund loan.

Note: Figures may not add up to totals because of rounding.

Source: Asian Development Bank estimates.

E. Detailed Cost Estimates by Year

(\$ million)

Item	Total Cost ^b	Year 1 (2009)	Year 2 (2010)	Year 3 (2011)	Year 4 (2012)	Year 5 (2013)	Year 6 (2014)	Year 7 (2015)	Year 8 (2016)
A. Investment Costs									
1 Civil Works	46.34	0.00	0.10	0.23	1.61	16.4	22.23	11.93	2.48
2 Road Reinstatement	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 Construction Equipment and Materials	56.97	0.00	0.10	0.34	1.31	10.44	18.89	12.81	3.88
4 Surveys	0.96	0.18	0.40	0.44	0.15	0.05	0.05	0.04	0.00
5 International Consultants	2.36	0.00	0.17	0.81	0.64	0.46	0.46	0.35	0.00
6 National Consultants	2.82	0.00	0.12	0.56	0.47	0.38	0.38	0.28	0.00
7 Training	0.5	0.00	0.10	0.56	0.30	0.04	0.04	0.03	0.00
8 Resettlement Compensation	0.504	0.00	0.09	0.10	0.14	0.14	0.00	0.00	0.00
9 Land Acquisition	0.27	0.00	0.23	0.02	0.01	0.00	0.00	0.00	0.00
10 Office Equipment and Furniture	0.03	0.00	0.98	1.95	0.98	0.00	0.00	0.00	0.00
11 Taxes and Duties	22.46	0.02	0.27	0.60	1.83	5.85	5.08	6.05	1.76
Subtotal (A)	133.54	0.20	2.56	5.61	7.44	33.76	47.13	31.49	8.12
B. Recurrent Costs									
1 Project Administration	4.43	0.08	0.25	0.25	0.25	0.42	0.43	0.43	0.20
2 Taxes and Duties	0.55	0.00	0.03	0.03	0.03	0.05	0.06	0.06	0.02
Subtotal (B)	4.98	0.08	0.28	0.28	0.28	0.47	0.49	0.49	0.22
Total Base Cost	138.52	0.28	2.84	5.89	7.72	34.23	47.62	31.98	8.34
C. Contingencies	21.09	0.00	0.01	0.01	0.50	6.00	7.00	5.41	2.00

D. Financing Charges During Implementation	3.50	0.00	0.07	0.14	0.18	0.88	1.20	0.82	0.21
Total Project Cost (A+B+C+D)	163.32	0.28	2.92	6.03	8.40	41.11	55.82	38.21	10.55
% Total Project Cost	100%	0.17%	1.79%	3.69%	5.14%	25.17%	34.18%	23.39%	6.46%

^a Physical contingencies computed at 10% for civil works, resettlement, and consultancy; 5% for all other items. From 2012 onwards contingencies calculated at 10% from civil works and equipment, 15% for International and Local consultants, Training at 20% and Surveys at 18%.

^b Price contingencies computed at 6.8% for foreign exchange costs for 2008, 0.7% for 2009, 1.4% for 2010, 0.4% for 2011. For 2012 onwards price contingencies are calculated 6% of the total civil works and equipment cost, and 3% from international and local consultants.

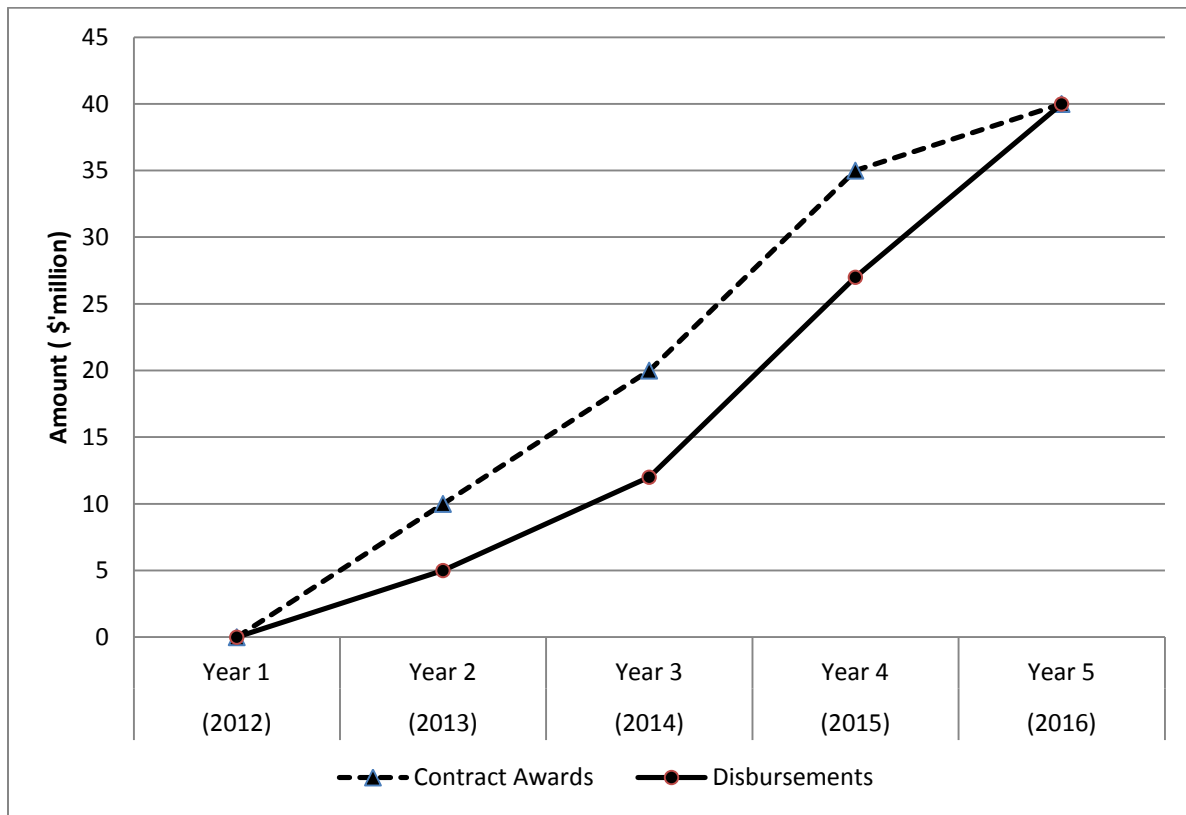
^c Risk allowance applies to Mannar and Vavuniya, and is estimated at 10% of total civil works and equipment. From 2012 onwards risk allowances is not calculated as there is no conflict in these areas.

^d Financing charges are estimated as 1% per year during the grace period and 1.5% during the amortization period for the Asian Development Fund loan.

Note: Figures may not add up to totals because of rounding.

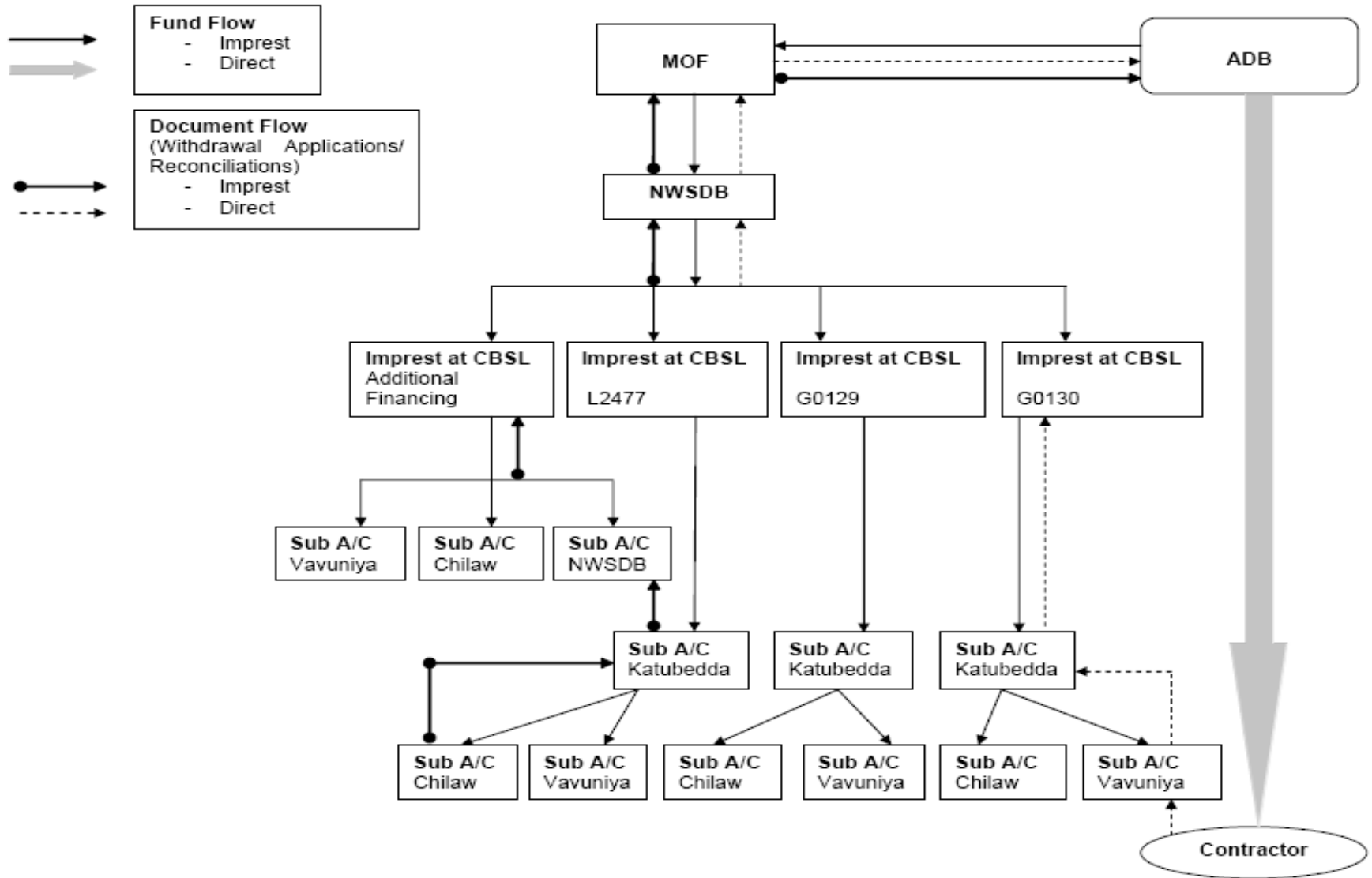
Source: Asian Development Bank estimates.

F. Contract and Disbursement S-curve



Source: Asian Development Bank Estimates

G. Fund Flow Diagram



V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

1. Financial management assessment indicates there is no major potential issue with management of loan proceeds in NWSDB during project implementation. However, for NWSDB to achieve the highest accuracy in accounting, it is necessary to complete and fully implement the on-going enterprise resource planning (ERP) system. The development of the ERP system has encountered severe delays. NWSDB should give priority to finalize the ERP system to ensure both timely and accurate production of project specific information as well as statutory accounts. Also, the transfer of asset balances from work-in-progress to respective asset classes is generally delayed even after completion of the construction work. As such, the depreciation on these completed projects is not accounted for and underestimated. This may affect the tariff revision process, as the NWSDB's tariff policy is to recover operation and maintenance (O&M) costs and debt service or depreciation whichever is higher at the national level.

2. As per unaudited accounts for 2011, NWSDB is expected to post a net profit for the first time in 10 years. The 2011 financial result also represents a significant improvement from the previous year, where NWSDB incurred heavy losses. Improvement in 2011 compared to 2010 is largely attributable to improved operational efficiencies and reduction of costs. NWSDB has a pending request for a tariff revision suggesting almost 20% increase from the previous rates amended in 2009. This is widely expected to be implemented within the current year. NWSDB has started to levy and collect sewerage tariffs effective 1 January 2012. The results of the projected financial performance of NWSDB show that it is projected to earn positive net income each year over the forecast period. However, the financial projections require that tariffs are periodically adjusted once every 2 years to keep pace with inflation and rising costs of operation. The Government's positive actions on tariff increase applications by NWSDB are therefore necessary for a financially healthy and sound NWSDB.

B. Disbursement

3. The Loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time),⁵ and detailed arrangements agreed upon between the Government and ADB.

4. Pursuant to ADB's Safeguard Policy Statement (2009) (SPS),⁶ ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities list set forth in Appendix 5 of the SPS.

5. To expedite implementation of the project through timely release of funds, a separate imprest account will be established at the Central Bank of Sri Lanka under the Ministry of Water Supply and Drainage (MWSD) through the National Water Supply and Drainage Board. The imprest account and sub accounts will be established, managed, replenished and liquidated in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time).

6. Three sub accounts will be opened at NWSDB (PMU office), Vavuniya and Chilaw offices.

⁵ Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf

⁶ Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

These will be established at commercial banks acceptable to the Government and ADB. NWSDB will be responsible for monitoring these accounts, monthly reconciliation of accounts and monitoring of sub accounts. Preparation of direct payment, reimbursement, imprest advance, and replenishment/liquidation of withdrawal applications. For every liquidation and replenishment request of the imprest account, the borrower shall furnish to ADB the documents required as per the *Loan Disbursement Handbook* (2012, as amended from time to time).

7. The ceiling for the imprest account should not exceed 10% of the loan amount. The request for initial advance to the imprest account should be accompanied by an estimate of ADB's share of eligible project expenditure for the forthcoming 6 months which are to be paid through the imprest account (Appendix 10B) and submission of evidence satisfactory to ADB that the imprest account has been duly opened.

8. ADB's Statement of Expenditure (SOE) procedures are proposed for reimbursement, replenishment and liquidation of the imprest advance with a SOE ceiling of \$100,000 for each payment to be used for activities, including small scale works, community based activities and project management operating costs. SOE records should be maintained and made readily available for review by ADB's disbursement and review mission or upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. NWSDB shall use appropriate formats given in the ADB's *Loan Disbursement Handbook* (2012, as amended from time to time) in submitting withdrawal applications to ADB.

9. NWSDB will be responsible for; (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds, (iii) collecting supporting documents, and (iv) preparing and sending withdrawal applications to ADB.

