ADB

Report and Recommendation of the President to the Board of Directors

Project Number: 37378
November 2010

Proposed Loans and Technical Assistance Grant Democratic Socialist Republic of Sri Lanka: Jaffna and Kilinochchi Water Supply and Sanitation Project

Asian Development Bank

CURRENCY EQUIVALENTS
(as of 26 October 2010)

Currency Unit	–	Sri Lankan rupee/s (SLRe/SLRs)
SLRe1.00	=	$0.0089
$1.00	=	SLRs111.7300

ABBREVIATIONS

ADB	–	Asian Development Bank
AFD	–	Agence Française de Développement
EMP	–	environmental management plan
IEE	–	initial environmental examination
JRO	–	Jaffna Regional Office
LIBOR	–	London interbank offered rate
NWSDB	–	National Water Supply and Drainage Board
O&M	–	operations and maintenance
PAM	–	project administration manual
PIU	–	project implementation unit
PMCIU	–	project management, coordination, and implementation unit
PPMS	–	project performance monitoring system
TA	–	technical assistance

GLOSSARY

Jaffna Peninsula	–	Refers to the area covering the Jaffna District and Pachcilaipallai Division of the adjoining Kilinochchi District. Also referred to as Jaffna.
Jaffna District	–	Encompasses most of north Sri Lanka. It lies within latitudes 9° 25’ and 9° 50’, and within longitudes 79° 50’ and 80° 20’. It is bound on the north and east by the Indian Ocean, on the west by the Palk Strait, and to the south by the Sri Lanka mainland.
Kilinochchi District	–	District within latitudes 9° 15’ and 9° 25’, and within longitudes 80° 00’ and 80° 30’. It is bordered by Vavuniya District and Mullaitivu District to the south, Jaffna District to the north and the Indian Ocean to the east and west.
Pradeshiya Sabha	–	Local authorities established under the Pradeshiya Sabhas Act Number 15 of 1987.

NOTE

In this report, "$" refers to US dollars

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PROJECT AT A GLANCE

1. Project Name: Jaffna and Kilinochchi Water Supply and Sanitation Project **2. Project Number:** 37378-013

3. Country: Sri Lanka **4. Department/Division:** South Asia Department/Urban Development Division

5. Sector Classification:

Sectors	Primary	Subsectors
Water supply and other municipal infrastructure and services	√	Water supply and sanitation

6. Thematic Classification:

Themes	Primary	Subthemes
Economic growth		Promoting macroeconomic stability
Social development		Human development
Environmental sustainability	√	Urban environmental improvement
Capacity development		Organizational development

6a. Climate Change Impact

Mitigation	Low

6b. Gender Mainstreaming

Effective gender mainstreaming (EGM)	√
Gender equity theme (GEN)	
No gender elements (NGE)	
Some gender benefits (SGB)	

7. Targeting Classification:

General Intervention	Targeted Intervention		
	Geographic dimensions of inclusive growth	Millennium development goals	Income poverty at household level
		√ MDG7	

8. Location Impact:

Rural	Low
Urban	High

9. Project Risk Categorization: Low

10. Safeguards Categorization:

Environment	B
Involuntary resettlement	B
Indigenous peoples	C

11. ADB Financing:

Sovereign/Nonsovereign	Modality	Source	Amount ($ Million)
Sovereign	Project loan	Asian Development Fund	70.0
Sovereign	Project loan	Ordinary capital resources	20.0
Sovereign	Capacity development technical assistance	Technical Assistance Special Fund	.6
Total			90.6

12. Cofinancing:

Financier	Category	Amount ($ Million)	Administration Type
Agence Francaise de Developpement	Official-Loan	40.0	
Total		40.0	

13. Counterpart Financing:

Source	Amount ($ Million)
Government	34.0
Total	34.0

14. Aid Effectiveness:

Parallel project implementation unit	No
Program-based approach	No
Use of country procurement system	

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on proposed loans to the Democratic Socialist Republic of Sri Lanka for the Jaffna and Kilinochchi Water Supply and Sanitation Project.[1] The report also describes proposed technical assistance (TA) for Capacity Development for Water Supply and Sanitation Service Delivery, and if the Board approves the proposed loans, I, acting under the authority delegated to me by the Board, will approve the TA.

2. The proposed Project will support the government's efforts to meet the United Nations Millennium Development Goals in the Jaffna Peninsula through three components: (i) rehabilitating, expanding, and developing water and sanitation infrastructure; (ii) strengthening water resource management; and (iii) enhancing implementation and management capacity of key institutions, and providing support for project management and implementation activities.[2]

II. THE PROJECT

A. Rationale

3. The government has identified developing the northern and eastern provinces and reducing interregional inequalities as key foundations for long-term peace. Since the end of the armed conflict, substantial progress has been made in addressing challenges and security concerns. At the end of the war in 2009, 32 welfare centers in the north had about 327,000 internally displaced persons. As of October 2010, less than 23,000 remained, and the majority of those are expected to return to their original residences by the end of the year, with the rest returning early next year following completion of demining in their home regions. Development partners remain engaged with the government, and are placing increased emphasis on early recovery and rehabilitating and reconstructing basic infrastructure. Security and access has improved substantially, and demining is expected to be completed by the end of 2010 or early 2011.

