

Ex-ante Evaluation

1. Name of the Project

Country: The Socialist Republic of Vietnam

Project: Second Ho Chi Minh City Water Environment Improvement Project (I)

(Loan Agreement: March 31, 2006; Loan Amount: 1,557 million yen; Borrower: The Government of the Socialist Republic of Vietnam)

2. Necessity and Relevance of JBIC's Assistance

Ho Chi Minh City, the largest city in Vietnam, is surrounded by marshes on the lower reaches of the Saigon River. The Saigon River, Dong Nai River, and Nha Be River flow through the city, and the rivers and canals form a complex network that is affected by tide. Moreover, the low elevation of the land (with the majority of the city 2 to 3 meters above sea level) and heavy rainfall makes the city susceptible to flooding induced by tidal fluctuations. From October to January when high tide reaches its peak, water level in rivers and canals rise as high as, or more than that of the land elevation. During the wet season from May to November, monthly average rainfall is 250 mm or more (cf. monthly average rainfall in Tokyo of approx. 125 mm), and floods occurs due to poor drainage.

The current combined drainage and sewerage system in the Tau Hu-Ben Nghe canal basin was laid out in the 1870s during the French colonial period and was partially improved during the 1960s. However, sewage treatment plants have not been constructed even though industrial effluent and household wastewater has increased sharply accompanying rapid industrialization and urbanization particularly in recent years. Wastewater generated in the city passes through simple septic tanks installed in some houses and is discharged directly into rivers.

In 1999, the Vietnam government adopted the "Orientation on Urban Drainage and Sewerage System Development up to 2020." Its stated goals are to pursue urban flood control and sanitary treatment of wastewater, together with increasing the installation rate of drainage systems to 80% or more in major urban areas such as Hanoi and Ho Chi Minh City, and moreover to develop a mechanism for the procurement of the necessary funds to install urban drainage systems nationwide.

In JBIC's current Medium-Term Strategy for Overseas Economic Cooperation Operations, "assistance for resolution of global problems and peace-building" is positioned as a priority area, and assistance is to be provided for "measures for water pollution." In JBIC's country strategy for Vietnam, assistance for environmental measures is a priority area.

Therefore, JBIC's assistance is highly necessary and relevant.

3. Project Objectives

The objective of this project is to develop drainage and sewerage systems in Ho Chi Minh City in order to decrease flood damage, improve water quality and thereby contribute to improve urban sanitation and living environment.

4. Project Description

(1) Target Area

Tau Hu-Ben Nghe canal basin in Ho Chi Minh City

(2) Project Outline

Installation of the drainage and sewerage system and consulting services will be implemented in Ho Chi Minh City. This loan is for the engineering service (E/S) that precedes the main construction.

(3) Total Project Cost/Loan Amount

53,994 million yen (Yen Loan Amount: 1,557 million yen)

(4) Schedule

February 2007-May 2015 (100 months)

(5) Implementation Structure

- (a) Borrower: The Government of the Socialist Republic of Vietnam
- (b) Executing Agency: People's Committee of Ho Chi Minh City
- (c) Operation and Maintenance System: Urban Transportation Management Department

(6) Environmental and Social Consideration

(a) Environmental Effects/Land Acquisition and Resettlement

(i) Category: B

(ii) Reason for Categorization

This project is classified as Category B because it is an engineering service loan and the overall project does not fall in Category C under the "Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations" (established April 2002).

(b) Promotion of Poverty Reduction

There are plans to hold workshops in collaboration with NGOs and local government in an effort to promote activities for environmental education and environmental awareness that will improve the living conditions particularly of the poor living within the project area.

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

Because this is a large-scale infrastructure project in a country where there is concern over spreading HIV/AIDS infection, the executing agency plans to implement measures against HIV/AIDS for the construction workers in cooperation with the contractors and the HIV/AIDS countermeasures section of the Hanoi People's Committee Health Department, and this will be stipulated in the bidding documents.

(7) Other Important Issues

None

5. Outcome Targets

(1) Evaluation Indicators (Operation and Effect Indicator)

Indicator	Baseline (2005)	Target (2015, at time of completion)
Population for which wastewater is treated	0	1,422,000

(persons)		
Wastewater treatment volume (m ³ /day)	0	469,000
BOD concentration at sewage treatment plant (intake, discharge, and removal rate)	-	Intake: 200 mg/l Discharge: 50 mg/l Removal rate: 75%
Runoff capacity at flood reference point (m ³ /sec.)	52	73
Inundated area due to rainfall (km ²) (1/2-year flood)	12	0
Number of houses inundated due to rainfall (houses)	39,360 approx.	0

(2) Internal Rate of Return

Economic internal rate of return (EIRR): 6.4%

- (a) Cost: Project cost (excluding tax), maintenance and operation cost
- (b) Benefit: Reduction of flood damage, income from wastewater treatment charges
- (c) Project Life: 40 years

6. External Risk Factors

Occurrence of floods exceeding the planned scale (of 10-year floods)

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

In ex-post evaluations of similar projects in the drainage, sewerage, and sanitation sector in the past, recognition is given to the effectiveness of Japanese local governments' collaboration in securing sustained effects from projects following their completion of construction. Based on this, the project will actively incorporate assistance from local governments is promoting awareness and behavioral change among local residents with regard to the environment.

8. Plans for Future Evaluation

(1) Indicators for Future Evaluation

- (a) Population for which wastewater is treated (persons)
- (b) Sewage treatment volume (m³/day)
- (c) BOD concentration at sewage treatment plant (intake, discharge, and removal rate)
- (d) Runoff capacity at flood reference point (m³/sec.)
- (e) Inundated area due to rainfall (km²) (1/2-year flood)
- (f) Number of houses inundated due to rainfall (houses)
- (g) Economic internal rate of return (EIRR) (%)

(2) Timing of Next Evaluation

After project completion