C. Accounting

10. The NWSDB will maintain separate project financial statements and records by funding source for all expenditure incurred by the Project. Project financial statements will follow Sri Lanka Accounting Standards which are harmonized with international accounting principles and practices.

D. Auditing

11. The NWSDB will cause the detailed consolidated project financial statements to be audited in accordance with sound auditing standards acceptable to ADB by an auditor acceptable to ADB. The audited accounts will be submitted in English language to ADB within 6 months of the end of the fiscal year, by the Executing Agency. The annual audit report will include a separate audit opinion on the; (i) use of the imprest account and sub accounts (ii) SOE procedures and (iii) compliance with financial covenants. The Government and NWSDB have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of audited accounts. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures. ADB requires Agency Financial Statement (AFS) for NWSDB.

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting and Retroactive Financing

1. All advance contracting will be undertaken in conformity with ADB's *Procurement Guidelines* (April 2010, as amended from time to time) and ADB's *Guidelines on the Use of Consultants* (April 2010, as amended from time to time). The issuance of invitations to bid under advance contracting will be subject to ADB approval. The Government, executing and implementing agencies have been advised that approval of advance contracting does not commit ADB to finance the Project.

2. Advance contracting: Lessons from the ADB-assisted water supply and sanitation projects in Sri Lanka indicate the need to address start-up delays and slow disbursements in initial years brought about by delays in; (i) consultant selection, and (ii) time taken to complete preparatory work before contract award. To expedite project implementation, advance action will be taken for; (i) recruiting design and construction supervision and management consultants, (ii) undertaking preliminary investigation; and initiating design activities relating to Mannar's transmission line.

3. Retroactive financing (proposed additional financing). A maximum amount of eligible expenditures up to 20% of the additional financing loans, incurred before loan effectiveness, but not more than 12 months before the signing of the loan agreements will be allowed.

B. Procurement of Goods, Works and Consulting Services

4. All procurement of goods and works will be undertaken in accordance with ADB's *Procurement Guidelines*.

5. International competitive bidding procedures will be used for civil works contracts estimated to cost \$3 million or more, and supply contracts valued at \$500,000 or higher. Shopping will be used for contracts for procurement of works and equipment worth less than \$100,000. All construction works for the rural component remain valued at less than \$1 million equivalent, so they will be procured through NCB or, in the case of contracts valued at less than SLRs 2 million (approximately \$20,000 equivalent), they will be procured by CBOs following procedures for community participation in procurement acceptable to ADB. SLRs 2 million threshold was decided based on the government decision to award civil contracts less than SLRs 2 million to government approved Community Based Organizations (CBOs). Project will conduct capacity development programs targeting CBOs to ensure implementation of civil works contracts.

6. Before the start of any procurement, ADB and the Government will review the public procurement laws of the central and state governments to ensure consistency with ADB's *Procurement Guidelines*.

7. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in Section C.

8. All consultants will be recruited according to ADB's *Guidelines on the Use of Consultants*.⁷ The terms of reference for all consulting services are detailed in Section D.

9. Under the additional financing, the services of the ongoing design and supervision consultants will be extended to facilitate project management and implementation. The Consulting firm is engaged using the quality and cost-based selection (QCBS) method.

C. Procurement Plan

Project Name Dry Zone Urban Water Supply and Sanitation Project	Original Loan (grant) Number 37381
Original Loan/Grant Amount US\$ 85 million	Additional Financing Loan Number 37381-023
Additional Financing Loan Amount US\$ 40 million	Executing Agency: National Water Supply and Drainage
Date of first Procurement Plan (loan (grant) approval date) November 2008	Implementing Agency Board: National Water Supply and Drainage Board
	Date of this Procurement Plan 18 August 2012

Section 1: Process Thresholds, Review and 18 Month Procurement Plan

1. Project Procurement Thresholds

Except as ADB may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works	
Method	Threshold
International Competitive Bidding for Works	Equal or above US\$3,000,000
International Competitive Bidding for Goods	Equal or above US\$500,000
National Competitive Bidding for Works	Below US\$ 3,000,000
National Competitive Bidding for Goods	Below US\$ 500,000
Shopping for Works	Below US\$ 100,000
Shopping for Goods	Below US\$ 100,000
<i>List here any other methods of procurement approved for use (see Section III of the Procurement) - CBO Procurement</i>	Below US\$ 20,000 (note 1)

Note 1 - SLRs 2 million threshold was decided based on the government decision to award civil contracts less than SLRs 2 million to government approved community based organizations.

2. ADB Prior or Post Review

Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement of Goods and Works		
Procurement Method	Prior or Post	Comments
ICB Works	Prior	All contracts
ICB Goods	Prior	All Contracts
NCB Works	Prior	First contract only and rest of contracts shall be post

⁷ Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

		reviewed, unless SLRM wants to review NCB contracts as well.
NCB Goods	Prior	Do
Shopping for Works	Post	Do
Shopping for Goods	Post	Do
Community participation (CBO)	Post	Do

Recruitment of Consulting Firms		
Procurement Method	Prior or Post	Comments
Quality and Cost Based Selection (QCBS)	Prior	SSS Contracts over \$1 million will be reviewed by COSO
Recruitment of Individual Consultants		
Individual Consultants	Prior	

3. Consulting Services Contracts Estimated to Cost More Than US\$ 100,000

The following table lists consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Contract Value (base cost)	Recruitment Method (cost ratio)	Advertisement Date (quarter/year)	International or National Assignment	Comments
Package A - Design and Construction Supervision Consultants	\$3.88	QCBS (80:20)	Q1 2009	International	Contract awarded in 2010. Contract value \$4.8 million. ¹
Package C - Water Resources Management	\$2.0	QCBS (80:20)	Q3 2009	International	Contract awarded in 2010.

¹Subject to Additional Financing approval, this contract may be extended to 2016 up to an maximum amount of \$1.25million.

4. Goods and Works Contracts Estimated to Cost More Than US\$ 1 Million

The following table lists goods and works contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

No	Contract No.	General Description	Contract Value Excluding Taxes	Procurement Method	Prequalification Of Bidders (y/n)	Source of Fund	Advertisement Date (quarter/year)	Comments
1.	SW/C&P/01	Surface Water Development in Chilaw and Puttalam	3.6	ICB	N	ADFG	Q3/2012	Bids under evaluation
2.	SW/V/02	Surface Water Development in Vavuniya	7.4	ICB	N	ADFG	Q2/2012	Bids under evaluation
3.	GW/ALL/03B	Civil, Electrical and Mechanical works associated with ground water development in Chilaw, Puttalam, Vavuniya and Mannar.	1.5	NCB	N	ADFG	Q1/2013	
4.	WTP/C&P/04A	Construction of water treatment plants and storage structures with supply and installation of pumps, automation system and M&E equipment in Chilaw and Puttalam	25.58	ICB	N	ADFL – Additional Financing	Q4/2012	
5.	WTP/C&P/04B	Rehabilitation of existing water treatment plants in Chilaw and Puttalam	4.7	ICB	N	ADFL – Additional Financing	Q3/2014	
6.	WTP/V/05	Construction of new water treatment plant and storage structures with supply and installation of pumps, automation system and M&E equipment in Vavuniya.	15.0	ICB	N	ADFL-Original Loan	Q4/2012	
7.	SEP/M/07	Septage treatment facility and associated construction and E&M equipment in Mannar and Vavuniya.	1.24	NCB	N	ADFG	Q4/2012	
8.	SEP/C&P/06	Septage treatment facility and associated construction and	1.1	NCB	N	ADFG	Q4/2012	

No	Contract No.	General Description	Contract Value Excluding Taxes	Procurement Method	Prequalification Of Bidders (y/n)	Source of Fund	Advertisement Date (quarter/year)	Comments
		E&M equipment in Chilaw and Puttalam						
9.	PIPES/C/08A	Supply and laying of HDPE & PVC pipes for transmission main and distribution system in Chilaw WSS-Stage1	0.85	NCB	N	ADFL-Original Loan	Q2/2012	Contract Awarded
10.	PIPES/C/08B	Supply and laying of DI,HDPE & PVC pipes, specials, fittings and valves for transmission main and distribution system in Chilaw WSS-Stage II	4.5	ICB	N	ADFL-Original Loan	Q2/2012	Bids under evaluation
11.	PIPES/P/09	Supply and laying of DI,HDPE & PVC pipes, specials, fittings and valves for transmission main and distribution system in Puttalam WSS.	14.9	ICB	N	ADFL-Original Loan	Q3/2012	Bids under evaluation
12.	PIPES/V/10	Supply and laying of DI,HDPE & PVC pipes, specials, fittings and valves for transmission main and distribution system in Vavuniya WSS.	9.6	ICB	N	ADFL-Original Loan	Q3/2012	Bids under evaluation
13.	PIPES/M/11	Supply and laying of DI,HDPE & PVC pipes, specials, fittings and valves for transmission main and distribution system in Mannar WSS.	4.0	ICB	N	ADFL-Original Loan	Q2/2012	Bids under evaluation
14.	STRU/M/12	Construction of Water storage structures in Mannar	4.6	ICB	N	ADFL-Original Loan	Q4/2012	
15.	P&D/C,N/ADB 5/2010/01	Supply and Laying of HDPE,DI pipes for water transmission main from Murunkan to Mannar with branch off to Vankalai	3.65	ICB	N	ADFL-Original Loan	Q3/2010	Contract Awarded
16.	PIPES/C&P/18	Supply and laying of DI,HDPE & PVC pipes, specials, for	12	ICB	N	ADFL – Additional	Q2/2013	

No	Contract No.	General Description	Contract Value Excluding Taxes	Procurement Method	Prequalification Of Bidders (y/n)	Source of Fund	Advertisement Date (quarter/year)	Comments
		transmission and distribution system in Chilaw WSS (Bangadeniya and Bingiriya) and Puttalam WSS (Kaladiya).				Financing		
17	PIPES/V&M/19	Supply and laying of DI,HDPE & PVC pipes, specials, fittings and valves for distribution system in Mannar and Vavuniya WSS.	1.0	NCB	N	ADFL – Additional Financing	Q2/2013	

; ICB=international competitive bidding; NCB=national competitive bidding; NWSDB = national water supply and drainage board;

Amounts presented correspond to revised cost estimates, as computed for 2011/2012 at market rates. They are exclusive of land and consultancy costs.

Source: Asian Development Bank estimates.

5. Goods and Works Contracts Estimated to Cost Less than US\$ 1 Million and Consulting Services Contracts Less than US\$100,000

The following table groups smaller-value goods, works and consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

No	Contract No.	General Description	Contract Value	Procurement Method	Prequalification Of Bidders (y/n)	Source of Fund	Advertisement Date (quarter/year)	Comments
1.	GW/V&M/03A	Groundwater development in Vavuniya and Mannar.	0.31	NCB	N	ADFG	Q4/2012	
2.	VEHICLE /ALL/13	Supply and Delivery of 3 Vacuum Trucks, 1 Crane Truck, 8 single cabs, 4 mini trucks, 12 motor cycles for Chilaw, Puttalam, Vavuniya and Mannar.	0.5	NCB	N	ADFG	Q3/2013	Goods – 4 packages
3.	PT/C/14	Construction of Public Toilets in Chilaw	0.08	Shopping	N	ADFG	Q4/2012	
4.	PT/P/15	Construction of Public Toilets in Puttalam	0.08	Shopping	N	ADFG	Q4/2012	
5.	PT/V/16	Construction of Public Toilets in Vavuniya	0.12	NCB	N	ADFG	Q4/2012	
6.	PT/M/17	Construction of Public Toilets in Mannar	0.11	NCB	N	ADFG	Q4/2012	
7.	Community procurement	Low cost sanitation to communities in the district of Puttalam, Vavuniya and Mannar	0.33	Community Based Procurement	N	ADFG	Q3/2012	102 contracts already been awarded.
8.	P&D/CN/ADB 5/2009/01	Construction of office building for RSC(North) at Vavuniya	0.49	NCB	N		Q1/2010	Contract Awarded

ICB=international competitive bidding, NCB=national competitive bidding; NWSDB = national water supply and drainage board;

Amounts presented correspond to revised cost estimates, as computed for 2011/2012 at market rates. They are exclusive of land and consultancy costs.

Source: Asian Development Bank estimates.

Section 2: Project Procurement Plan

6. Indicative List of Packages Required Under the Project

The following table provides an indicative list of all procurement (goods, works and consulting services) over the life of the project. Contracts financed by the Borrower and others should also be indicated, with an appropriate notation in the Comments section.

General Description	Estimated Value (cumulative) ⁸	Estimated Number of Contracts	Procurement Method	Domestic Preference Applicable	Comments
Goods	\$0.5	1	NCB and Shopping	N	Equipment
Works	\$117.38	23	ICB and NCB	N	Civil works for water supply and sanitation infrastructure development
	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Type of Proposal	Comments
Consulting Services	\$5.24	2	QCBS (International)	Full Technical Proposal	

⁸ All values are base costs, exclusive of taxes and duties, contingencies, land and resettlement costs, etc.

Section 3: NCB Annex

SRI LANKA

1. General

National competitive bidding shall conform to the provisions for "National Competitive Bidding" as prescribed in the *Procurement Guidelines 2006 for Goods and Works* issued in January 2006 by the National Procurement Agency, and the specific procedures prescribed by the *Procurement Manual* issued on March 2006, with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the ADB Procurement Guidelines.

2. Registration

- (a) Bidding shall not be restricted to pre-registered firms under the national registration system of the Institute of Construction, Training and Development (ICTAD), and such registration shall not be a condition for submission of bids in the bidding process.
- (b) Where registration is required prior to award of contract, bidders; (i) shall be allowed a reasonable time to complete the ICTAD registration process, and (ii) shall not be denied registration for reasons unrelated to their capability and resources to successfully perform the contract, which shall be verified through post-qualification.
- (c) National sanction lists or blacklists may be applied only with prior approval of ADB.