4. Decades of internal conflict resulted in Jaffna Peninsula lagging behind the rest of the country economically, as many facilities for fish processing and other key industries were destroyed. Investment levels have remained extremely low, little maintenance has been undertaken on surviving infrastructure, and key industries, such as agriculture and fishing, have been abandoned. Poverty is the most pressing issue in Jaffna. The incidence of poverty in the Northern Province is estimated to be 37%, compared with 15% for the country as a whole.[3] Poverty in the Northern Province is multidimensional and distinct from the rest of the country. Both income poverty levels and non-income poverty levels remain high, and vulnerabilities resulting from the past conflict persist. Providing basic needs will mitigate against these vulnerabilities and result in improved health and human capital. Provision of basic needs will complement government efforts to promote sustainable livelihoods, improve access to markets, and increase employment in the Northern Province.

5. Provision of water—the most basic of needs—and sanitation require careful consideration because of the distinct characteristics of Jaffna. Because of Jaffna's unique topography and morphology, the peninsula depends primarily on groundwater resources not only for drinking water but also for many other purposes, including agriculture, the primary

[1] The design and monitoring framework is in Appendix 1.
[2] A comprehensive study of water resources in Jaffna Peninsula and a feasibility study were conducted under component D of the ADB-supported Conflict Affected Areas Rehabilitation Project (approved in 2003).
[3] Government of Sri Lanka. 2009. *Wadakkil Wasantham*: *Three Year Development Strategy for the Northern Province*. Colombo.

economic activity. The aquifer is fragile and at risk because of bacteriological contamination resulting from inadequate sanitation and nutrient contamination resulting from agricultural run-off. Over-extraction of groundwater has also led to salinity intrusion. Addressing threats to water resources in Jaffna requires an integrated, cross-sectoral, and multidisciplinary institutional framework. Currently no regulatory mechanism for water resources exists to coordinate, plan, and oversee monitoring activities.

6. Key development problems affecting water and sanitation in Jaffna are related to (i) damaged sanitation facilities and a lack of access to water;[4] (ii) weak water resource coordination and planning and a lack of essential policies for managing water resources; and (iii) poor institutional capacity of water and sanitation authorities and inadequate awareness on water conservation, environmental protection, and hygiene among beneficiaries.

7. The government recognizes the project as a key priority and a key part of the rehabilitation and reconstruction program for the Northern Province. The project is consistent with the government's 10-year development framework,[5] which (i) targets increased access to water supply and sanitation, (ii) encourages the use of alternative water sources to protect and conserve water resources, (iii) identifies Jaffna as a national growth center, (iv) promotes localized measurement and achievement of the United Nations Millennium Development Goals in recognition of regional variations, and (v) works to rehabilitate and reestablish residents' access to basic infrastructure in post-conflict areas. It is also consistent with (i) the country partnership and strategy of the Asian Development Bank (ADB),[6] which aims to achieve socially inclusive development by expanding access to high-quality water supply and other services in lagging regions, and to assist poor households in establishing links to water supply systems; and (ii) the country operations business plan of ADB,[7] which identifies drinking water and sanitation systems as areas of ADB intervention. The project was prepared in consultation with development partners, and will be cofinanced by Agence Française de Développement (AFD).

8. Lessons learned from previous projects and evaluation[8] in Sri Lanka have highlighted the need to (i) incorporate greater consultation and participatory processes into project design and implementation, (ii) establish effective regulatory entities and take other measures to prevent conflicts between water users, (iii) ensure proper project cost estimates, (iv) revise water tariffs to be more sustainable, (v) introduce sewerage tariffs, and (vi) provide capacity building to staff of agencies involved in water and sanitation.

B. Impact and Outcome

9. The impact of the project will be improved health and human development in urban areas of Jaffna Peninsula. The project will contribute to rehabilitating, reconstructing, and developing areas affected by conflict. The outcomes of the project will be (i) improved water supply and sanitation infrastructure for residents and returning internally displaced persons in targeted urban areas, and (ii) improved protection and management of Jaffna Peninsula's water resources. The project area covers the Jaffna Peninsula and Poneryn *Pradeshiya Sabha* in Kilinochchi District. The project comprises stage 1 of phase 1 of the government's three-phase plan to provide water for the entire Jaffna Peninsula.[9]

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[4] Less than 0.5% of residents in Jaffna Peninsula have access to piped water, compared with a country average of more than 32%.
[5] Government of Sri Lanka. 2006. *Mahinda Chintana: Vision for a New Sri Lanka*. Colombo.
[6] ADB. 2008. *Country Partnership Strategy: Sri Lanka, 2009–2011*. Manila.
[7] ADB. 2010. *Sri Lanka: Country Operations Business Plan, 2011–2013.* Manila.
[8] ADB. 2007. *Sri Lanka Country Assistance Program Evaluation: Water Supply and Sanitation Sector.* Manila.
[9] Other phases and areas are covered or proposed through other ADB and other development partners' assistance.

