

1. Basic Information

Country: The Republic of Indonesia

Project: Jakarta Sewerage Development Project (Zone 6) (Phase 1)

Loan Agreement : July 11, 2019

2. Background and Necessity of the Project**(1) Current State and Issues of the Sewerage Sector in Indonesia**

The Republic of Indonesia, with less than 3% of the coverage ratio of sewerage system (Development of Wastewater Management System 2013), suffers extensive underdevelopment of sewerage system even compared to other neighboring ASEAN countries (about 20% in Thailand and 65% in Malaysia (Global Water Market 2012)). The Special Capital Region of Jakarta (hereinafter referred to as “DKI Jakarta”) also has been experiencing underdevelopment of basic infrastructures such as traffic, water and sewerage system, despite its rapid population growth and commercial accumulation. The coverage ratio of sewerage system remains as low as 7% (DKI Jakarta’s Statistics 2014-15), resulting in causing water environment issues such as the pollution of rivers and groundwater, public health damage. Urgent needs exist to promote development of sewerage system in order to eliminate pollution sources.

In Indonesia, after enforcement of relevant laws and regulations of decentralization in 1999 and after, the local governments are mostly responsible for detail planning, development of wastewater treatment plant (hereinafter referred to as “WWTP”), operation and management of sanitary infrastructures based on the National Development Plan (RPJM) and the guidelines developed by the central government. On the other hand, in some cases, the central government bears part of the initial capital of sewerage system, and the remaining initial cost and operation and management cost are born by the local government.

The Indonesian National Medium-Term Development Plan 2015-2019 sets a target to achieve 100% sanitation access fulfillment (household drainage, sewerage and waste management service). Provincial Government of Daerah Khusus Ibukota Jakarta, (hereinafter referred as “DKI”), in agreement with the Government of Indonesia, divided the whole area of DKI Jakarta into 15 sewerage zones, and then identified Zone 1 and 6 as priority zones whose target year as 2020 based on Wastewater Management Master Plan, which was formulated in 2012 through “Project for Capacity Development of Wastewater Sector through reviewing the Wastewater Management Master Plan in DKI Jakarta (JICA)”.

(2) Japan and JICA’s Policy and Operations in the Sewerage Sector

Japan's Development Cooperation Policy for the Republic of Indonesia (September 2017) indicates "Assisting for realizing social safety and justice through balanced growth", which includes assistance to development of basic infrastructure mainly in DKI Jakarta including sewerage system. JICA's Country Assistance Paper for the Republic of Indonesia (June 2018), also identifies improvement of city environment in the metropolitan areas as one of priorities, which includes improvement of water environment including introduction of WWTP and sewer network. This Project is in line with these policies and analysis.

(3) Other Donors' Activity

① World Bank

World Bank provided 22.4 Million USD to "Jakarta Sewerage and Sanitation Project" in 1983. This project is to construct WWTP and sewer network in Zone 0 and 80 public toilets in order to improve public health by enhanced city environment. Currently ongoing "Water and Sanitation Program" aims to improve sanitation environment by providing equipment such as onsite treatment facilities including septic tanks etc. in big cities such as Jakarta.

② Asian Development Bank

ADB provided 100 Million USD to "Urban Sanitation and Rural Infrastructure Support to the PNPM Mandiri Project" by 2015, contributing to improvement of city sanitation environment of 34 districts. Target cities does not include DKI. In Country Partnership Strategy (CPS: 2016-2019) identifies improvement of sewer network as one of the priorities and plans to be involved in improvement of sanitation environment in cities.

3. Project Description

(1) Project Objective

This Project is to improve water environment and sanitation access in DKI Jakarta by introducing a sewerage system, which consists of sewer network and WWTP, thereby contributing to enhancing its citizens' living conditions and urban development.

(2) Project Site/Target Area: Special Capital Region of Jakarta, Zone6

(3) Project Components

This Project is to introduce a sewerage system, which consists of sewer network and WWTP in Zone 6 of DKI Jakarta (Target population of 1.465 Million in 2030). This Project is the Phase 1 of the entire Project in Zone 6 (Target population of 301 thousand in 2030) and the details are as follows;

ア) Construction of Wastewater Treatment Plant (47,500 m³/day)

イ) Construction of Sewer Network (approximately 144 km)

ウ) Consulting Service (Basic and detailed design, Tender assistance, Construction supervision, Monitoring and assistance of environmental and social safeguard, Awareness activities, etc.)

(4) Estimated Project Cost

45,299 Million Japanese Yen (of which, eligible for Japanese ODA Loan is 30,980 Million Japanese Yen)

(5) Schedule

From July 2019 to June 2027 (96 months in total). The Project will be deemed as completed on the date on which the all facilities begin to be made available (June 2026)

(6) Project Implementation Structure

- 1) Borrower: The Government of the Republic of Indonesia
- 2) Guarantor: None
- 3) Executing Agency: Directorate General of Human Settlements (DGHS), Ministry of Public Works and Housing
- 4) Operation and Maintenance Agency: DKI Jakarta Provincial Government (DKI)

(7) Collaboration and Division of Roles with Other Projects and Donors:

1) Japan's assistance activities

Since 2014, Japan has been dispatching Sewerage Management Advisor to DGHS to support smooth planning and implementation of this Project, and formulation of technical standards and guidelines.