3. Prequalification

Post qualification shall be used unless prequalification is explicitly provided for in the loan agreement/procurement plan. When used for large or complex Works contracts, *i.e.* turnkey, design and build, or management contracts, or custom-designed equipment, industrial plants, and specialized services, prequalification evaluation shall not include the evaluation of equipment and personnel. This assessment shall be undertaken at the bid evaluation stage. Irrespective of the procedure applied (whether prequalification or post qualification), no domestic or foreign contractor shall be precluded from participation.

4. Advertising

Bidding of NCB contracts estimated at \$500,000 or more for goods and related services or \$1,000,000 or more for civil works shall be advertised on ADB's website via the posting of the Procurement Plan.

5. Bidding Documents

Procuring entities shall use standard bidding documents acceptable to ADB for the Procurement of Goods, Works and Consulting Services, based ideally on the standard bidding documents issued by ADB.

6. Packaging

Slicing or splitting of contracts within a package shall not be used to change the contract sizes and their corresponding methods of procurement as approved in the Procurement Plan.

7. Bid Security

Where required, bid security shall be in the form of a bank guarantee from a reputed bank.

8. Preferences

- (a) No preference of any kind shall be given to domestic bidders or for domestically manufactured goods.
- (b) Foreign suppliers and contractors from ADB member countries shall be allowed to bid, without registration, licensing, and other government authorizations, leaving compliance with these requirements for after award and before signing of contract.

9. Procurement of Works

- (a) Specifications for works may be based on specifications recommended by ICTAD to the extent possible, but ICTAD approval shall not be required for adoption of specifications in a particular procurement activity.
- (b) The determination of the financial capacity of a bidder for award of the contract in post qualification evaluation shall take into account current contract commitments and shall not be confined, for domestic bidders, to the ICTAD registration.

10. Bid Rejection for Unrealistic Rates

Bids shall not be subjected to a test for unrealistic rates. No lowest evaluated and substantially responsive bid shall be rejected on the basis of comparison to rates, including but not limited to market, historical, or agency established rates, without prior approval of ADB.

11. Rejection of All Bids and Rebidding

Bids shall not be rejected and new bids solicited without the ADB's prior concurrence.

12. Price Negotiations

Price negotiation shall be allowed only where the price offered by the lowest evaluated and substantially responsive bidder substantially exceeds costs estimates. Approval of ADB is required prior to any negotiation of prices.

13. Participation by Government-Owned Enterprises

Government-owned enterprises in the Democratic Socialist Republic of Sri Lanka shall be eligible to participate only if they can establish that they are legally and financially autonomous, operate under commercial law, and are not a dependent agency of the procuring entity, or the Project Executing Agency or Implementing Agency.

14. Member Country Restrictions

Bidders must be nationals of member countries of ADB, and offered goods; works and services must be produced in and supplied from member countries of ADB.

D. Consultants Terms of Reference

TERMS OF REFERENCE FOR CONSULTANTS

DESIGN, CONSTRUCTION SUPERVISION AND IMPLEMENTATION MANAGEMENT CONSULTANCY

1. Background Information

1. The Government of Sri Lanka is proposing to implement a Project to improve water supply and sanitation in the urban areas of the northern and northwestern dry zone of the country, namely, Chilaw, Puttalam, Mannar and Vavuniya. The expected impact of the Project is 'improved physical well-being of urban population in Sri Lanka's dry zone'. The expected outcome of the Project is 'improved urban water supply and sanitation infrastructure and services in Sri Lanka's dry zone'. To this end, the Project will; (i) improve and expand infrastructure and services, (ii) strengthen institutions in the water sector for better service delivery and resource management, and (iii) build project management and implementation capacity.

2. The Project will comprise three parts: Component 1-Developing Water and Sanitation Infrastructure-covers the rehabilitation, expansion and development of water and sanitation infrastructure for northwestern dry zone towns including; (i) urban and peri-urban water supply, and (ii) sewerage and sanitation. Component 2-Strengthening Water Sector Institutions-will provide the foundations; (i) to support decentralization of service delivery functions to regional offices, (ii) improve water resource management, coordination and planning ability, and (iii) increase public awareness. Component 3 - Building Management and Implementation Capacity -is designed to strengthen institutional capacity for project management and implementation activities.

3. The Project will support water resource development, rehabilitation and construction of new treatment facilities, storage, transmission and distributions systems. In addition to expanding distribution to new areas, including peri urban areas along the transmission mains, the Project will focus on implementing a comprehensive non-revenue water (NRW) program, which will include installation or replacement of bulk water meters as well as a leak detection program for rehabilitation and strengthening of the existing distribution network. The Project will also promote an integrated approach to improve sanitation comprising improvements to

communal and household sanitation⁹ and septage management and disposal systems in all 4 Project towns.

2. Scope of Work

4. The work under this consultancy will consist of; (a) a major component relating to the delivery of design and construction supervision activities, and (b) a second component including support to the project in the delivery of outputs relating to safeguards compliance, community mobilization and benefit monitoring and evaluation.

3. Consultancy Service Requirements

5. The team will comprise of 23 person months international, 411 person months domestic consultants for the additional financing. Detailed breakdown of the type of consultants, and individual inputs is given in Table VI.D1. Specific tasks of the sub-teams and expertise required is given in the following paragraphs. The overall responsibility will be with the Team Leader who will also be the sub-team leader for the Project Engineering Team. The indicative schedule of inputs is as follows:

Table VI.D1– DCSM

No	Position	Person Months – Original Contract		Person Months – Proposed under Additional Financing	
		International	National	International	National
1.	Water and Sanitation Engineer and Team Leader	40	-	20	-
2.	Dam Engineer	-	-	3	-
3.	Dam/Water Resource Engineers	4	-	-	-
4.	Environmental Specialist	2	-	-	-
5.	Water Treatment Specialist	4	-	-	-
6.	Instrumentation, Controlling and Automation Engineer	2	-	-	-
7.	Deputy Team Leaders (Design/Chief Resident Eng's)	-	84	-	50
8.	Water Supply Engineers (Design)	-	33	-	-
9.	E&M Engineers	-	16	-	12
10.	Structural Engineers	-	6	-	6
11.	Sanitation Engineer	-	12	-	-
12.	Resident Engineers	-	180	-	18
13.	Civil Engineers	-	60	-	60
14.	Architect	-	6	-	-
15.	Resettlement/Social Development Specialist	-	18	-	-
16.	Procurement Specialist	-	15	-	-
17.	Financial Management Specialist	-	5	-	-
18.	Groundwater Engineer	-	6	-	-

⁹ Based on physical and socio-economic surveys, the Project will (i) provide new/improved latrines to about 1800 households living in peri-urban areas of the 4 Project towns and due to be connected to the first time a piped water system and (ii) rehabilitate a total of 13 public latrines. Rehabilitation of public latrines will be strictly linked to an agreement with local authorities to introduce an improved results-based framework for management by the private sector. At present, although mostly operated and maintained by the private sector, lack of monitoring and reporting has led to poor maintenance and serious deterioration of the facilities.

19.	Environmental Ecologist	-	1	-	-
20.	Forestry Specialist	-	8	-	-
21.	Monitoring and Evaluation Specialist	-	4	-	-
22.	Engineering Assistants	-	288	-	180
23.	Draftspersons (CAD)	-	100	-	-
24.	Quantity Surveyors	-	100	-	60
25.	Admin Assistants	-	210	-	25
26.	Translators	-	42	-	-
27.	Drivers	-	84	-	-
	Total	52	1278	23	411

6. It is envisaged that the consultant will provide adequate support staff such as secretarial staff, CAD operators, translators and drivers, as he considers necessary. Two teams of consultants will be established, one in each of the Regional Offices, where a Deputy Team Leader will be permanently based. The Team Leader also based in the northwestern dry zone will spend half of his/her time supporting each of the ROs with occasional (no more than 10% overall) providing feedback and assistance to the PCC. All other experts would be permanently based in each of the ROs. NWSDB will also provide complementing design and construction supervision experts. The consultant will be the Engineer's Representative in administering the contracts.

4. Overview of the Design and Supervision Engineering Services

7. General tasks of the team include:

- (i) Assist the Project Director with the day-to-day management of all Project activities,
- (ii) Coordinate planning, control, and management of the work of a multidisciplinary team,
- (iii) Develop implementation schedules and resource requirements,
- (iv) Monitor progress, evaluate results, and identify and resolve constraints,
- (v) Provide long-term input to the development of project methodologies,
- (vi) Evaluate demand and establish criteria to meet demand,
- (vii) Identify appropriate technologies and the need for standardization of equipment and materials,
- (viii) Assist Project Managers in carrying out detail investigation and engineering surveys (geotechnical, topographical, bathymetric etc), wherever necessary,
- (ix) Assist the Project Managers in designing and construction supervision of water resource development (ground and surface water), water supply and septage treatment schemes,
- (x) Assist the Project Managers in presenting of the designs to all stakeholders (including local government and communities), addressing their concerns where necessary,
- (xi) Assist the Project Managers in developing bidding documents, including bill of quantities and specifications following ADB's guidelines and assist in evaluation of bids,
- (xii) Update costs and economic and financial information (including rates of return), when needed,
- (xiii) Prepare and update implementation schedule and resource requirements (preferably in Microsoft Project Management),

- (xiv) Define for the IA, the quality control mechanisms and parameters for water supply, septage and household sanitation schemes,
- (xv) Assist the Project manager in supervising all construction activities under the Project, including liaison with the other teams under the Project and other donor financed projects, and community development team,
- (xvi) Develop and implement a quality assurance program for all works, securing compliance with design/standards,
- (xvii) Assist the project managers in supervising day-to-day construction management,
- (xviii) Develop O&M manuals for future maintenance,
- (xix) Prepare asset registry for all assets built under the Project,
- (xx) Establish a contract tracking systems, including implementation schedules and milestones achievable,
- (xxi) Assist the IA in issuing contract completion certificates, settlement of contractor's claims,
- (xxii) Assist the IA during Project missions,
- (xxiii) Assist the IA in the preparation of Project guidelines,
- (xxiv) Assist the IA in the preparation of Quarterly Progress Reports (QPR), Project Completion Reports (PCR) and Benefit Monitoring Evaluation (BME) reports,
- (xxv) Prepare of training programmes for effective implementation and O&M including Training Module, Training Plans and organize and conduct same through consultant's staff and other service delivery institutions.

8. The DCSM will be specifically concerned with assisting (i) the review of designs prepared by the PPTA, (ii) the preparation detailed engineering designs and provide construction supervision for the bulk of the water supply and sanitation scheme components, (iii) the review of designs to be prepared by Bidders, (iv) construction supervision to ensure the necessary standards are duly met. These schemes and the scope of work falling under the Supervising Engineers responsibility are shown in the following Table VI. D2.

9. The consultants will develop and implement a computer-based project implementation plan, critical paths, resource maps. All reports required will be produced based on these systems. The consultants will coordinate with other consultants under the Project and with other similar other donor and government assisted projects.

Table VI. D2: Overview of Scope of Infrastructure to be developed and support functions under the Project

Function	Works Group	Scheme		
Detailed Engineering Design Construction Supervision	Headworks and Water Treatment Works	Chilaw and Puttalam	Rehabilitation of existing Chilaw's treatment works New treatment plant for Chilaw Rehabilitation of Puttalam's existing treatment works New treatment plant for Puttalam Other: head works and automation	
		Vavuniya and Mannar	New treatment plant for Vavuniya New disinfection unit for Mannar Other: head works and automation, pump replacement, rehabilitation of pumping wells.	
	Detailed Engineering Design Construction Supervision	Water Resources Development	Chilaw, Vavuniya and Mannar	Groundwater investigations and development
			Chilaw, Puttalam and Vavuniya	Construction of (i) earth dam, concrete spillaway, access way and intake in Vavuniya; (ii) a low level weir, reinforce concrete collecting gallery, groins for the flow weir diversion, river bank protection, a sludge removal system and construction of the intake well, in Chilaw; and (iii) restoration of Eluwankulam and Achchamolai tanks and associated works.
Detailed Engineering Design Construction Supervision	Water Distribution System	Storage System		
		Chilaw and Puttalam	Approx. 2 ground reservoirs	
			Approx. 3 towers	
		Vavuniya and Mannar	Approx. 2 ground reservoirs	
			Approx. 4 towers	
		Transmission and distribution		
Chilaw and Puttalam	Supply and Lay of approx (i) 52 km of DI pipes, (ii) 55 km of HDPE pipes and (iii) 188 km of PVC pipes			
Vavuniya and Mannar	Supply and Lay of approx (i) 40 km of DI pipes, (ii) 38 km of HDPE pipes and (iii) 200 km of PVC pipes			
Detailed Engineering Design Construction Supervision	Sanitation Improvements	Vavuniya	Septage improvement, including 1. Sludge thickener, anaerobic ponds, sludge drying beds, wetland, outfall structure and site development.	
		Chilaw, Puttalam and Mannar		
		All towns	Household sanitation improvements and public toilet rehabilitation	
Detailed Engineering Design Construction Supervision	NWSDB Northern Office Development	Vavuniya	Main RSC-level equivalent offices with consumer and customer related functions	
		Mannar	OIC-office and quarters	
		Puttalam and Chilaw	Offices and Store Buildings	

5. Scope of Consultancy Services

10. **Designs and Tender Process.** The consultant will review the feasibility report with NWSDB RO staff and prepare detailed designs and bid documents. Overall scope of works will include:

- (i) Assist NWSDB ROs in the review of the design for proposed water schemes in all 4 towns (groundwater and surface water development, headworks and treatment, storage, transmission and distribution), including all necessary designs, drawings and schedules, as well as indicative bills of quantities, specifications including commissioning specifications and on-site training for plant operation maintenance by contractors,
- (ii) Assist NWSDB RO staff carrying out detailed investigations and engineering surveys including ground water and engineering surveys,
- (iii) Specifically, for Vavuniya's surface water scheme on the Per Aru and Elawankulama/Achchamolai's tanks in Puttalam, prepare a full hydrological model and studies, which are to be based on data collected over a 12-month period,
- (iv) Confirm the scope of provision of equipment for plant and equipment and review proposed specifications for the plant and equipment (E&M, vacuum tankers etc),
- (v) Assist NWSDB RO staff conducting detailed engineering designs in all 4 project towns, including all transmission and distribution networks, storage systems, septage improvements and offices,
- (vi) Assist NWSDB RO staff in updating the CAD study for water distribution zoning in all 4 Project towns, and wherever necessary,
- (vii) The Consultant shall facilitate the dialogue with irrigation-related agencies (Central Irrigation, Provincial Irrigation and Agrarian Services Department) and farmers to ensure that agreements with NWSDB can be adequately implemented and respected,
- (viii) The Consultant shall support the ROs in obtaining required EIAs, compliance with resettlement requirements and any other regulatory or permits,
- (ix) Assist RO staff reviewing designs prepared by bidders, including those that relate to headworks and treatment works, water resources development and sewage treatment,
- (x) Check that the contractors' proposals are in agreement with all environmental and social safeguards requirements,
- (xi) Assist the NWSDB RO staff to develop bidding documents, bills of quantities and specifications and drawings,
- (xii) Assist in bid evaluation,
- (xiii) Ensure that all Resettlement Plans have been duly updated and implemented prior to contract award,
- (xiv) Assist in the preparation of contracts for signature,
- (xv) Assist the NWSDB RO staff to establish water treatment and sewage treatment guidelines and procedures for the detailed design of the water treatment plants in each of the urban schemes.