C. Outputs

10. The project will have the following components:

1. Improving Water Supply and Sanitation Infrastructure

11. **Water supply.** This comprises (i) rehabilitating and improving headworks at the Iranamadu Tank[10] to increase water resources and tank efficiency levels; (ii) constructing a water intake,[11] a raw-water supply system, a water treatment plant, and a treated water pumping station; (iii) laying treated-water transmission mains[12] to the Jaffna Municipality; and (iv) providing water connections to an urban council and *Pradeshiya Sabhas* en route to Jaffna Municipality[13] involving 12 off-takes.[14] From the treated water transmission main, the project will (i) build new water distribution systems for Jaffna Municipality and the Chavakachcheri Urban Council that will provide poor areas with access to household connections and metered community water facilities;[15] (ii) build new water distribution systems for selected *Pradeshiya Sabhas* of the Jaffna and Kilinochchi districts, including pipe extensions to property boundaries for ease in providing household and community connections;[16] (iii) install bulk/system water meters; (iv) institute a leak detection program for the existing distribution network; and (v) provide spare parts and maintenance equipment.[17]

12. **Sewerage and sanitation.** This comprises (i) building a sewage collection system,[18] (ii) building a sewage treatment plant, (iii) building an effluent sea outfall, and (iv) providing maintenance equipment. The project will also provide low-cost sanitation systems for poor communities in the form of household or communal latrines.[19] Given the fragility of the aquifer, all latrines built under this component will be connected to a septic tank, unless they are within the area of Jaffna Municipality served by the sewerage system. A connection to the sewerage system will be compulsory in this area. Septic tank cleaning machines will also be provided.

2. Strengthening Jaffna Water Resource Management

13. This component will (i) assist the Jaffna Water Resources Management Committee in designing a policy and institutional framework for integrated water resources management by financing a study to develop a water resources management plan;[20] (ii) support the National

[10] Includes raising and strengthening the embankment; repairing sluices, radial gates, spillway, and lift irrigation; and automation.
[11] To abstract 27,000 cubic meters per day.
[12] Treated water transmission mains are estimated to be 44 km long.
[13] These may include the following Pradeshiya Sabhas and Urban Council: Pallai (Pachcilaipallai) and Pooneryn in Kilinochchi District; Kodikamam, Chavakachcheri, Kopay, Nallur, Valigamam South, Valigamam West, Kayts, Velanai, Pungudutivu Islands, and Karainagar.
[14] The government has requested AFD to fund item (ii) and part of item (iii) as well as associated consulting services for design and supervision.
[15] The project will support progressive phasing out of stand posts and their conversion into metered community water facilities. Communities supplied with water through communal metered facilities will form community-based organizations (CBOs) that will register and sign agreements with the National Water Supply and Drainage Board. The CBOs will nominate representatives to coordinate and collect payments.
[16] There will be about 300,000 beneficiaries of the water system comprising an estimated two-thirds of residents in the coverage area.
[17] The water supply component supports stage one of the first phase of the government's multiphased approach for supplying water to the whole Jaffna Peninsula.
[18] The sewerage system will cover the most densely populated areas of Jaffna Municipality, benefiting 80,000 persons.
[19] These will be in areas within the project's water supply service area not covered by the project's sewerage network. Work in this area will be coordinated with sanitation projects of the government and other development partners.
[20] The Jaffna water resources management committee will expand on the Jaffna Water and Sanitation Sectoral Committee chaired by the government agent. Members will include the NWSDB (secretariat); divisional secretaries; secretaries of municipal and urban councils and *Pradeshiya Sabhas*; nongovernment organizations; and the regional director for health services.

Water Supply and Drainage Board (NWSDB), the Water Resources Board, and other institutions in developing a groundwater quality and quantity monitoring system; (iii) support municipalities, urban councils, and *Pradeshiya Sabhas* in monitoring and managing groundwater resources by helping them design effective by-laws, rules, and regulations; and (iv) conduct public water conservation, environmental protection, and hygiene awareness campaigns, and a program for community monitoring.

3. Building Capacity of the NWSDB to Carry Out Project Implementation and Build Regional Office in Jaffna

14. This component will (i) support the NWSDB to build a regional office in Jaffna, and (ii) provide capacity and administration support for the Jaffna Regional Office (JRO) to carry out project implementation.

D. Investment and Financing Plans

15. The project is estimated to cost $164 million. The investment plan is summarized in Table 1, and the financing plan is in Table 2.

Table 1: Project Investment Plan
($ million)

Item		Amount[a] (million)
A.	**Base Cost**[b]	
	1. Water supply and sanitation infrastructure	
	a. Water supply	92.55
	b. Sewerage and sanitation	35.64
	c. Iranamadu improvements	10.63
	2. Jaffna water resource management	2.64
	3. Capacity building	5.58
	Subtotal (A)	147.04
B.	**Contingencies**[c]	11.67
C.	**Financing Charges During Implementation**[d]	5.33
	Total (A+B+C)	**164.04**

[a] Includes taxes and duties of $29.37 million to be financed from government resources.
[b] In mid-2010 prices.
[c] Physical contingencies computed at 10.0% for civil works and equipment. Price contingencies computed at 0.0%–1.5% on foreign exchange costs and 5.5%–8.0% on local currency costs; includes provision for potential exchange rate fluctuations under the assumption of a purchasing power parity exchange rate.
[d] Includes interest and commitment charges. Interest during construction for the Asian Development Bank (ADB) loans has been computed at the rate of 1.0% for the Asian Development Fund loan and 5-year forward London interbank offered rate (LIBOR) plus a spread of 0.3% for the ordinary capital resources loan. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.
Source: Asian Development Bank estimates.

16. The government has requested the following loans amounting to $90 million from ADB for the project: (i) a $20 million loan from ADB's ordinary capital resources, which will be provided under ADB's London interbank offered rate (LIBOR)-based lending facility; the loan will have a 25-year term including a grace period of 6 years, an interest rate determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.15% per annum, and such other terms and conditions as set forth in the draft loan and project agreements. The government has provided ADB with (a) the reasons for its decision to borrow under ADB's LIBOR-based lending facility on the basis of these terms and conditions, and (b) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB; and (ii) a loan in various currencies equivalent to SDR44,286,000 from ADB's Special Funds resources which will have a 32-year term, including a grace period of 8 years, an interest charge at the rate of 1.0% per annum during the grace

period and 1.5% per annum thereafter, and such other terms and conditions set forth in the draft loan and project agreements.