2) Other development partners' assistance activities: None

(8) Environmental and Social Consideration/Poverty Reduction/Social Development

1) Environmental and Social Consideration

i) Category : B

ii) Reason for Categorization : The Project is classified as Category B because it does not fall under a sector likely to have any significant impact on the environment or have characteristics that are liable to cause adverse impacts, and is not located in or near sensitive areas, as specified in the "JICA Guidelines for Environmental and Social Considerations" (published in April 2010).

iii) Environmental Permit : The environmental impact assessment (EIA) report of the Project is expected to be approved by the Directorate of Environmental Management Environmental Beaurau of DKI by August 2020.

iv) Anti-Pollution Measures : During construction, the negative impact shall be minimum regarding air, water quality, noise and vibration by employing low-emission and low-noise vehicles and equipment and water sprinkling in accordance with the Indonesian criteria. Regular monitoring, mitigation measures of water pollution from soil runoff and temporally enclosures against noise minimize the adverse impact. Once in service, negative impact from odour, noise and vibration shall be minimal by employing adequate facilities and equipment, appropriate air ventilation and anti-odour measures in accordance with the Indonesian criteria. Regarding water quality and soil, early identification and countermeasures of leakage through monitoring of untreated water and sludge. Effluent water shall be treated following the criteria in Indonesia, thus no particular negative impact is foreseen. Dewatered

sludge from WWTP will be properly treated such as landfill.

- v) Natural Environment : The Project site does not correspond with a site easily impacted, such as national parks, nor are they located in the vicinity of such sites, and thus there is expected to be minimal negative impact on the natural environment.
- vi) Social Environment : This Project does not involve land acquisition and resettlement since the land used for the WWTP construction is owned by the government. This Project does not affect livelihood of farmers who is farming at the WWTP construction site.
- vii) Other Monitoring : In this Project, DKI and contractors will be responsible for monitoring air quality, water quality, noise and vibration during construction. Once in service, DKI shall be monitoring water quality, odour, noise, vibration and wastes.

2) Cross Cutting Issues

- i) Measures against Climate Change: : This Project contributes to Climate Change adaptation since it decreases frequency of city flooding and improves public sanitation and environment. This is because of the improvement of drainage function in the city by introducing WWTP and sewer network.
- ii) Poverty considerations : This Project is likely to contribute to poverty reduction as it partially employs interceptor collection system in some of high density housing areas, where majority of residents are the poor. Interceptor collection system does not require tariff collection for the time being, resulting in affirmative effects to the poor in those areas.

3) Gender Category: GI(S) (Gender Integrated Project)

[Activities/Classification Rationale] As a result of discussions with the Government of Indonesia, agreement was made to adopt gender-free equipment etc. for the operation and maintenance of WWTP and sewer networks.

- (9) Other Important Issues : This Project will employ small footprint and energy-efficient water treatment technologies where Japanese technologies can be utilized.

4.Targeted Outcomes

(1) Quantitative Effects

1) Outcomes (Operation and Effect Indicators) (Whole Section)

Indicator	Baseline (Actual value in 2016)	Target (2029) 【3 years after project completion】
Population Covered by Sewerage Service (Person)	0	195,000
Capacity of Wastewater Treatment (m ³ /day)	0	47,500
Effluent BOD Concentration (mg/L)	N.A.	Less than 20

(2) Qualitative Effects

Based on the following assumptions, the Project's economic internal rate of return (EIRR) is 5.84%. As for its financial internal rate of return (FIRR), it is not calculable since "Benefit minus Cost" is expected to be below zero in each year during the course of project life.

- Cost : Initial construction cost, Replacement cost, O&M cost of WWTP and sewer (Tax excluded)
- Benefit : Saving of O&M cost of ITPs, Improvement of public health, Improvement of living environment, Tourism income, Increased land value
- Project Life : 36 years

5 . Prerequisites and External Factors

- (1) Preconditions: None in particular
- (2) External Factors: Non in particular

6 . Lessons Learned from Past Projects

The following lessons were learned from the ex-post evaluation of the Denpasar Sewerage Development Project in the Republic of Indonesia indicated that public awareness activities and workshops by the Executing Agencies were effective countermeasures to prevent garbage accumulation in the drains. In this Project, similar activities of environmental awareness education to citizens in the target areas are planned through a supervision consultant and Technical Assistance Project related to Japanese ODA Project.

7 . Evaluation Results

This Project conforms to the development issues and policies of the Republic of Indonesia as well as the assistance policy of Japan and JICA's analysis documents. The introduction of a sewerage system, which consists of sewer network and wastewater treatment plant, will improve water environment and sanitation access in the Special Capital Region of Jakarta. Moreover, this project is to contribute to the achievement of Goal 6 of the SDGs (Ensure availability and sustainable management for water and sanitation for all). Therefore, it is highly necessary for JICA to provide support for the implementation of this Project.

8 . Plan for Future Evaluation

- (1) Indicators to Be Used

As indicated in Section 4. (1) - (3)

- (2) Timing

Ex-post evaluation: 3 years after project completion

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