11. **Construction Supervision and Commissioning.** The consultant shall assist the NWSDB RO staff carry out all the duties normally associated with supervision of construction. This will include, but is not limited to checking contractors' insurances/ guarantees/ bonds; the review of contractors' process and M&E designs and any necessary modifications to the

construction drawings; attending and reporting on factory tests and inspections; agreeing commissioning procedures and supervising commissioning. The consultant shall establish any necessary field laboratories for quality control or arrange for such services to be provided by acceptable Institutions.

12. The consultant shall:

- (i) Assist the NWSDB RO staff supervising and assure quality of implementation of the urban schemes,
- (ii) Assist the NWSDB RO staff supervising all construction activities under the Project and the implementation of the environmental management plan as required,
- (iii) Co-ordinate interfaces between contracts and clients,
- (iv) Support NWSDB ROs with contract management and recommendation for payments,
- (v) Assist in ensuring that the sociological and environmental recommendations are implemented by the contractor,
- (vi) Develop and implement a quality assurance program for all works,
- (vii) Assist as required in Public Awareness Campaigns,
- (viii) Agree and prepare contractor's certificates, resolve any disputes, and provide all necessary support for claims resolution and arbitration proceedings,
- (ix) Set up project monitoring & evaluation system for the project in consultation with the client,
- (x) Develop a manual for water quality checks and assurance,
- (xi) Develop O&M manuals for comprehensive (future) maintenance,
- (xii) Prepare an asset registry for schemes prepared under the Project,
- (xiii) Prepare reports including inception, design review and weekly, monthly, quarterly, commissioning and final reports,
- (xiv) Arrange a training programme for construction supervision, O&M staff and conduct the training,
- (xv) Develop & implement NRW reduction program.

13. **Support for Overall Management.** The consultant will also provide a certain degree of support to NWSDB's ROs to ensure that capacity is duly strengthened. This shall include but not be restricted to:

- (i) Assist the Project Managers in each of the 2 Regional Offices in the day-to-day management of Project activities,
- (ii) assist the Project Manager in Regional of the Regional Offices in planning, control and management of the teams' work,
- (iii) assist in developing implementation schedules and resource requirements,
- (iv) Assist in monitoring progress, evaluating results and identification and resolution of constraints,
- (v) Establish contract tracking systems, including implementation schedules and milestones,
- (vi) Coordinate activities with various implementing agencies and stakeholders, including farmer associations,
- (vii) Develop and implement training module for Non-Revenue-Water, water quality control and O&M,
- (viii) Update the Project's environmental management plan(s) and supervise their implementation during the construction period,

- (ix) Conduct training programs for project implementation staff on environmental aspects; monitoring environmental resources and design mitigation measures to be taken in water supply and sanitation,
- (x) Update the Project's resettlement plan(s) and supervise their implementation.
- (xi) Promote a participatory development approach within the Project team,
- (xii) Assist the Project offices in designing and conducting socio-economic baseline surveys and participatory field appraisals,
- (xiii) Develop and implement a comprehensive benefit monitoring and evaluation program,
- (xiv) Assist NWSDB (RO(N)) incorporating IT-based systems in new offices, including means and methods to conduct cost accounting and tracking expenditure.

6. **Scope of Consultancy Services – Others**

14. **On-site sanitation.** The consultant will be responsible for:

- (i) Assist the NWSDB RO staff to prepare detail designs, drawings and tender documents for urban council public toilets rehabilitation and supervise civil works,
- (ii) Support the NWSDB ROs in the implementation of the household latrine program for rural/periurban areas in Project towns, including the arranging and organizing of public awareness campaigns, public meetings, arranging public relations and customer informative activities,
- (iii) Assist the NWSDB RO staff to supervise the construction work for the provision of septage treatment facilities for wastewater disposal within Chilaw, Puttalam, Vavuniya and Mannar.

7. **Specific Terms of Reference**

Team Leader/Water & Sanitation Engineer (International)

15. The Team Leader will need to be a professionally qualified graduate chartered civil engineer with not less than twenty years experience in; (i) designing, (ii) project management, and (iii) contract management in major projects in the field of urban water supply and sanitation. The Team Leader shall be solely responsible for the design review and construction supervision of the four urban water and sanitation schemes including water resources development, water supply and distribution, sewerage and sanitation schemes. He shall also be responsible for overseeing the implementation of environmental, resettlement and sociological aspects of the project. He will report directly to the Project Managers in Vavuniya and Puttalam offices. The Team Leader should be competent in planning, designing, contractual management, resolving problems, quality maintenance, budgeting and financial control, progress monitoring, international procurement procedures, communication skills and documentation. The specific tasks include:

- (i) Day to day management of all consultant's staff,
- (ii) Review existing studies/documents and other resources available and formulate a best implementation approach including programmatic project schedule,
- (iii) Prepare cash flows,
- (iv) Assist design preparation and review teams,
- (v) Assist the investigation and design team for water supply, irrigation and sewerage in preparing bidding documents,
- (vi) Assist in ensuring that all bidding documents are complete in every respect,
- (vii) Assist in bid evaluation,

- (viii) Contractual management,
- (ix) Develop and implement quality assurance programme,
- (x) Recommend payments,
- (xi) Progress reporting,
- (xii) Assist the EA in preparing necessary documentation to get approval from all concerned authorities such as local authority, RDA, CEB, CEA or any institutions for laying pipes and construction of other structures,
- (xiii) Prepare asset registry of assets created within the project,
- (xiv) Prepare institutional arrangement for O&M in urban schemes,
- (xv) Prepare training programme for construction supervision staff and O&M staff and organize and conduct the training.

Dam/ Water Resource Engineers (1 International, 2 National)

16. The specialists shall be a professionally qualified, having a postgraduate (masters or PhD) degree in hydrology. They shall have no less than fifteen years experience in the field of hydrology with adequate experience in rainfall-runoff and modeling. The consultants' subteam will be responsible for:

- (i) supervising and reviewing hydrological studies conducted on the Per Aru, Kala Oya and Dedru Oya, for those studies commissioned by the Project, terms of reference shall be prepared,
- (ii) conduct investigations and modeling relating to various locations for Per Aru dam – including 2 different proposed locations,
- (iii) prepare detailed engineering designs and bidding documents relating to these schemes,
- (iv) review designs and tender documents with coordination of other specialists,
- (v) support the Government in reviewing the proposals, including all relevant agencies, and
- (vi) supervise construction activities ensuring that all designs are compliant with specifications as well as other environmental and resettlement requirements.

Deputy Team Leaders/Chief Resident Engineers (2 National)

17. The Deputy Team Leaders will need to be a professionally qualified chartered engineer with not less than 15 years experience in managing major projects in the water sector. The Deputy Team Leader's main task is to assist the Team Leader and NWSDB RO staff. Other duties include:

- (i) Assist the NWSDB RO staff Preparing detailed engineering designs and review tender documents with coordination of other specialists,
- (ii) To manage the local consultant team,
- (iii) Review methodology, designs and organization proposals of the contractor;
- (iv) Assist NWSDB RO staff supervising the site activities of the contractor;
- (v) Coordinate with the sub consultants and report to the Team Leader;
- (vi) Coordinate with local authorities and other institutions as required for the project delivery;
- (vii) Ensure that co-ordination and public awareness is maintained at all times.
- (viii) Assist the NWSDB RO staff to design and review topographical geotechnical and other surveys for water and sewage works.
- (ix) Assist the NWSDB RO staff to design all transmission networks, distribution networks, storage structures and pumping stations for water and sewage works.

- (x) Assist the NWSDB RO staff to prepare specifications, outline designs for water and sewage works.
- (xi) Support the project work in evaluations of Design & Build contracts.
- (xii) Conduct training programme for O&M staff during commissioning of the schemes.
- (xiii) Preparation of O&M manuals

Water Treatment Specialist (International)

18. The water treatment specialist shall be a professionally qualified specialist, having a post-graduate degree in Water Treatment. He/She shall have no less than fifteen years experience in drinking water treatment process design from available raw water to treat to the respective standards including commissioning and training of O&M staff. The specific tasks include:

- (i) Advising and recommending on the relevant parameters of raw water to be tested including need for any pilot testing.
- (ii) Advising process design of water treatment plant during designing stage to suit the raw water qualities and resource optimization.
- (iii) Assistance for adjusting water quality of water treatment plants during commissioning.
- (iv) Advising on Chemical dosing during commissioning stage.
- (v) Preparing manuals for day to day operation & maintaining of plants
- (vi) Training O&M staff for trouble shooting
- (vii) Guiding O&M staff on preventive maintenance.

Water Supply Engineers Specialist (National)

19. The Water Supply Engineers will need to be a professionally qualified chartered engineers with not less than 10 years experience in managing major projects in the water sector. They will be responsible for:

- (i) Designing and reviewing topographical, geotechnical and other surveys,
- (ii) Define specifications and conduct detailed designs for treatment plants in Project towns,
- (iii) Design raw and treated water transmission lines for project towns, distribution networks, storage structures and pumping stations, headworks and treatment plants,
- (iv) Support the Project with bid evaluation.

Sewerage Specialist (National)

20. The sewerage and sewage treatment specialist shall be a professionally qualified engineer. He shall have not less than twelve years experience as an engineer of which minimum of eight years shall be in design of sewerage systems. The subteam's specific tasks include:

- (i) Conduct detailed designs including calculations, specifications and drawings for; (a) Vavuniya, Chilaw, Puttalam and Mannar's septage systems, (b) public toilet improvements and (c) household toilet program,
- (ii) Ensure adequate site investigations are carried out for the design of the sewerage and other works,

- (iii) Assist in bid evaluation,
- (iv) Assist the Resident Engineers as required,
- (v) Review contractor's proposals for the most suitable, economic and easy to operate and maintain pumping system,
- (vi) Review training proposals of the contractor for the plant operators,
- (vii) Assist the contractor to get environmental clearance from CEA,
- (viii) Review contractor's O&M proposals for such as training, human resources etc.,
- (ix) Review O&M manual and construction record drawings,
- (x) Assist the training officer in PMU to prepare training programme for the relevant O&M staff,
- (xi) Liaise with other specialists to ensure a consistent philosophy and integrated approach to the design and operation of the sewerage system.

ICA (Instrumentation, Controlling and Automation) Engineers (International)

21. The Electronic/Automation Engineer shall be a qualified graduate Engineer with more than 15 years of experience in construction and maintenance of various types of Automation installation in Industrial Process Automation systems, pumping stations and treatment plants of water supply systems. The specific tasks include:

- (i) Design operational philosophies for relevant treatment plants to meet the needs of the RO and O&M section,
- (ii) Design associated PLC control system/SCADA systems of pumping stations and water treatment plants to optimize operations and cash,
- (iii) Review and advice NWSDB RO staff on Software programing relevant to automation and suitability of the proposals from contractors,
- (iv) Assist in approving the submittals for equipments and inspection
- (v) Provide necessary trainings to O&M staff.

Electrical/Mechanical Engineers (National)

22. The specialists shall be graduate engineers in the field of electrical and/or mechanical engineering having minimum experience of ten years. The engineer shall be very competent in the design of; (a) plant for water and sewerage systems and pumping stations, and (b) highly automated systems and shall have a minimum of five years experience on working on water or sewerage systems. The specific tasks include;

- (i) Review the design the electrical and mechanical plant equipment including specification and schedules,
- (ii) Liaise with the designers, electrical/mechanical and ICA engineers on operational philosophy and when preparing the system design and drawings,
- (iii) Assist in bid evaluation,
- (iv) Assist NWSDB RO staff in the approval of specification of electromechanical goods to be supplied by the contractor,
- (v) Review the contractor's assessment of the power requirements and establish power availability and assist NWSDB RO staff obtaining the requirement from CES,
- (vi) Assist NWSDB RO staff approving O&M manuals prepared by contractors for electrical and mechanical equipment for future maintenance, and
- (vii) Assist NWSDB RO staff inspecting and witness testing of electrical and mechanical equipment and commissioning.

Structural engineer (National)

23. The structural engineers shall be graduate engineer (civil) with relevant postgraduate experience in structural engineering. They should have a minimum of ten years experience of which six years shall be in structural design of concrete water retaining structures. The duties of Structural engineer are to review all structural designs and necessary structural drawings and specifications, including components relating to reservoir construction/rehabilitation, water supply components, sewerage components and office buildings.