17. The government has also sought a loan from AFD in the amount equivalent to $40 million to finance part of the cost of the water supply subcomponent and associated consulting services for design and supervision. Conditions and arrangements for AFD cofinancing will be through a bilateral financing agreement to be negotiated between the government and AFD after approval of the loan expected in December 2010. AFD will administer its loan and the coordination arrangements of this collaborative cofinancing will be detailed in a memorandum of understanding between ADB and AFD.

18. The two ADB loans, which amount to $90 million, or 54.9% of the project investment cost), will be used to finance civil works, equipment, consultants, incremental administration costs, and financial charges; financing from AFD of $40 million equivalent, or 24.4% of the project investment costs, will be used to finance civil works and equipment required for implementing part of the water supply component; and government financing in the amount of $34 million, or 20.75% of the total project investment costs, will be used to finance environment and social mitigation costs, and taxes and duties.

Table 2: Financing Plan

Source	**Amount** ($ million)	**Share of Total** (%)
A. Asian Development Bank		
1. Ordinary Capital Resources	20.00	12.19
2. Asian Development Fund	70.00	42.67
B. Agence Française de Développement	40.00	24.38
C. Government	34.04	20.75
Total	**164.04**	**100.00**

Source: Asian Development Bank estimates.

E. Implementation Arrangements

19. The implementation arrangements are summarized in Table 3 and described in detail in the Project Administration Manual (PAM).[21]

Table 3: Implementation Arrangements

Aspects	**Arrangements**		
Implementation period	15 February 2011 to 14 February 2017		
Estimated project completion date	14 February 2017		
Project management			
(i) Oversight body	NPCC with MWSD (chair); CCD, CEA, ERD, DFABM, DTO, NPC, and NPD (members)		
(ii) Executing agencies	MWSD for water supply and sanitation; MLGPC for Iranamadu Tank improvements		
(iii) Key implementing agencies	NWSDB (JRO); NPC-PID		
(iv) PMCIU	Jaffna, 17 staff; Kilinochchi, 3 staff		
Procurement	ICB	10 contracts	$37.43 million
	NCB	18 contracts	$35.07 million
	Force Account[a]		
	AFD-financed		$34.92 million
Consulting services	QCBS	82 international person-months	$3.26 million
	QCBS	1,166 national person-months	
	AFD-financed		$0.96 million

[21] Project Administration Manual is accessible from the list of linked documents in Appendix 2.

Aspects	Arrangements
Advance contracting	Tendering and bid evaluation of civil works packages and recruitment of consultants[b]
Disbursement	The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time) and detailed arrangements agreed upon between the Government and ADB.

ADB = Asian Development Bank; AFD = Agence Française de Développement; CCD = Coast Conservation Department; CEA = Central Environment Authority; DFABM = Department of Foreign Aid and Budget Monitoring; DTO = Department of Treasury Operations; ERD = External Relations Department; ICB = international competitive bidding; JRO = Jaffna Regional Office; MLGPC = Ministry of Local Government and Provincial Council; MWSD = Ministry of Water Supply and Drainage; NCB = national competitive bidding; NPC = Northern Provincial Council; NPCC = National Project Coordination Committee; NPD = National Planning Department; NWSDB = National Water Supply and Drainage Board; QCBS = quality- and cost-based selection; PID = Provincial Irrigation Department; PMCIU = project management, coordination, and implementation unit.

[a] For interagency payments such as electricity connection, utility payments, and repairing minor road damage caused by project construction.

[b] This includes (i) prequalification of contractors, NCB, and bid evaluation for advance pipe laying works on Kandy to Jaffna Highway (A9) and buildings for regional office and staff facilities; (ii) preparation of NCB documents to procure materials and equipment for buildings and staff facilities; and (iii) recruitment of project engineering consultants, institutional consultants, and design and construction supervision consultants.

Source: Asian Development Bank.

III. TECHNICAL ASSISTANCE

20. TA for Capacity Development for Water Supply and Sanitation Service Delivery is proposed. The TA output will be capacity built for service delivery through training for the NWSDB (JRO), the Jaffna Municipal Council, urban councils, selected *Pradeshiya Sabhas*, and the Water Resources Board. The main activities will be (i) conducting a detailed needs assessment; (ii) formulating a 4-year capacity building program; (iii) identifying course providers and key staff to be trained; and (iv) conducting courses and annual training. The TA is estimated to cost $665,000 equivalent, of which $600,000 equivalent will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-IV). The government will finance the remaining $65,000 equivalent. The executing and implementing agency for the TA is the NWSDB. The TA will be implemented through the institutional development section of the project management, coordination, and implementation unit (PMCIU).

IV. DUE DILIGENCE

A. Technical

21. The piped water supply system with water sourced from Iranamadu is currently the only viable option to provide 27,000 cubic meters per day of water required to replace the Jaffna Peninsula's reliance on increasingly poor quality local ground water supplies.[22] The water treatment plant will be a conventional surface water treatment plant. The NWSDB has experience with such plants. This will require ensuring upstream management of the catchment and ensuring source protection by the government. Due to land constraints, a sewage treatment plant with a mechanical system is proposed.

