

## Ex-ante Evaluation

### **1. Name of the Project**

Country: Democratic Socialist Republic of Sri Lanka

Project: Water Sector Development Project

(Loan Agreement: March 28, 2007; Loan Amount: 13,231 million yen; Borrower: The Government of the Democratic Socialist Republic of Sri Lanka)

### **2. Necessity and Relevance of JBIC's Assistance**

#### (1) Current Condition of and Issues in the Water and Sewer Sector in Sri Lanka

Seventy-eight percent of the population of Sri Lanka accesses water, and the percentage of the population with tap water service is low, at less than 30% (2005). Even in Greater Colombo where piped water service is relatively prevalent (coverage of 58%), there are areas where water service is available for only six hours per day, and so it cannot be said that the water supply service is adequate. Moreover, over 100 years have elapsed since the construction of some of the water supply facilities in Greater Colombo, and because deterioration is obvious, rehabilitation is an urgent issue. Likewise in Greater Kandy, which is Sri Lanka's second largest city and home to a World Heritage Site, adequate water supply facilities have not been provided, and the percentage of the population served by piped water service is only 27% (2001).

Meanwhile, despite the fact that the volume of wastewater discharge is increasing, the percentage of the population served by sewers nationwide is less than 3% (2005). In Greater Colombo the sewer network is relatively developed, but in other areas, sewage is being inadequately treated even with septic tanks, etc., or is released untreated into the ocean and rivers. In Greater Kandy in particular, the volume of wastewater discharge is increasing due to the increase in population and tourists, causing growing deterioration of the living environment and pollution of the river water which is Kandy's water source.

#### (2) Development Policy of the Sri Lankan Government

In the "National Policy of Water Supply and Sanitation (2002)" prepared by the Sri Lankan government based on the Millennium Development Goals, the stated aim is to enable access to safe water for 85% of the total population of Sri Lanka by 2015 and 100% of the population by 2025. In particular, the goal for 2015 is to have water service for 100% of the population in urban areas and 75% in rural areas. Regarding sanitation, the aim is to connect 85% of the total population by 2015 and 100% by 2025 to some kind of sewage treatment facilities, including onsite treatment. Given this, the Sri Lankan government places high priority on projects to expand and rehabilitate the existing water supply system in Greater Colombo and Greater Kandy and on projects to construct sewage treatment facilities in Kandy.

#### (3) Consistency with JBIC's Assistance Policy

In Japan's "Country Assistance Plan for Sri Lanka (April 2004)", 'institutional reform and assistance for providing economic foundation' is stated as the direction for assistance during the next five years. This project is consistent with this direction. Moreover, in JBIC's Medium-Term Strategy for Overseas Economic Cooperation (FY2005-2007), a priority area for assistance in Sri Lanka is

‘infrastructure development for sustainable growth.’ Thus, JBIC’s support of this project is highly necessary and relevant.

### **3. Project Objectives**

The objective of this project is to provide a stable supply of safe water by developing and expanding water supply facilities in Greater Colombo and Greater Kandy, thereby contributing to the improvement of the living environment in these areas.

### **4. Project Description**

#### (1) Target Area

Greater Colombo and Greater Kandy

#### (2) Project Outline

- (a) Development of water supply facilities (installation of reservoirs, expansion of the water distribution network, and installation of pump stations, etc.) in Greater Colombo and Greater Kandy.
- (b) Consulting services (detailed design, assistance in bidding, and construction supervision involved in (a), basic design and preparation of bidding documents for the Kandy sewerage system, assistance for management improvements of NWSDB, etc.)

#### (3) Total Project Cost/Loan Amount

17,644 million yen (ODA Loan Amount: 13,231 million yen)

#### (4) Schedule

April 2007 – September 2012 (66 months)

#### (5) Implementation Structure

- (a) Borrower: The Government of the Democratic Socialist Republic of Sri Lanka
- (b) Executing Agency: National Water Supply and Drainage Board (NWSDB)
- (c) Operation and Maintenance System: Same as (b)

#### (6) Environmental and Social Consideration

##### (a) Environmental Effects/Land Acquisition and Resident Relocation

###### (i) Category: B

###### (ii) Reason for Categorization

This project is classified as Category B because it is not located in a sensitive area, nor has it sensitive characteristics, under the “Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Consideration” (established April 2002), and its potential adverse impacts on the environment are not likely to be significant.