Resident Engineers (National)

24. The Resident Engineers shall be senior chartered engineers with not less than twelve years of experience in supervising construction works within the water sector. They should have experience of construction works within large conurbations. The tasks will be to oversee the following activities:

- (i) Assist NWSDB staff preparing detailed designs and review tender documents,
- (ii) Review and approve the construction methodology and scheduleS submitted by the contractor,
- (iii) Implement a construction management system for the works,
- (iv) Supervise and monitor the contractors activity to ensure satisfactory standards, quality assurance, control of workmanship and progress,
- (v) Check contractors' setting out,
- (vi) Taking measurements for the purpose of certifying payments and claims,
- (vii) Quality and quantity control of the materials and works,
- (viii) Coordination with the relevant authorities on site during construction,
- (ix) Keep daily records of all aspects of their supervision works,
- (x) Approve the materials and equipment brought by the contractor,
- (xi) Prepare and implement any minor adjustment required to the drawings and plans with the consultation of Project offices (Vavuniya and Puttalam respectively),
- (xii) Monitor the environmental impact during construction and coordinate with the environmental specialist in the Project offices,
- (xiii) Check monthly measurement of work and certify payment,
- (xiv) Coordinate with other specialists such as environment, resettlement, community development, public awareness and training,
- (xv) Ensure co-ordination between contracts and contractors, that the authorities and the public are continually informed and consulted on the works programme and of the pipe laying in particular,
- (xvi) Ensure that complaints from the public and other stakeholders are attended to expeditiously and take the necessary action to resolve any conflicts arising,
- (xvii) Ensure that any dispute arising with day to day work is resolved at site level,
- (xviii) Advise Project offices on claims, disputes and completions and defect corrections certification,
- (xix) Report progress, trends which are likely out come of contracts and other information required to the Deputy Team Leader,
- (xx) Ensure that comprehensive records of the construction works and testing are maintained, and
- (xxi) Supervise commissioning on completion and that as built records and that appropriate operation and maintenance manuals are prepared,
- (xxii) Any other duties assigned by the Engineer, relevant to the Project.

Civil Engineers (National)

25. The civil engineers shall be graduate engineers in civil engineering or equivalent. They shall have at least five years experience of which three years should have been on construction sites preferably in the water sector, ideally within urban environments. They will work under the direction of their respective Resident Engineers. Their tasks will be mainly in the field. Specific tasks are:

- (i) Direct supervision of the contractor's work,
- (ii) Check contractors' setting out,
- (iii) Taking measurements for the purpose of certifying payments and claims,
- (iv) Quality and quantity control of the materials and works,
- (v) Coordination with the relevant authorities on site during construction,
- (vi) Keep daily records of all aspects of their supervision works,
- (vii) Any additional duties assigned by the Resident Engineers, relevant to the Project.

Environmental Specialist (1 International and 2 National)

26. The Environmental specialists should possess a B.Sc degree in Environmental Science/ Engineering. The international expert will have at least fifteen years experience of which ten years shall be in the performance of environmental assessments with particular reference to dam construction and wastewater projects and the impact of construction works. The national experts should have no less than ten years experience in this field, of which six in the above areas. The sub-team's specific tasks include:

- (i) Review and update initial environmental plans and environmental management plan for the Project,
- (ii) Assist the NWSDB ROs obtaining necessary environmental clearances from Central and Provincial environmental authorities,
- (iii) Conduct environmental impact assessments if there are any components deemed to need one by Sri Lankan environmental authorities,
- (iv) Provide advice on environmental impacts and review the contractor's mitigation measures for all proposed construction works including reservoir construction/rehabilitation, water supply and sewerage schemes,
- (v) Provide advice on regulatory requirements and standards,
- (vi) Assist in obtaining other related permits,
- (vii) Train contractors' staff in the implementation of environmental mitigation measures during construction and prepare environmental monitoring checklists to be completed by Regional Offices environmental officers during the periods of design and construction,
- (viii) Study the impact of chemicals, fertilizer, pesticides etc in the water sources, and
- (ix) Review surveys of municipal water quality, STP sludge and effluent, nutrient surveys in water bodies (lagoon or surface waters) in all Project towns and public health data.

Forestry Specialist (National) and Assistants (2)

27. The specialist shall have a degree in forestry, ecology or biological sciences and no less than 10 years relevant experience. The specialist will be responsible for surveying biotic resources in the Per Aru basin. Two teams (each of 1 expert and 2 assistants) will spend 2 months in the field and 1 month analyzing data and preparing report.

Environmental Ecologist (National)

28. The specialist will have a degree in ecology and no less than 15 years experience. He/she will review Per Aru's hydrological data, forestry and ecological surveys, upstream and downstream socio-economic information, and scientifically determine required environmental flows to be maintained at the dam's spill.

Resettlement Specialist (2 National)

29. Resettlement issues will be managed and coordinated by a domestic Resettlement Specialist in each regional office. The specialist shall have a degree in a relevant subject (sociology, anthropology or related subject) with 10 years experience. The specialist shall provide advice on any resettlement issues and assist the ROs, Provincial Irrigation and other bodies in processing and resolution of resettlement claims. He shall provide advice on the correct procedures to be followed and prepare a schedule of when actions should be taken relevant to the design and construction programme. The action plan shall comply with the relevant Sri Lankan and ADB's Handbook on Resettlement. Specific responsibilities and actions include:

- (i) Review, update and/or prepare resettlement plans for each town in the Project, consistent with the Resettlement Framework,
- (ii) Supervise and monitor implementation of the Resettlement Plans (to be undertaken through an implementing NGO),
- (iii) Monitor the work of GRCs in dealing with complaints and grievances, and provide updates to the RP as required to address any recurring problems or complaints,
- (iv) Establish procedures and systems for monitoring progress in resettlement implementation and recognizing and addressing any problem areas-the Specialist will also undertake internal monitoring,
- (v) Assist in the organization and implementation of public consultation and disclosure activities (including preparation of materials and delivery of presentations where necessary) to be undertaken by the implementing NGO),
- (vi) Train Project staff on resettlement-related matters. Conduct internal seminars and training programs to raise the awareness of project implementation staff on resettlement issues,
- (vii) Support the ROs in recruiting NGO resettlement staff and oversee their work,
- (viii) Conduct/supervise detailed measurement surveys, business income surveys, surveys to determine market values and review result,
- (ix) Coordinate and report grievance resolution committee activities,
- (x) Manage aspects relating to communications and disclosure of resettlement aspects under the Project,
- (xi) Report each month to the Project Manager regarding the progress of resettlement issues.

Procurement Specialist (National)

30. The specialist should have a bachelor degree and ten years experience in procurement/contract management in the public/private sector. His/her specific tasks will be:

- (i) To review outline and detailed engineering designs and help in the preparation ,
- (ii) Support the ROs in the preparation of pre-qualification requirements and evaluation,

- (iii) Prepare bidding documents compliant with ADB's latest standard bidding documents,
- (iv) Design post-qualification criteria which is compliant with ADB's guidelines.
- (v) Assist NWSDB RO staff in contract packaging and preparing procurement time schedules for each contract package in consultation with project staff.

Financial Management Specialist (National)

31. The specialist should be a fully qualified Accountant (Corporate membership of recognized professional institution in the field of finance/accounting) with a minimum of ten years professional experience. He/she should be knowledgeable in current international/national accounting standards and generally accepted procedure. The specialist should have experience in design and development of accounting and budgeting systems for public enterprises. He/she will

- (i) Liaise with senior accountants in the Project Coordination Cell and Regional Offices,
- (ii) Establish sound accounting practice and systems to manage resources available at the project,
- (iii) Develop budgetary control processes, design budget procedures and budget formats,
- (iv) Develop mechanisms for the transfer of funds from head office to regional offices and from treasury to head office,
- (v) Train the ROs in the preparation of annual budget estimates and disbursement plans,
- (vi) Review the financial management system of NWSDB and make recommendations for optimal integration,
- (vii) Direct & advise on the establishment of billing & collection system.

Monitoring and Evaluation Specialist (National)

32. The specialist shall have a degree in a relevant subject (evaluation, public health or related subject) with 10 years experience. He/she will:

- (i) Assess their M&E procedures, indicators, and reports;
- (ii) Identify physical, institutional, and financial data to be analyzed to monitor sustainability and impact of project services, and achievement of Action Program and Performance Criteria for development;
- (iii) Prepare a framework for continuous monitoring throughout the Project;
- (iv) Draft a conceptual design of the MIS/M&E program;
- (v) Specify information that will be in project progress reports by institution;
- (vi) After MIS conceptual design is implemented, make periodic visits to all project levels to discuss MIS procedures with project staff and consultants;
- (vii) Assess the quality and completeness of data gathered and its use by communities and project management;
- (viii) Train project staff in data collection;
- (ix) Oversee the collection of data for baseline and Project completion surveys and prepare reports accordingly.

Groundwater Specialist (National)

33. The specialist shall have a degree in a relevant subject (civil engineering, hydrogeology) with a minimum of 10 years experience. He/she will:

- (i) be responsible for designing and overseeing 1-year program of hydrogeological investigations in Mannar and Vavuniya,
- (ii) review short term and medium term (1 year) results,
- (iii) recommend location of 4 new boreholes to secure the long-term sustainability of the scheme at prescribed (sustained) rates,
- (iv) analyze water quality and quantity and, accordingly, write a report on the subject,
- (v) train NWSDB staff, including engineers, for groundwater investigations.

Other Staff (National)

34. The consultant should also provide approximately; (i) 288 person months of engineering assistants time, (ii) 100 person-months of CAD operator/draughtsman's work, and (iii) 100 person-months of quantity surveyor. The consultant shall also provide 120 person months of administrative assistance time, 60 person months of translator services and 120 drivers' person-months.

8. Schedule of Reporting and Submissions

35. The consultant is required to submit the following reports to the General Manager (NWSDB) in English. All reports should be submitted as required below and in an electronic and hard copy format.

- (i) Inception report in 5 copies plus a soft copy, one month after the issue of letter of commencement of work. This report should include the related works and details of programme of works, which the consultant proposes to implement,
- (ii) Preliminary design review report in 5 copies plus a soft copy three months after the commencement of work, which will give the opinion on design criteria, concepts, outline and implementation arrangements,
- (iii) Final design review report in 5 copies plus a soft copy,
- (iv) Commissioning report in 5 copies plus a soft copy,
- (v) Report on completion in 5 copies plus a soft copy,
- (vi) Progress Reports in 5 copies plus a soft copy at monthly intervals, summarizing financial situation of all work and contracts, progress achieved, difficulties encountered and issue to be resolved,
- (vii) O&M manuals 5 copies plus a soft copy.

9. Offices and Equipment

36. The Consultant shall be responsible for providing office space for the design review team. He/she will be solely responsible for the provision of all office equipment, supplies and communications and transport that he/she may require for the execution of the work at design stage.

37. At construction stage the Consultant's staff will work from offices provided by the contractor which shall be fully equipped and serviced by the contractor. However the Consultant will be responsible for operating and maintaining a project office, including all office equipment, supplies and communications and transport.

38. After completion of project the items purchased under project shall be handed over to the NWSDB.

PROJECT IMPLEMENTATION RESPONSIBILITIES

A. Implementation Arrangement

1 NWSDB under MWSD will be the Project's executing agency responsible for implementing the bulk of the activities. Central and Provincial Irrigation Departments (PID) will be tasked with the implementation of rehabilitation and improvement works to Elawankulama and Achchamolai Reservoirs and construction of a new reservoir on Per Aru. NWSDB in close coordination with urban councils in Project towns will be charged with implementing the sanitation improvement subcomponent. A small Project Coordination Cell (PCC) will be established within NWSDB head office; the PCC will have a monitoring, coordination and supervisory role. The bulk of the activities will be implemented by existing NWSDB Regional Offices (ROs) duly strengthened. Vavuniya RO will be responsible for water supply and sanitation development works in Vavuniya and Mannar. Puttalam RO will be responsible for water supply and sanitation development works in Puttalam and Chilaw. Staffing requirements for the PMU will consider both incremental staff for implementation and construction phases and long term operation and maintenance, particularly considering functions required to successfully run the NWSDB-North Office.

1. The Irrigation Department and its Provincial Offices will be responsible for the design, and construction supervision activities relating to the; (i) impounding of a new tank on the Per Aru, and (ii) rehabilitation of Elawankulama and Achchamolai tanks. Provincial Councils in close coordination with the Water Resources Board will conduct research and institutional development activities relating to groundwater resources monitoring and regulation and catchment protection.

B. Duties and Responsibilities of the Project Coordination Cell

2. The Project Coordination Cell will be responsible for the following functions:

- (i) Coordinating all activities at policy level (MWSD, NWSDB and other Central Government level) and ensuring that PICC meetings are conducting quarterly,
- (ii) Coordinating activities with the Irrigation Department and Water Resources Board, in whatever regards policy matters (only) and transfer of funds,
- (iii) Coordinating and consolidating training programs and associated annual allocations to each of the ROs, and advise ROs wherever needed,
- (iv) Conducting monitoring activities to secure Project compliance by ROs with prescribed standards, agreed physical and construction targets, advise ROs wherever needed,
- (v) Responsibility for the overall implementation of project performance management system (PPMS) and baseline surveys, advise ROs wherever needed,
- (vi) Responsibility for overall project accounting and disbursement in accordance with ADB guidelines, provide advise/guidance to ROs wherever needed,
- (vii) Prepare consolidated quarterly, mid term and final progress reports for submission to ADB – these shall include information regarding all parts of the Project,
- (viii) Overall responsibility for ensuring compliance with ADB's loan covenants, provide advise/guidance to ROs wherever needed,

- (ix) Coordinating the preparation and submission to ADB of quarterly reports.
- (x) In addition, the PCC, in coordination with the 2 regional office implementing units, will be responsible for the implementation of the Public Awareness Campaign,
- (xi) Provide guidance, wherever necessary, to the ROs at meetings on ADB's safeguards,
- (xii) Coinciding with the establishment of the ROs, the PCC will, in coordination with AGMs for North (Vavuniya) and NorthWestern (Puttalam) offices initiate the recruitment process for DSCM consultants and Institutional Development consultants (IDC),
- (xiii) Since consultancy packages will be a shared resource for the ROs, the PCC, after consultation (and written responses) with the ROs will be responsible for consolidating resource data, work programs and effect payments, and
- (xiv) The PCC will also be responsible for coordinating acting activities with the Central Irrigation Department, whilst Vavuniya RO will coordinate activities undertaken by this agency on the field.