B. Economic and Financial

22. The NWSDB suffers from large financial losses because of low tariffs, increasingly high energy costs, high nonrevenue water, and high accounts receivables. However, its losses are declining as a result of major tariff revisions in 2009 and declining operational costs. The

[22] Alternate sources were extensively considered during prefeasibility. Bore holes were constructed and modeling for various scenarios were undertaken. These show groundwater to be limited and not a current sustainable technical option. Continued study and modeling will be a part of the project. Sources found sustainable can be considered for a future phase of water supply. Barrages and dikes, first introduced in the 1700s by the Dutch and further developed after, act as saltwater exclusion schemes. Their ongoing rehabilitation and reconstruction is expected to contribute to reduced exposure and vulnerability of the aquifer.

financial internal rates of return for the water and sewerage subprojects are negative because of large capital costs. Nevertheless, the adopted subproject designs are considered the least-cost option. To maintain operation of the subprojects, it will be imperative to implement the indicative financial improvement action. The NWSDB will submit to ADB income statements and annual projections that include operations and maintenance, debt service, and depreciation costs. If annual projections show negative values, the NWSDB will raise water and sewerage tariffs to secure a positive net income ratio. Economic analysis shows that the economic internal rates of return for the base scenarios are 15.5% for water supply and 13.4% for sanitation. These are higher than the economic opportunity cost of capital estimated at 12%.

C. Governance

23. Financial management assessment undertaken during project preparation indicates that the NWSDB can manage loan proceeds during project implementation. However, for the NWSDB to achieve the highest accuracy in accounting, it is necessary for NWSDB to complete and fully implement the ongoing enterprise resource planning system[23] development. Also, registration of newly created assets in accounting books is generally delayed even after the NWSDB completes construction work. As such, depreciation on assets is not accounted for and/or is underestimated by the NWSDB. This may affect the tariff revision process, as the NWSDB's tariff policy is to recover operations and maintenance costs and the higher of debt service costs or depreciation costs.

24. The NWSDB, a central institution with a strong provincial presence, has been the executing agency for ADB projects in Sri Lanka before, and is familiar with ADB operational guidelines.[24] However, as the project deals with water resources and entails transmission of water from the mainland to the Jaffna Peninsula in a post-conflict setting, the project proposes that the NWSDB pay more attention to stakeholder consultation than in previous projects it has administered. The project will encourage and strengthen institutions directly linked to project execution to conduct consultations with not only beneficiaries but all persons who might possibly be affected by the project, preferably on an ongoing basis. Special attention will be paid to managing grievances of—and ensuring that benefits accrue to—farmer communities living in and around the water source (Iranamadu Tank). Relevant institutions will be strengthened to deal with amicably resolving any water-rights disputes and conflicts that may arise.

25. The government will provide ADB with detailed quarterly progress reports on project implementation, which will follow ADB's procedures. Independent auditors acceptable to ADB will audit the project accounts, including the imprest accounts, second-generation imprest accounts, and statement of expenditures.

26. Procurement will be carried out by the PMCIU and the project implementation unit. Goods, related services, and works to be financed from the loan will be procured in accordance with ADB's Procurement Guidelines (2010, as amended from time to time). Civil works contracts valued at $3 million equivalent and above and equipment contracts valued at $500,000 and above will be undertaken through international competitive bidding procedures, while civil works contracts valued at less than $3 million will be carried out under national competitive bidding. Equipment packages valued below $500,000 will be procured following national competitive

[23] Enterprise resource planning is generally an integrated computer-based system used to manage internal and external resources, such as tangible assets, financial resources, materials, and human resources.

[24] This will be the sixth ADB project executed by the NWSDB, which has also implemented large projects for other development partners. The NWSDB is generally experienced in procuring infrastructure schemes and contracts of substantial size required to meet international standards. Moreover, given that the agency is run by professional engineers, the NWSDB generally possesses sufficient technical knowledge to assess bids.

bidding procedures and packages valued at $100,000 equivalent and below will be under shopping procedures. The summary of major procurement packages are in Table 3.

27. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government, the NWSDB, and the Northern Provincial Council. The specific policy requirements and supplementary measures are described in the PAM (footnote 21).

D. Poverty and Social

28. Safe water and sanitation are basic needs, and providing those needs in the project area will directly reduce poverty. Increasing access to safe water and improving sanitation further reduce poverty by (i) improving public health and reducing malnutrition, resulting in reduced expenditures on health and reduced work days lost from morbidity (which in turn leads to increased labor productivity and income); and (ii) time savings from water collection, particularly for women and children, resulting in more time for productive activities and improving human capital. The project will (i) provide access to household water connections and metered community water facilities in poor areas, and (ii) provide low-cost sanitation programs for poor communities in the form of individual household or communal latrines. Management of water and sanitation facilities for the poor will be through a participatory approach.[25]

29. Participation is a crucial element of the project's pro-poor approach. The project will provide opportunities to form and empower community-based organizations, and will help vulnerable groups and the very poor obtain water connections through a scheme of staggered payments for water connections. Nongovernment organizations will be engaged to support the PMCIU and local governments in mobilizing communities and delivering essential training for community-based organizations in planning, monitoring, and evaluating sanitation and hygiene improvement. Local authorities will be invited to play an active role in service delivery planning and administration, and community leaders will be invited to actively participate in the proposed project's water conservation, environmental protection, and hygiene awareness campaign. A separate grant is proposed to provide relief to communities outside the service area of the proposed loan. This grant will provide water and sanitation services and livelihood support to returning internally displaced persons and others living in poor rural communities.[26]