###### (iii) Environmental Permit

The Environmental Impact Assessment (EIA) report for the sewerage project portion has been approved by the Central Environmental Authority in September 2005. For the water portion of the project, an EIA report is not obligatory under the domestic laws of Sri Lanka.

(iv) Anti-Pollution Measures

Facilities such as pump stations, etc., are designed with consideration for noise and smell.

(v) Natural Environment

Adverse impact on the natural environment is expected to be minimal because it is not located in or around sensitive areas, such as a national park, etc.

(vi) Social Environment

This project requires land acquisition of approximately 0.66 ha, and acquisition is proceeding in accordance with the domestic laws of Sri Lanka. No resettlement is required.

(vii) Other/Monitoring

The executing agency will monitor the air quality, water quality, and noise, etc., during the construction.

(b) Promotion of Poverty Reduction

As a measure for the urban poor, public water taps will be installed in slum areas of Greater Colombo.

(c) Promotion of Social Development (e.g. Gender Perspective)

None.

(7) Other Important Issues

In this project, the institutional capacity of NWSDB will be strengthened and setting up of the operation system for the Kandy sewer system will be supported through the consulting service, to ensure realization of the project effects and sustainability.

**5. Outcome Targets**

(1) Evaluation Indicators (Operation and Effect Indicator)

Indicator	Baseline (2005)	Target (2012, upon completion)
<b>Greater Colombo Water System Rehabilitation Project</b>		
Population served (thousand persons)	68	124
Service time (hours/day)	6-18	20-22
Amount of water supply (thousand m <sup>3</sup> /day)	11.6	13.6
Water supply coverage rate (%)	60	100
<b>Towns North of Colombo Water Supply Project</b>		
Population served (thousand persons)	47.8	153.3
Amount of water supply (thousand m <sup>3</sup> /day)	10.1	54.0
Water supply coverage rate (%)	9	28
<b>Greater Kandy Water Supply Project</b>		
Population served (thousand persons)	325	511
Service time (hours/day)	0-12	24
Amount of water supply (thousand m <sup>3</sup> /day)	36.5	48.0
Water supply coverage rate (%)	46	56

(2) Internal Rate of Return

(a) Financial Internal Rate of Return (FIRR)

Towns North of Colombo Water Supply Project :

Based on the conditions below, the project's FIRR is 7.6%.

- Cost: Project cost, operation and maintenance expense
- Benefit: Income of water fees
- Project Life: 30 years

Greater Kandy Water Supply Project :

Based on the conditions below, the project's FIRR is 8.1%.

- Cost: Project cost, operation and maintenance expense
- Benefit: Income of water fees
- Project Life: 30 years

(b) Economic Internal Rate of Return (EIRR)

Towns North of Colombo Water Supply Project :

Based on the conditions below, the project's EIRR is 9.5%.

- Cost: Project cost (excluding tax), operation and maintenance expense
- Benefit: Total amount of willingness to pay (WTP)
- Project Life: 30 years

Greater Kandy Water Supply Project :

Based on the conditions below, the project's EIRR is 19.5%.

- Cost: Project cost (excluding tax), operation and maintenance expense
- Benefit: Total amount of willingness to pay (WTP)
- Project Life: 30 years

**6. External Risk Factors**

Natural disasters such as tsunami, etc.

**7. Lessons Learned from Findings of Similar Projects Undertaken in the Past**

In ex-post evaluations of similar projects in the past, it has been pointed out that it is necessary to study measures for strengthening management of water projects, starting in the project formation and appraisal stage in order to increase the effectiveness of the project. This project will employ consultants to ensure human resource training for the staff of the executing agency.

**8. Plans for Future Evaluation**

(1) Indicators for Future Evaluation

- (a) Population served (million persons)
- (b) Service time (hours/day)
- (c) Amount of water supply (thousand m<sup>3</sup>/day)
- (d) Water supply coverage rate (%)

(2) Timing of Next Evaluation

After project completion