3. To undertake the above activities, the PCC will have the following core staff:

Table VI.D3 – PCC Staff

No	Position	PCC (person-months)
01	Project Coordinator	96
01	Chief Accountant	96
01	Training Specialist	36
01	Public Awareness Specialist	24
Total		252

C. Duties and Responsibilities of the Regional Offices

5. Each of the 2 Project units established in each of the Regional Offices are to undertake the following implementation responsibilities:

General Tasks – Major Infrastructure Works

- (i) In close coordination with the PCC, confirm procedures and guidelines for evaluation of DSCM and IDC and their selection under advance procurement actions, and formally the appointment within the milestones provided in the Procurement Plan,
- (ii) Confirm procedures and guidelines for pre-qualification of contractors and their selection for bidding under advance procurement actions, each of the ROUs will be responsible for the areas under the purview,
- (iii) Review and confirm standard bid documents and standard technical specifications of works prepared by DSCM,
- (iv) With support from DSCM, prepare detailed designs, drawings, specifications, bills of quantities, cost estimates, tender documents and associated contract documentation for procurement of equipment or civil works under ICB, Limited International Bidding or NCB procedures for water supply and sewerage. Evaluate tenders and recommend award,

- (v) Develop procedures and prepare guidelines for evaluation of bids of contractors/suppliers including their post-qualification wherever necessary,
- (vi) Supervise construction-related activities. This includes reviewing surveys, investigations, studies, master plans, sub-project final designs, construction drawings, estimates, tender documents, bid evaluations and recommendation for award of contracts,
- (vii) Prepare, or as necessary, amend existing procedures and guidelines for site supervision, quality control and disbursement include guidelines and detailed job descriptions for resident engineers, supervisors, accountants, etc,
- (viii) In relation to works to be undertaken by Central/Provincial Irrigation Departments and Agrarian Services Departments.

General Tasks – Strengthening Water Sector Institutions

- (ix) The ROs will be responsible for implementation of the comprehensive non-revenue water (NRW) program. Within this context, plan and prepare contract for the Leak Detection and Rectification Program. To include leak detection, rectification and installation of bulk meters for water supply management,
- (x) Coordinating the implementation of the water conservation and sanitation public awareness campaign in their areas of responsibility. Identify and prepare program of public consultation and awareness on water conservation to reduce wastage from public stand posts, household taps, storage tanks, etc. The awareness program should reflect and be coordinated with the leak detection program and the installation of the domestic water meters for improved water demand management,
- (xi) Overall coordination for the institutional strengthening component in their areas of responsibility, including the preparation and submission for ADB's concurrence of a 5-year strategic training plan within 3 months of fielding of the IDC and an annual training plan before 31 October of each year (for consolidation in PCC). The plan will specify training institutions, methodologies, targeted population, and expected outputs,
- (xii) Undertake computer analysis of the existing water supply networks. Identify existing hydraulic constraints and their rectification for incorporation, if necessary, in the proposed project,
- (xiii) Assist consultants (Package A and B) in collection of all available data, contour maps, details of past schemes and reports, collect historic rainfall data, data on past incidents of water flooding and loss as may be available,
- (xiv) assist consultants in identifying major wastewater producers and pollution sources that may require additional treatment prior to discharge to the public sewer,
- (xv) assist Package C Consultants - office in the design, preparation, planning, coordination and management of (i) catchment plans and (ii) community participation components and village monitoring committee set-up, and in particular the preparation of guidelines, workshops and training.

General Tasks – Monitoring, Coordination, Disbursement and Management

- (xvi) supervise, coordinate and monitor the work of the DCSM ensuring sound supervision and quality control during construction of sub-project components and

- any other technical matters and recommend disbursement after ensuring correctness of the measurements and invoices, advise PCC accordingly ,
- (xvii) implementing environmental and social safeguards components (this may include water resource development infrastructure), including; (a) obtaining all necessary clearances from Central and Provincial Environmental agencies in respective areas of implementation, and (b) implementing Resettlement Plans,
 - (xviii) developing annual Project work plans, job descriptions, staffing schedules and equipment budgets, submit to PCC for consolidation,
 - (xix) based on advice from PCC, establishing, testing and reviewing financial accounting and control systems and ensuring accurate and timely report submissions and funds flow from ADB,
 - (xx) provide PCC with necessary Project Performance Management System (PPMS) for the Project and ensure that the necessary independent inputs are in place when and where required,
 - (xxi) conduct PPMS and baseline surveys,
 - (xxii) ensure compliance of loan covenants,
 - (xxiii) prepare Project accounts and submit timely statements to PCC for consolidation and further submission to ADB and Government,
 - (xxiv) prepare quarterly, mid term and final progress reports relating to their Project area of concern,
 - (xxv) assist Package C Consultants - office in the coordination and preparation of inputs for Component 2, including consultants' and NGO recruitment, and procurement of any essential equipment,
 - (xxvi) coordinate with outside organizations and ensure that services rendered by them are effective and fit within the Project's plans for strengthening the capacity of the Municipal Corporations,
 - (xxvii) RO (Vavuniya) to assist Vavuniya Municipal Council in introducing sewerage by-laws,
 - (xxviii) Conduct as necessary, public participation meetings and consultations, particularly in the context of maintaining a continuous dialogue with farmers in Puttalam and Vavuniya,
 - (xxix) Organize invitation and selection of NGOs to be involved in the cost-effective sanitation program and awareness campaigns, prepare TORs and job descriptions, interview and brief organizations on Project objectives and discuss proposed role of NGOs,
 - (xxx) Provide continuous guidance on suitable mechanisms for participatory interaction and training of local government and CBOs,
 - (xxxi) Based on mechanisms developed for beneficiaries' monitoring, establish performance and impact of community participation in the project area, where necessary suggest adjustments in the program and mechanisms employed, and prepare annual reports on performance and impact of community participation and development activities.

- (xxxii) In relation to the sewage and sanitation program, plan and organize a 'baseline' sampling and analysis program of the receiving water body, in compliance with any environmental management and monitoring plan,

Specific Tasks- Gender Related

- (xxxiii) Identify and plan, through public consultation and participation involving women, suitable locations for community sanitation blocks and facilities including agreement on responsibility for operation and maintenance.
- (xxxiv) Support and monitor the implementation of the gender-related activities under the project, including the training for NWSDB and project staff.
- (xxxv) Support and monitor the activities of the Water User Associations, to ensure women's participation and the efficient operations of the Association.
- (xxxvi) Support the collection of sex-disaggregated data and the use of this data in reporting.

6. RO Staff Structure: The 2 senior (no less than AGM level) full-time Project Managers shall head the ROs and report to DGM (Northern Province and North Western Province respectively). The Project Managers will be responsible for the day-to-day implementation of the Project in their areas of responsibility and coordination with any parallel funded institutional capacity building activities undertaken by other agencies. Three Section Heads will support the Project Managers – one responsible for management and implementation of the water supply and sanitation engineering services, as well as support to irrigation works, one who will oversee and guide the institutional strengthening, public awareness and community participation components and a third deputy director will look after finance, accounts and general office administration. The PMU will be staffed with technical, financial, social, capacity building/governance and procurement officers to manage all technical, procurement, and loan account administration. The indicative staff requirements for PMU and PIU are given below. The personnel hired for PCC and RO will be required to work for an average period of 5 years (though some experts will not find this necessary).

7. Each of the 2 units set to support the Project in the Regional Offices of Vavuniya and Puttalam will be duly strengthened with the following additional incremental staff:

Table VI.D4 – Regional Offices Incremental Staff

No	Position	Indicative Person Months	
		RO (Vavuniya)	RO (Puttalam)
02	Project Manager	84	84
04	Water Supply Engineers	296	296
03	Sanitation Engineers	65	65
02	Environmental Officers	60	60
02	Social Development Officers	72	72
02	Public Awareness Officers	48	48
02	Commercial and customer services officers	36	36
02	Accountant	84	84
02	Assistant Accountant	84	84
02	Office Manager	60	60
04	Driver	200	200
Total		1089	1089

D. Duties and Responsibilities of Central/Provincial Irrigation Departments (CID/PID)

- (i) with support from relevant ROs, ensure that all environmental clearances are obtained and recommendations included in civil works contracts,
- (ii) conduct, review and implement findings from the Hydraulic Model Study to be prepared under the Project for (a) Per Aru Tank (PID) and (b) Elawankulama/Achchamolai Tanks (CID),
- (iii) with support from ROs, and DCSM, prepare detailed designs, drawings, specifications, bills of quantities, cost estimates, tender documents and associated contract documentation for procurement of equipment and civil works for (a) impounding of Per Aru Tank in Vavuniya (PID) and (b) rehabilitation of Elawankulama and Achchamolai Tanks in Puttalam (CID). Evaluate tenders and recommend award,
- (iv) ensure/facilitate the implementation of compensation/resettlement plans for the above subcomponents,
- (v) supervise construction works related to Tank's construction and rehabilitation ensuring quality control and sanction payments,
- (vi) coordinate the preparation of guidelines and conduct training on the use of the automation,
- (vii) prepare an operational plan for optimizing water discharge operation for (a) Per Aru Tank (PID) and (b) Elawankulama/Achchamolai Tanks (CID),
- (viii) coordinate with other Government programs to ensure adequate scheduling of upstream and downstream works for Puttalam and Chilaw schemes,
- (ix) support the ROs and ensure that public consultations and information disclosure are timely held to address population concerns, particularly amongst the farmer's community.

8. The following additional incremental staff will be required:

Table VI.D5 – Irrigation Department Staff

No	Position	Indicative Person Months	
		PID (NPC)	CID
02	Irrigation Engineers	42	42

E. Duties and Responsibilities of Urban Councils

- (x) with support from relevant ROs, Vavuniya, Mannar, Chilaw and Puttalam urban councils will ensure that all environmental clearances relating to the implementation of individual septage treatment systems have been obtained and recommendations included in civil works contracts,
- (xi) with support from relevant ROs, Vavuniya, Mannar, Chilaw and Puttalam urban councils will ensure that all lands required to construct septage treatment facilities have been secured, this may include (a) passing a resolution by the UC Council, (b) passing a resolution by the PS (if on land other than UC's),

- (xii) ensure that the legal and regulatory system in place within the UC is conducive to overall sanitation improvement, this may include (a) passing of a by-law for introducing a charge for septic tank emptying (Chilaw) or sewerage (Vavuniya), and (b) compulsory construction of septic tanks in areas under development,
- (xiii) with support from ROs, and DCSM, prepare detailed designs, drawings, specifications, bills of quantities, cost estimates, tender documents and associated contract documentation for procurement of equipment and civil works for septage system construction, and
- (xiv) with support from ROs, and DCSM, supervise construction of related works.

9. The following staff will be required:

Table VI.D6 – Urban Council Staff

No	Position	Indicative Person Months (UCs)			
		Vavuniya	Mannar	Puttalam	Chilaw
04	Health Inspectors/Engineers	30	30	30	30

F. Water Resources Board

- (i) develop data systems and establish national baseline database on water resources; and
- (ii) work with Package C consultants and Provincial Councils in training local authorities on groundwater resource management, control and regulation. Provide support to local authorities in the preparation of (a) by-laws and implementing rules and regulations to control water abstraction, (b) formation and development of regulatory committees at village level.

VII. SAFEGUARDS

A. Introduction

1. The Project has been re-categorized as category 'A' for environment and resettlement impacts.
2. The government's environmental impact assessment (EIA) report for the Vavuniya scheme has been conducted and disclosed for public opinion and uploaded on ADB's website on 12 July 2012. The government will approve the Vavuniya scheme EIA by October 2012. IEEs were prepared for Chilaw, Manner and Puttlam and all three IEEs were disclosed in March 2008 and revised IEEs were disclosed in August 2012 for Chilaw and Puttalam.

B. Environmental Protection

3. In Vavuniya scheme, out of 238 hectare (ha) of the inundated area, a 168 ha area belongs to the Forest Department. There are no forest reserves in the affected area although Melkulam Forest Reserve locates in a few kilometers away from the reservoir. Strategic Environmental Assessments (SEA) have been conducted many regions in Sri Lanka since 2002 upon a Cabinet Directive. For Northern Province, SEA was completed in 2011. During the SEA exercise by the Central Environmental Authority a jungle corridor had been proposed by the Department of Wildlife Conservation between Padaviya and Giant Tank Sanctuaries. The reservoir and the water treatment plant are situated in the jungle corridor area. The Department of Wildlife Conservation had provided permission to the construct the Vavuniya water scheme as the impacts on the large mammals' movement will be insignificant provided measures proposed in the project EIA.
4. Environment Management Plans (EMPs) are included in the EIA and IEEs. Each onsite Project Management Unit (PMU) is responsible for the EMP implementation. NWSDB supervises PMU for EMP implementation. NWSDB will submit semiannual environment report for all schemes to ADB. Detailed EMP implementation arrangements should be included in the environment report before commencement of the civil works.

C. Land Acquisition and Resettlement

5. The resettlement plans for the Vavuniya and other three schemes have been prepared. For Puttalam scheme, no permanent private land acquisition is required but the rehabilitation of the Eluwankulam Tank will cause farmers and laborers income loss for one Yala season. For Chilaw and Manner schemes, the sites for water treatment plant need resettlement of affected houses. For Vavuniya scheme, 163 acres of rice will be inundated under the reservoir and 5 acres of forest land is to be acquired for the water treatment plant. The number of affected households is 107 with 338 persons. The Vavuniya PMU is responsible for the implementation of the resettlement plan approved by ADB, with the support of the local government and other government agencies. NWSDB will submit semi-annual resettlement monitoring report for all schemes to ADB.

VIII. GENDER AND SOCIAL DIMENSIONS

1. The project has no Gender Action Plan (GAP). However, gender-inclusive design features of the project include gender sensitization for NWSDB senior management and project staff at the central and district levels, targeted gender training for project staff, collecting sex-disaggregated data and addressing gender concerns in resettlement activities.