30. Despite women's major responsibilities in collecting, using, and managing water, they are rarely involved in decision making on the planning, design, and construction of water facilities. To maximize benefits for women, the project must recognize their role and needs in the decision making process. Key issues to be addressed include (i) consulting with both women and men on issues surrounding water transfer, the use of water for cultivation, drinking water, and sanitation; (ii) mainstreaming gender concerns into water and sanitation at organizational and program levels; and (iii) building the capacities of both men and women to enable an effective mainstreaming process.[27]

E. Safeguards

31. **Environment**. The project is categorized as environmental category B and an initial environmental examination (IEE) with a detailed environmental management plan (EMP) was

[25] Strategies are further discussed in the Summary Poverty Reduction and Social Strategy (accessible from the list of linked documents in Appendix 2).
[26] The proposed grant design will provide human and financial capacity support and monitoring to facilitate operation and maintenance of rural schemes.
[27] Detailed in the Gender Action Plan (accessible from the list of linked documents in Appendix 2).

prepared in accordance with ADB's Safeguards Policy Statement (2009).[28] The IEE concludes that no significant adverse environmental impacts are anticipated.[29] The project's significant environmental benefits will include protection of the fragile aquifer, improved hygiene and sanitary conditions, improved wastewater treatment and disposal, improved ecosystem health resulting from reduced discharge of wastewater into sensitive areas, and reduced water losses from the currently inefficient water distribution system. Mitigation measures and monitoring plans have been proposed in the EMP. The EMP will be implemented and monitored by the PMCIU. Project engineering and institutional consultants will assist the PMCIU in ensuring implementation of the EMP.

32. **Social**. The project is category B for involuntary resettlement.[30] A resettlement plan was prepared for the acquisition of a 0.3-hectare privately owned land plot affecting one household. The project is category C for indigenous peoples. The population in the project area is largely homogenous (Tamil) and the socioeconomic survey and consultations show that no distinctive and separate indigenous peoples live in the project area.

33. The NWSDB has developed internal safeguards capacity from past and ongoing ADB-supported projects. However, given the sensitivity of the Jaffna Peninsula in the post-conflict context, the project will ensure that adequate numbers of staff are in place to handle both environmental and social safeguards during project implementation.[31] The IEE and resettlement plan will be posted on ADB's website. Annual EMP and resettlement plan implementation progress reports will be provided to ADB.

F. Risks and Mitigating Measures

34. Major risks and mitigating measures are summarized in Table 4.

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Lack of capacity in service delivery	The project includes technical assistance for building capacity for water supply and sanitation service delivery through training for the NWSDB (JRO), the Jaffna Municipal Council, urban councils, selected *Pradeshiya Sabhas*, and the Water Resources Board.
Economic growth cannot be easily projected	Because of the 30-year conflict, unrestricted access only recently became possible. Because of the Northern Province's uncertain economic growth potential, the project constitutes just the first phase of an adopted phased approach. The project covers basic requirements for a 20-year projected population and a conservative growth pattern.
Water demand grows at a slower or more rapid pace than planned	The project scope has been phased to accommodate a 50% swing in water demand.
Essential water tariff revisions are not undertaken	Government to assure in loan agreement.
Sewerage tariffs do not cover operations and maintenance	Government to assure in loan agreement.
No cash flow for operations and maintenance of new systems	New water supply and sewerage systems will be phased for highest priority areas. As demand increases further capacity will be added by future projects.

[28] A single environmental and social assessment and planning process and unified safeguard documentation, consultation, and disclosure requirements will be adopted to satisfy the safeguard principles and requirements of ADB and AFD.

[29] Location impacts include minor loss of on-site ecology and the conversion of small amounts of rural agricultural land. Construction-related impacts relate to dust generation from excavation activities; and increased vibrations, noise, fumes, and traffic disruption during construction activities. Good engineering design and management plans will minimize these impacts as well as any impacts associated with operations. All effluent discharge will comply with national standards.

[30] Rehabilitation work will be undertaken within existing facilities and new construction will be undertaken on vacant government land, wherever possible. Where land acquisition is required, project design ensures that no displacement will result and that the land is not a significant source of income or subsistence.

[31] This includes an environmental officer and a resettlement officer. Through the PMCIU, these officers will monitor and supervise the EMP, and coordinate any land acquisition and resettlement activities.

Risks	Mitigating Measures
Funding for irrigation support not secured	Government is committed and provides assurance that the funds for irrigation will be provided.
Delays in obtaining A9 right of way	Government to ensure coordination with relevant agencies in scheduling pipe-laying and road repairs, and will ensure that it is permitted to lay water lines under existing or future carriageways, if required.
Emergence of other water users or polluters not under the influence of NWSDB	The project includes capacity building to coordinate water resource management and a public awareness campaign.

A9 = Kandy to Jaffna Highway, JRO=Jaffna Regional Office, NWSDB = National Water Supply and Drainage Board.
Source: Asian Development Bank estimates.

V. ASSURANCES AND CONDITIONS

35. The government and the NWSDB have assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents.

36. The government and the NWSDB have agreed with ADB on certain covenants for the project, which are set forth in the loan and project agreements.

VI. RECOMMENDATION

37. I am satisfied that the proposed loans would comply with the Articles of Agreement of the Asian Development Bank (ADB), and recommend that the Board approve:

(i) the loan of $20,000,000 to the Democratic Socialist Republic of Sri Lanka for the Jaffna and Kilinochchi Water Supply and Sanitation Project, from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 25 years, including a grace period of 6 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board; and

(ii) the loan in various currencies equivalent to SDR44,286,000 to the Democratic Socialist Republic of Sri Lanka for the Jaffna and Kilinochchi Water Supply and Sanitation Project, from ADB's Special Funds resources, with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; for a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board.