2. Gender-related issues arising from resettlement of Affected Persons in the target areas of the project will be addressed through the Resettlement Plans (RPs). The NWSDB, the IA, will be responsible for the implementation of the RPs, which will provide special attention to the identified vulnerable groups including households headed by women, widows, divorcees and women separated from their husbands. Consultations were held with stakeholders during project preparation and in the formal and informal consultations to update the RPs, attention will be paid to ensure the participation of the identified vulnerable groups and take their special needs into consideration in any revision of the RPs.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

Design Summary (Current Project)	Design Summary (Overall Project)	Performance Targets and Indicators with Baselines (Current Project)	Performance Targets and Indicators with Baselines (Overall Project)	Data Sources and Reporting Mechanisms (Overall Project)	Assumptions and Risks (Overall Project)
Impact Improved well-being of urban populations in Sri Lanka's northwestern dry zone towns of Chilaw, Mannar, Puttalam, and Vavuniya	Improved welfare in the northwestern dry zone	Reduction in regional disparities and improved well-being as measured by MDG development indicators and poverty and vulnerability indexes Reduced incidence of waterborne disease in urban areas (halved by 2017) Significant support for meeting MDG 7 targets for environmental sustainability, reducing by half the proportion of people without sustainable access to safe drinking water in northwestern dry zone towns	Same Reduced incidence of waterborne disease in urban areas (halved by 2020) Same	Department of Census and Statistics reports MDG reports National MOH, North Western and Northern province, and district statistics on health and hygiene Aid agency and NGO reports ADB country strategies and program and their updates	Assumptions Macroeconomic stability Political stability and peace Inflation contained
Outcome Improved urban water and sanitation service delivery in Sri Lanka's northwestern dry zone towns of Chilaw, Mannar, Puttalam, and Vavuniya	Improved urban water and sanitation service delivery in Sri Lanka's northwestern dry zone towns	By the end of the project in 2014: 200,000 people in the northwestern dry zone (and 420,000 by end of design life) with access to 120 liters per capita per day of 24-hour piped municipal water, with 120,000 new beneficiaries gaining access to water and 80,000 seeing significant improvement 100,000 people gaining access to improved sanitation, pit desludging, septage handling, treatment, and disposal 100% compliance with government and World Health Organization standards for water distribution or effluent discharge in project areas Improved regional efficiency and management capacity as measured by regional offices' operation and financial performance indicators agreed in the NWSDB corporate plan: NRW, financial, water resource management, coordination, the planning ability of northern and northwestern provincial councils, and their strengthened human resources	By end of project (2016): Same Same Same Same	United Nations Children's Fund reports on water supply, sanitation, and hygiene United Nations Environment Programme reports on the state of the environment National CEA, Irrigation Department, MOH, NWSDB, and WRB statistics, and Northern and North Western provincial statistics, on water supply and sanitation ADB project completion report and project audit report Baseline and completion survey data from provincial councils' coordination committee minutes	Assumptions All institutions, including local governments, actively participating in the planning and development All central and provincial government agencies and communities fully committed to water resource management Risk The lack of a formal national policy or act on water resource management and conflicting institutional mandates limiting initiatives' efficacy
Outputs		By the end of 2013:	By the end of 2016:		Assumptions

Design Summary (Current Project)	Design Summary (Overall Project)	Performance Targets and Indicators with Baselines (Current Project)	Performance Targets and Indicators with Baselines (Overall Project)	Data Sources and Reporting Mechanisms (Overall Project)	Assumptions and Risks (Overall Project)
<p>1. Urban water supply and sanitation infrastructure in the northwestern dry zone developed</p> <p>1.1 Water resources developed</p>	Same	<p>Chilaw: 20 MLD intake from Dedru Oya river; construction of seven replacement wells and pumps</p> <p>Puttalam: 15 MLD intake at Kala Oya; rehabilitation of Elawankulama and Achchamolai tanks</p> <p>Vavuniya: 12 MLD intake and construction of new earth tank; construction of six new wells and equipment replaced in four existing ones</p> <p>Mannar: Flushing and development of four existing boreholes; development of 4 new wells</p>	<p>Same</p> <p>Same</p> <p>Same</p> <p>Same</p>	<p>Project reports</p> <p>Project performance monitoring system semiannual reports</p> <p>Site surveys, contract supervision reports, and scheme completion reports</p>	<p>Government, NWSDB (water and sanitation), and provincial council commitment to institutional and financial reforms to improve service delivery</p>
<p>1.2 Water supply expanded and rehabilitated</p> <p>1.3 Sanitation and septage management improved</p>		<p>Chilaw: Rehabilitation of existing treatment plant; new 9 MLD treatment plant; 30 km transmission mains; 127 km distribution network; 3 reservoirs; 10 pumps</p> <p>Puttalam: Rehabilitation of existing treatment works; new 9 MLD treatment plant; 41 km transmission mains; 100 km distribution network; 2 reservoirs; 7 pumps</p> <p>Vavuniya: new 12 MLD treatment plant; 18 km transmission mains; 137 km distribution network; 5 reservoirs; 16 pumps</p> <p>Mannar: Chlorination unit; 33 km transmission mains; 100 km distribution network; 2 storage reservoirs; 15 pumps</p> <p>Chilaw: Septage disposal (sludge thickener, anaerobic ponds, sludge drying beds, wetland and site development, and outfall); 2 vacuum tankers; improved sanitation for 500 rural households; rehabilitation of 4 public latrines</p> <p>Puttalam: Septage disposal (sludge thickener, anaerobic ponds, sludge drying beds, wetland and site development, and outfall); 1 vacuum</p>	<p>Chilaw: Same with the following revisions: 34 km transmission mains; 153 km distribution network</p> <p>Puttalam: Same with the following revisions: enhanced filtration and carbon filter treatment; 43 km transmission mains (0.56 meters in diameter); 178 km distribution network</p> <p>Vavuniya: Same with the following revisions: enhanced carbon filter treatment: 20 km transmission mains; 141 km distribution network; 3 towers; 1 reservoirs</p> <p>Mannar: Same but with the following revisions: 30 km transmission mains; 102 km distribution network; 1 storage reservoir; 1 tower</p> <p>Chilaw: Septage disposal (stabilization ponds, sludge drying beds, wetland and site development, and outfall); 2 vacuum tankers; improved sanitation for 500 households; 1 new and 1 rehabilitated public latrine</p> <p>Puttalam: Septage disposal (stabilization ponds, sludge drying beds, wetland and site development,</p>	<p>Local urban councils' and <i>pradeshya sabhas'</i> annual budgets</p> <p>Groundwater pollution tests by NWSDB, CEA, and WRB</p> <p>ADB's semiannual review aide memoires</p> <p>Measurement of sludge reuse and groundwater recharge by WRB</p> <p>Beneficiary monitoring and reporting</p> <p>Baseline surveys at project inception and project completion</p>	<p>Appropriate tariffs for services set and collected efficiently</p> <p>Consumers able and willing to pay</p> <p>Commitment honored to have an autonomous and accountable service delivery mechanism</p> <p>Local marketing potential for septage and compost products</p> <p>Local community participation</p> <p>Effective O&M</p> <p>Risks</p> <p>Land acquisition and environmental clearance delayed, preventing construction</p> <p>Water rights agreed between the Irrigation Department and the NWSDB not respected during implementation</p>

Design Summary (Current Project)	Design Summary (Overall Project)	Performance Targets and Indicators with Baselines (Current Project)	Performance Targets and Indicators with Baselines (Overall Project)	Data Sources and Reporting Mechanisms (Overall Project)	Assumptions and Risks (Overall Project)
		<p>tanker; improved sanitation for 500 rural households); rehabilitation of 3 public latrines</p> <p>Vavuniya: Septage disposal (sludge thickener, anaerobic ponds, sludge drying beds, wetland and site development); 1 vacuum tanker; rehabilitation of 2 public latrines; improved sanitation for 500 rural households</p> <p>Mannar: Septage disposal (sludge thickener, anaerobic ponds, sludge drying beds, wetland and site development, and outfall); 1 vacuum tanker; improved sanitation for 330 rural households; rehabilitation of 4 public latrines</p>	<p>and outfall; 1 vacuum tanker; improved sanitation for 500 households; 1 new and 1 rehabilitated public latrine</p> <p>Vavuniya: Septage disposal (stabilization ponds, sludge drying beds, wetland and site development); 1 vacuum tanker; rehabilitation of 2 public latrines; improved sanitation for 500 households.</p> <p>Mannar: Septage disposal (stabilization ponds, sludge drying beds, wetland and site development and outfall); 1 vacuum tanker; improved sanitation for 330 households; 3 new public latrines.</p>		Beneficiaries unable to pay charges for O&M
<p>2. Water institutions strengthened</p> <p>2.1 Decentralization of service delivery functions to regional offices supported</p>	Same	<p>By mid-2013:</p> <p>Business support systems established in NWSDB regional offices (work planning, procurement and stores, and financial)</p> <p>NWSDB regional offices improved: new buildings constructed; planning, commercial, billing and collection, RWS, NRW units created; functions officially transferred</p> <p>Human resource plan developed for NWSDB regional offices</p> <p>Training programs on public utility and asset management, O&M, financial management, and capital planning</p> <p>System automation and staff trained</p> <p>Water supply system modeling prepared and transferred to regional offices</p> <p>Training for Vavuniya regional office on wastewater treatment and management</p> <p>Urban councils trained on improved septage management: revised on-site sanitation manual reviewed, updated, and printed; training on adequate supervision of the construction and siting of pits and soakage and infiltration fields; septage handling,</p>	<p>Same</p> <p>Same</p> <p>Same</p> <p>Same</p> <p>Same</p> <p>Same</p> <p>Urban councils with 50% female participation trained on improved septage management: revised on-site sanitation manual reviewed, updated, and printed; training on adequate supervision of construction and siting of pits and soakage and infiltration fields; septage handling,</p>	<p>Project reports</p> <p>Project performance monitoring system of implemented activities</p> <p>Multimedia material for awareness and education program</p>	<p>Assumptions</p> <p>Government continuing to devolve financial resources and decision-making authority to provinces</p> <p>Multiple agencies committing to protecting water and the environment</p> <p>Participatory, consultative, and transparent mechanisms utilized throughout the development process</p> <p>Participation sought from all government levels: local, district, and provincial</p>

Design Summary (Current Project)	Design Summary (Overall Project)	Performance Targets and Indicators with Baselines (Current Project)	Performance Targets and Indicators with Baselines (Overall Project)	Data Sources and Reporting Mechanisms (Overall Project)	Assumptions and Risks (Overall Project)
<p>2.2 Water resource management, coordination, and planning ability strengthened</p> <p>2.3 Public awareness raised</p>		<p>treatment, and environmental disposal River basin plans prepared Provincial councils' and WRBs' monitoring and advisory roles strengthened Program for groundwater quality monitored across three districts; well registers established; mapping completed Village monitoring committees formed, trained, and active Database established Water conservation and environmental outreach program in place</p> <p>Public acceptance of the project</p>	<p>treatment, and disposal Same Same Same Same Same Same Same</p>		
<p>3. Project management and implementation capacity built</p>	<p>Same</p>	<p>By mid-2013: On-the-job capacity-building program ready Capacity of regional offices developed for consultant recruitment and management, procurement and contract management, and disbursement management Capacity of regional offices enhanced for project and performance monitoring Capacity of regional offices and urban councils enhanced for obtaining environmental clearance, developing monitoring programs, and reporting to secure compliance with the laws of the country Capacity of regional offices enhanced for managing and expediting the land acquisition and resettlement process in agreement with ADB and the government</p>	<p>By mid-2016: Same Same Same Same Same</p>	<p>Consultancy contracts Training records Project reports ADB's semiannual review and aide memoires</p>	<p>Assumptions Implementing agencies amenable to capacity building Community-based organizations able to form in a timely way and register to attend capacity-building activities</p>

Design Summary (Current Project)	Design Summary (Overall Project)	Performance Targets and Indicators with Baselines (Current Project)	Performance Targets and Indicators with Baselines (Overall Project)	Data Sources and Reporting Mechanisms (Overall Project)	Assumptions and Risks (Overall Project)
<p>Updated Milestones</p> <ol style="list-style-type: none"> 1. Preparatory Activities: Memoranda of understand relating to water rights agreements signed, consultancy recruitment, project staff appointment and environmental clearances, detailed designs and bid documentation, all completed and obtained. Resettlement plans implemented by Q1 2013 2. Water Resource Development: including field surveys and investigations, water monitoring programs, consultations with farmers completed. 3. Drinking water supply: all packages tendered and evaluated, and contractors selected (Q2 2013), construction completed (Q4 2015), commissioning and O&M turned over to the NWSDB north staff (Q1 2016),household connections provided (Q2 2016) 4. Sanitation: all packages tendered and evaluated, and contractors selected (Q2 2013), construction completed (Q2 2015), commissioning and O&M turned over to urban councils (Q2 2015). Pro-poor sanitation program conducted by NGOs, including hygiene awareness (Q4 2015) 5. Decentralization of Service Delivery: Regional office construction completed (Q1 2015), water supply system modeled in four project towns and transferred to regional offices (Q2 2016), urban councils trained to plan, manage, and monitor on-site systems (Q4 2012–2015) 					<p>Inputs (Additional Financing)</p> <p>ADB: \$40 million</p> <p>Government: \$10 million</p>