Haruhiko Kuroda
President

4 November 2010

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Improved health and human development in urban areas of Jaffna Peninsula	Reduction in cases of waterborne diseases by 10% in 2020 compared with 2010. Regional improvement in life expectancy, literacy, and gross domestic product by 5% in 2020 compared with 2010.	Provincial and local government health statistics UNDP *Human Development Reports* for Sri Lanka	**Assumptions** Beneficiaries make full use of improved water supply and sanitation Continued government commitment to water supply and sanitation development and water resource management Sustained economic growth and employment opportunities for beneficiaries. **Risks** Economic and political instability
Outcome Improved water supply and sanitation infrastructure for residents and returning internally displaced persons in targeted urban areas, and improved protection and management of Jaffna Peninsula's water resources	Residents and returning internally displaced persons lacking access to safe drinking water and sanitation in target areas reduced by 50% in 2017 compared with 2010. Institutional framework, skills, and awareness for water protection and management built. Access ratio to urban services and poverty ratio regularly monitored, with sex-disaggregated data	Baseline data to be collected during the start of project implementation, including data on (i) percentage of population with access to water supply and sanitation at project inception, (ii) population with good access to water supply and sanitation, and (iii) population requiring improved access to water supply and sanitation Provincial and local government and agency reports NWSDB annual report CEA reports PPMS based on appraisal reports NGO monitoring reports Sri Lanka Millennium Development Goal country report	**Assumptions** Parallel developments in the urban sectors. **Risk** National, provincial, and local governments do not undertake actions to improve service delivery
Outputs 1.a Improved water supply infrastructure	Construction of one water treatment plant and production of 35,000m^3 per day potable water Installation of 584 km of water mains and supply pipes 60,000 new water connections At least 33% representation of women in committees established for community water supply and sanitation programs	Project progress reports PPMS NWSDB, JMC data	**Assumptions** NWSDB undertakes reforms to improve service delivery Tariffs for services set at appropriate levels and collected efficiently Effective O&M Timely completion of works by cofinancier Timely provision of counterpart funds **Risks** Water demand grows at a slower or more rapid pace than planned Delays in obtaining A9 right of way Funding for irrigation support not secured Lack of qualified contractors Lack of funds for O&M

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
1.b Improved sanitation infrastructure	Construction of one sewage treatment plant of 12,500 m^3/d capacity. Installation of 331 km sewer mains and networks 20,000 households connected to the sewer network Households with access to properly maintained on-site sanitation Pro-poor sanitation infrastructure is built (target: 35% are war widows and households headed by women) Communal sanitary facilities built for both men and women	Project progress reports PPMS NWSDB, JMC data	**Assumptions** NWSDB undertakes reforms to improve service delivery. Tariffs for services set at appropriate levels and collected efficiently Effective O&M Timely provision of counterpart funds **Risks** Water demand grows at a slower or more rapid pace than planned Lack of qualified contractors Lack of funds for O&M
2. Strengthened water resource protection and management	Training of NWSDB and WRB staff for capacity building (target: 50% women participation) Monitoring and data systems for groundwater institutionalized Monitored bacteriological groundwater pollution reduced by 25% in Jaffna city Water conservation, environmental, and hygiene awareness-raising activities conducted Public communication documents published and disseminated to target audience	Project progress reports PPMS NWSDB, WRB, JMC data	**Assumptions** Multiagency commitment to water conservation and resource protection Participatory, consultative, and participatory mechanisms used **Risks** Behavior does not change despite awareness raising Emergence of other water users or polluters not under the influence of NWSDB. Funds for monitoring and data systems not sustained
3. Project management and implementation system is operational	Capacity building training of NWSDB (JRO)	Project progress reports PPMS	**Assumption** Implementing agencies support and allocate resources required for continued capacity building

Activities with Milestones

1a. Water Supply Infrastructure

1a.1 Prequalify contractors, tender and evaluate bids for civil works packages for advance pipe-laying works on A9, and build regional offices and staff facilities (starting Q3/10)
1a.2 Form PMCIU and PIU (irrigation) (Q1/11)
1a.3 Conduct topographical surveys, field surveys, and investigations (Q4/11)
1a.4 Complete water monitoring program for Iranamadu Tank (Q4/11)
1a.5 Conduct benefit monitoring survey for Jaffna Peninsula (Q3/11)
1a.6 Conduct ongoing consultations with farmers semi-annually.
1a.7 Reconfirm and if required sign a new MOU for water rights from Irrigation Department for water extraction from Iranamadu Tank (Q4/11)
1a.8 Obtain environmental clearances from CEA and CCD (Q3/11)
1a.9 Prepare detailed engineering design for Iranamadu works (Q1/12)
1a.10 Prepare detailed engineering design for water main and distribution systems (Q3/12)
1a.11 Complete land transfers, land acquisition, and resettlement assistance and compensation (Q1/12)
1a.12 Tender bid documents and evaluate and select contractors (Q4/12)
1a.13 Complete contractor O&M training of identified NWSDB staff for the JRO and PID (recruited under/transferred to PMCIU/PIU) (Q2/13)
1a.14 Complete construction of (i) Iranamadu works, (ii) intake and transmission lines, (iii) treatment plant, and (iv) elevated towers and distribution systems (Q4/15)
1a.15 Revise individual consumer and bulk supply tariff for financially sustainable O&M (Q4/14)

Project $164.04 million

Item	Amount ($ million)
ADB	90.00
Cofinancing	40.00
Government	34.04

Technical Assistance $665,000

Item	Amount ($'000)
ADB	600
Government	65

Activities with Milestones	
1a.16 Connect initial households (Q2/16) 1a.17 Commission water treatment plant and turn over O&M to NWSDB staff (Q2/16) 1a.18 Rehabilitate small operational groundwater schemes and decommission redundant schemes (Q2/16) **1b. Sanitation Infrastructure** 1b.1 Form PMCIU (Q1/11) 1b.2 Conduct topographical, bathymetric, current surveys, and investigations (Q4/11) 1b.3 Conduct benefit monitoring survey for Jaffna Peninsula (Q4/11) 1b.4 Obtain environmental clearances from CEA and CCD (Q3/11) 1b.5 Prepare detailed engineering design (Q3/12) 1b.6 Complete land transfers, land acquisition, and resettlement assistance and compensation (Q1/12) 1b.7 Tender bid documents and evaluate and select contractors (Q4/12) 1b.8 Complete contractor O&M training of NWSDB staff for the JRO and PID (recruited under or transferred to PMCIU or PIU) (Q2/13) 1b.9 Complete construction of (i) sewerage system in Jaffna city, (ii) sewage treatment plant, (iii) outfall, and (iv) sludge drying beds (Q4/15) 1b.10 Revise individual consumer and institutional tariffs for financially sustainable O&M (Q4/14) 1b.11 Connect initial households, prioritized based on water supply connections (Q2/16) 1b.12 Commission sewage treatment plant and turn over O&M to NWSDB (Q2/16) 1b.13 Conduct pro-poor sanitation programs through NGOs, including building low-cost latrines and hygiene awareness (Q2/15) **2a. JWRMC** 2a.1 Draft regional basin management organization study (Q2/11) 2a.2 Approve policy statements and JWRMC functions by all stakeholders through consultations (Q4/11) 2a.3 Operationalize JWRMC (Q1/12) with secretariat established and quarterly meetings started (Q2/12) 2a.4 Develop policies and strategies for coordination and planning (Q4/11) 2a.5 Develop data system for JWRMC (Q1/12) and train staff (Q3/12) 2a.6 Build capacity for use of predictive groundwater and hydrological models (Q1/13) 2a.7 Establish baseline information on land use, water, and biotic resources (Q3/12) 2a.8 Deliver water quality monitoring equipment (Q3/12) 2a.9 Train NWSDB and WRB staff on sampling and analytical testing for water quality monitoring (Q2/13) 2a.10 Pass *Pradeshiya Sabha* water abstraction by-laws and regulations (Q3/11) 2a.11 Appoint village regulatory committees (Q3/12) and complete training (Q4/12) 2a.12 Complete guidelines on mobilization and functioning of village monitoring committees, technical information sheets, and guidelines on the establishment and revision of performance target and reporting mechanisms (Q1/14) **2b. Water Conservation** 2b.1 Review water and environmental activities undertaken locally and nationwide (Q3/11) 2b.2 Engage community leaders in participatory design and delivery (Q4/11) 2b.3 Formulate a tailor-made Jaffna water conservation awareness and environmental protection campaign (Q1/12) 2b.4 Conduct campaign (Q2/14) **3. Capacity support for NWSDB (JRO) and Project Implementation** 3.1 Begin advance actions for recruitment of consultants (Q3/10) 3.2 Recruit project staff (Q2/11) 3.3 Recruit project consultants (Q3/11) 3.4 Construct NWSDB north office (Q1/13) 3.5 Operationalize commercial and nonrevenue water functions (Q4/14) 3.6 Introduce computerization, accounting, and data recording systems in NWSDB (JRO) (Q4/13) 3.7 Train NWSDB (JRO) on use of accounting and financial management methods (Q4/14)	

ADB = Asian Development Bank, CEA = Central Environmental Authority, CCD = Coast Conservation Department, JMC = Jaffna Municipal Council, JRO = Jaffna Regional Office, JWRMC = Jaffna water resources management committee, km = kilometer, MOU = memorandum of understanding, m^3 = cubic meter, NGO = nongovernment organization, NWSDB = National Water Supply and Drainage Board, NRW = nonrevenue water, O&M = operation and maintenance, PID = Provincial Irrigation Department, PIU = project implementation unit, PMCIU = project management, coordination and implementation unit, PPMS = project performance monitoring system, Q = quarter, UNDP = United Nations Development Programme, WRB = water resources board.

Source: Asian Development Bank estimates.

LIST OF LINKED DOCUMENTS

http://www.adb.org/Documents/RRPs/?id=37378-01-3

1. Loan Agreement (Ordinary Operations)
2. Loan Agreement (Special Operations)
3. Project Agreement (Northern Provincial Council)
4. Project Agreement (National Water Supply and Drainage Board)
5. Sector Assessment (Summary): Water Supply and Other Municipal Infrastructure Services
6. Project Administration Manual
7. Contribution to the ADB Results Framework
8. Development Coordination
9. Financial Analysis
10. Economic Analysis
11. Country Economic Indicators
12. Summary Poverty Reduction and Social Strategy
13. Gender Action Plan
14. Initial Environmental Examination
15. Resettlement Plan
16. Risk Assessment and Risk Management Plan