Activities with Milestones (Overall Project)	Inputs (Additional Financing)
<p>Preparatory Activities</p> <p>0.1.1 MOUs relating to water rights agreements signed with the Irrigation Department (Q3 2008)</p> <p>0.1.2 Short-listing for consultancy packages completed (Q4 2008)</p> <p>0.1.3 Process of land acquisition of private lands and resettlement initiated by loan approval (Q4 2008)</p> <p>0.1.4 Regional offices duly strengthened, adequate staff appointed, and training provided (Q1 2009)</p> <p>0.1.5 PCC formed in NWSDB and protocols on (i) project performance monitoring system, (ii) reporting, and (iii) accounting and auditing (Q1 2009)</p> <p>0.1.6 All Government lands transferred and/or leased to NWSDB (Q1 2009)</p> <p>0.1.7 All requests for environmental clearance submitted to CEA (Q1 2009)</p> <p>1.1 Water Resource Development</p> <p>1.1.1 Topographic field surveys and investigations undertaken (Q2 2009)</p> <p>1.1.2 Water monitoring program for Peru Aru tank completed (end of Q2 2009)</p> <p>1.1.3 Environmental clearances obtained from CEA and EA (Q3 2009)</p> <p>1.1.4 Land acquisition completed; short resettlement plan finalized (Q4 2009); farmers' compensation plan for Vavuniya and Puttalam to extend to no later than Q4 2010.</p> <p>1.1.5 Consultations with farmers conducted semiannually, or if needed, more frequently.</p> <p>1.1.6 Groundwater investigations and detailed design for groundwater works completed (Q1 2010)</p> <p>1.1.7 Small groundwater schemes rehabilitated and redundant schemes decommissioned (Q2 2011)</p> <p>1.1.8 Bidding documents tendered and evaluated, and contractors selected (Q1 2013)</p> <p>1.1.9 Construction activities completed (Q2 2016)</p> <p>1.1.10 Commissioning conducted (Q2 2016)</p> <p>1.2 Drinking Water Supply</p> <p>1.2.1 Topographical field surveys and investigations undertaken (Q2 2009)</p> <p>1.2.2 Benefit monitoring survey conducted for four project towns (Q2 2009)</p> <p>1.2.3 Environmental clearances obtained from CEA or PEA (Q3 2012)</p> <p>1.2.4 Land acquisition completed; short resettlement plan finalized (Q2 2012)</p> <p>1.2.5 NRW programs agreed by 1Q 2009; bulk and household meter contracts tendered and awarded (Q3 2015); and NRW baselines established in all four project towns (Q1 2015)</p> <p>1.2.6 Detailed engineering design for water main and distribution systems prepared (Q1 2012)</p> <p>1.2.7 Bidding documents tendered and evaluated, and contractors selected (Q1 2013)</p> <p>1.2.8 Construction activities completed (Q2 2016)</p> <p>1.2.9 Water treatment plant commissioned, O&M turned over to NWSDB (north) staff (Q2 2016)</p> <p>1.2.10 Commissioning conducted (Q2 2016)</p> <p>1.2.11 New household connections provided (Q2 2016)</p> <p>1.3 Improving Sanitation and Septage Management</p> <p>1.3.1 Topographical, bathymetric, and current surveys and investigations undertaken (Q2 2009)</p> <p>1.3.2 Benefit monitoring survey conducted by city (Q2 2009)</p> <p>1.3.3 Environmental clearances obtained from CEA or PEA (Q2 2009)</p> <p>1.3.4 Land transfer completed, short resettlement plan implemented (Q3 2010-13)</p> <p>1.3.5 Bidding documents tendered and evaluated, and contractors selected (Q4 2012-13)</p> <p>1.3.6 Construction activities completed, including all septage (Q1 2014-16)</p> <p>1.3.7 Tariff for financially sustainable O&M revised for (i) individual consumer (household, commercial connection) and (ii) institutions (e.g., hospitals) supply (Q2 2012)</p> <p>1.3.8 Septage treatment units commissioned, O&M turned over to urban council staff (Q3 2013-16)</p> <p>1.3.9 In parallel, pro-poor sanitation program conducted by NGOs, to include building of low-cost latrines and hygiene awareness, (Q4 2013-16)</p> <p>2.1 Supporting decentralization of service delivery functions to regional offices</p> <p>2.1.1 Business support systems needs assessment conducted for NWSDB regional offices (Q2 2009)</p>	<p>ADB: \$40 million</p> <p>Government: \$10 million</p>

<p>2.1.2 Regional offices' civil works and equipment procurement (to provide agreed functions) tendered (Q4 2010-13); construction completed (Q4 2015)</p> <p>2.1.3 Training programs agreed (Q3 2009) and implemented (from Q1 2010 to Q4 2015)</p> <p>2.1.4 Water supply system modeled in four project towns and transferred to regional offices (Q4 2016)</p> <p>2.1.5 Urban councils trained on planning, management, and monitoring of on-site systems (Q4 2012 - 2015)</p> <p>2.2 Regional Water Resource Management, Coordination, and Planning</p> <p>2.2.1 Water quality monitoring equipment purchased and delivered (Q2 2010-11)</p> <p>2.2.2 Baseline information on land use, water, and biotic resources established (Q2 2010-11)</p> <p>2.2.3 Program on groundwater implementation (from 3Q 2009 to 4Q 2012)</p> <p>2.2.4 Capacity built for utilization of predictive groundwater and hydrological models (Q4 2010-11)</p> <p>2.2.5 Catchment investigations and baselines conducted (4Q 2010-12)</p> <p>2.2.6 NWSDB staff trained on sampling and analytical testing for water quality monitoring (Q4 2010-11)</p> <p>2.2.7 Guidelines on mobilization and functioning of village monitoring committees, technical information sheets, establishment of performance targets and reporting mechanisms completed (Q4 2009)</p> <p>2.2.8 Village regulatory committees appointed (4Q 2009) and training completed (Q2 2010); 2.2.9 Water abstraction bylaws and regulations passed by pradeshiya sabhas (Q2 2010)</p> <p>2.2.9 Catchment plans prepared (Q3 2011)</p> <p>2.2.10 Database established and incorporated into GIS (Q4 2011)</p> <p>2.3 Delivering a Conservation and Environment Education and Awareness Program</p> <p>2.3.1 Water and environmental educational activities in districts reviewed (Q2 2009)</p> <p>2.3.2 Community leaders engaged in participatory design and delivery (Q3 2009)</p> <p>2.3.3 Women engaged as members of committees (Q3 2009)</p> <p>2.3.4 Dry zone water awareness and environmental campaign formulated (Q4 2013)</p> <p>2.3.5 Awareness campaign delivered (Q2 2013-15)</p> <p>3.0 Support for Project Management</p> <p>3.0.1 Full staff recruited (Q2 2009)</p> <p>3.0.2 Design and supervision consultants recruited (mid-Q2 2009)</p> <p>3.0.3 Socioeconomic survey baselines completed (Q3 2009), with sex-disaggregated data</p> <p>3.0.4 Institutional development consultants recruited (Q4 2009)</p> <p>3.0.5 Preparation and submission of environmental monitoring and compliance reports, semiannually</p> <p>3.0.6 Implementation of gender-related measures, including sensitization, training, and data collection</p> <p>3.0.7 Annual energy and environmental audits</p>	
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ADB = Asian Development Bank, CBO = community-based organization, CEA = Central Environmental Agency, IR = Irrigation Department, lcd = liter per capita per day, MDG = Millennium Development Goal, MLD = mega liters per day, NCED = National Council for Economic Development, NRW = nonrevenue water, NWSDB = National Water Supply and Drainage Board, O&M = operation and maintenance, PCC = project coordination cell, PPCC = provincial project coordination committee, UNDP = United Nations Development Programm

B. Monitoring

1. Project performance monitoring

Quarterly Progress Reports:

1. The government will provide ADB with detailed quarterly progress reports on project implementation, which will follow ADB's standard procedures. Based on an agreed format, each of the two regional officers will prepare the projects; PCC will consolidate them submit a combined report to ADB and indicate; (i) progress against established targets, (ii) status of performance indicators, (iii) problem encountered and steps taken to resolve the problems, (iii) compliance with loan covenants, and (iv) Program activities proposed for the following quarter.

2. The content of the QPR includes sufficient information in summary form to be useful to ADB as a funding agency. The purpose of the report is to enable the borrower, EA and ADB to monitor the latest progress, become aware of current problems, and access whether the project's immediate objectives will be met. The QPR sent to ADB will enable ADB staff to readily capture progress reports.

Project Completion Report

3. Within 3 months of physical completion of the project, the PCC will be responsible for submitting a project completion report to ADB following ADB standard procedures

2. Compliance monitoring:

4. The status of the compliance of the loan covenants will be stated in the quarterly progress report.

3. Safeguards monitoring:

5. Update Environmental Monitoring Plan and Environment Management Plan

Although the impact related to design of water supply systems minor except for Vavuiya, some uncertainties are still present at the stage of feasibility and additional data regarding the yield of the aquifer will be needed prior to finalizing detailed design. Resettlement Plan (RP) Preparation and Updating, Social impact assessment (SIA) surveys will be prepared based on the results of the census and from information drawn from the baseline socio-economic sample survey; the database on APs should be complete before RP preparation or updating will be govern by the involuntary resettlement impacts identify during the census, and shall be based on the following criteria:

If voluntary resettlement impacts are found to be significant. Resettlement is significant when 200 or more people experience major "impacts" defined as involving AP being physically displaced from housing and/or having 10% or more of their productive, income generating assets lost, a RP will be prepared for the sub-project in conclusion with APs.

If involuntary resettlement impacts are not significant, a RP will be prepared for the sub-project in conclusion with APs.

All RPs will be reviewed and approved by ADB prior to the award of any contracts related to the sub project. The RP will be prepared / updated by the RS of the RO. The RP will be prepared /updated in consultation with APs, local representatives, and NGOs. Resettlement issues will be coordinated by the project coordination cell (PCC), which will ensure that all schemes comply with involuntary resettlement safeguards. Semi annual reports on resettlement plan implementation will be forwarded to ADB.

C. Evaluation

6. The Government and ADB will jointly assess project implementation semiannually. The reviews will; (i) examine the appropriateness of scope, design, implementation arrangements and schedules of activities, (ii) identify changes needed since project appraisal, (iii) assess implementation performance against Project indicators, (iv) establish compliance with loan covenants, (v) identify problems, constraints, and, if necessary, recommend changes in the design or implementation arrangements, and (vi) monitor the effectiveness of safeguard procedures. Within 6 months of physical completion of the Project the executing agency will submit a project completion report to ADB.¹⁰

D. Reporting

7. The NWSDB will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) semi-annual monitoring reporting on the resettlement plan implementation, (iii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan and (d) updated implementation plan for next 12 months, and (iii) a project completion report within 6 months of physical completion of the Project. To ensure projects continue to be both viable and sustainable, project accounts and the executing agency AFSs, together with the associated auditor's report, should be adequately reviewed.

E. Stakeholder Communication Strategy

8. The Project intends to maximize transparency by communicating relevant project information to stakeholders through various media. The NWSDB will disclose all key project-related information, including the scope, cost, and financial and institutional arrangements of the project, project safeguard reports such as the IEE and resettlement plan, resettlement plan monitoring reports and project progress such as procurement, contract award and disbursement through the project website²⁰. The PMU will also fully disclose relevant project-related information-such as scheme cost, cost sharing arrangement, contractor's name, contract price, progress of construction, financial status of municipalities-through local information centers and public briefings, bulletin boards, municipal annual reports etc.

¹⁰ Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

X. ANTICORRUPTION POLICY

1. This [Project]/[Loan] will be subject to ADB's Anticorruption Policy (1998) and Integrity Principles and Guidelines (2010), both as amended from time to time. ADB's Anticorruption Policy requires staff, the recipients of the loan, beneficiaries, consultants, bidders, suppliers and contractors involved in the loan or any activity financed by or related to the loan to observe the highest standards of ethics and personal integrity. Any party found in breach of ADB's Anticorruption Policy may be subject to sanctions and other remedial actions in accordance with ADB's Integrity Principles and Guidelines. Any legal entity or individual debarred or cross debarred in accordance with the Integrity Principles and Guidelines shall be ineligible to participate in activities financed by or related to the [Project]/[Loan]. ADB staff, the Project EA, and the IAs shall review ADB's sanctions list to determine eligibility of individuals, firms/companies, and directors/officers/employees of firms/companies.
2. ADB's Anticorruption Policy (1998, as amended to date) was explained and discussed with the Government, Ministry of Water Supply and Drainage, and NWSDB.
3. The Government, the Ministry of Water Supply and Drainage (EA), and the National Water Supply Board (IA) (i) acknowledge that ADB, consistent with its commitment to good governance accountability, and transparency, reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Project; (ii) shall comply with ADB's Anticorruption Policy (1998, as amended to date); and (iii) shall cooperate with any such investigation and extend all necessary assistance for satisfactory completion of such investigation.
4. The Government, the Project EA, and the IAs shall ensure that anticorruption provisions are included in the loan and grant regulations and the bidding documents for the Project. In particular, all contracts financed by ADB in connection with the Project shall include provisions specifying the right of ADB or its representative to audit and examine the records and accounts and other documents relating to the bid submission and contract performance of the EA, IAs, and all contractors, suppliers, consultants and the other service providers as they relate to the Project.
5. The Project will introduce additional measures to enhance governance and prevent corruption. The measures include (i) providing consultants support to project implementation staff on procurement and financial management, (ii) using information technology to increase transparency, accountability and efficiency, (iii) implementing procurement and performance audits By The Office Of Auditor General, (iv) reviewing fiduciary issues, (v) adhering to codes of conduct by management and employees, and (vi) preparing and adhering to risk assessment and risk mitigation plan.
6. Specific measures to be adopted to enhance transparency under the Project include:
 - (i) random and independent spot checks by ADB review missions on procurement and project accounts;
 - (ii) public disclosure of information through the NWSDB's project website to be prepared [in English and local language] and which will contain updated information on (a) bidding procedures, bidders, and contract awards for the Project, and (b) use of the funds disbursed under the Project;
 - (iii) beneficiary involvement in project monitoring and evaluation.

7. Proposed measures to enhance managerial and procurement capacity include (i) during prequalification, project staff will verify prequalification submission against the specified prequalification criteria and disclose the results on NWSDB website, (ii) tender capacity will be mandatory criteria for award of contract, and (iii) strict NWSDB review of implementation and evaluation of the institutional strengthening to assess its operating performance and for financial management improvement.

XI. ACCOUNTABILITY MECHANISM

1. ADB's Accountability Mechanism provides a forum where people adversely affected by the project can seek solutions to their problems and report alleged noncompliance of ADB's operational policies and procedures. To ensure greater accountability, the project has its grievance redress mechanism and a grievance redresses committee (GRC) has been established for each scheme. GRC is chaired by the Divisional Secretary with representatives from the relevant local government agencies, community based organizations, farmer organization, and the Regional Office (RO) of NWSDB. GRC's contacts are publicized to ensure that all adversely affected people by the project will contact with GRC. GRC will resolve grievances within a month of receiving the complaint. The RO keeps records of all grievances received.

XII. RECORD OF PAM CHANGES

1. All revisions/updates during course of implementation should be retained in this Section to provide a chronological history of changes to implemented arrangements recorded in the PAM.
2. The original PAM was updated with revised implementation schedule, revised procurement plan, revised fund flow diagram, increase person months inputs in design and supervision consultants, revised terms of reference for regional offices including specific gender related tasks under monitoring, coordination, disbursement and management, revised accountability mechanism and updated safeguards section.