Japanese ODA Loan

Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country: The Republic of Indonesia
Project: Patimban Port Development Project (I)
Loan Agreement: November 15, 2017
Loan Amount: 118,906 million yen
Borrower: The Republic of Indonesia

2. Background and Necessity of the Project

(1) Current State and Issues of the Port Sector in the Republic of Indonesia

Accompanying the rapid economic growth in recent years in the Republic of Indonesia (hereinafter referred to as "Indonesia") has led an increase in the total volume of cargo. Under this situation, there are concerns regarding the country's port congestion and logistic stagnation, with a major factor being Indonesia's insufficient overall port capacity.

The volume of cargo handled in the Jakarta Metropolitan Area has been growing greatly. This is due to the fact that the area accounts for about 30% of the nation's GDP, and accumulation of manufacturing companies and inward foreign investment is concentrated. The current container handling capacity (7.18 million TEUs in a year) of the Tanjung Priok Port (hereinafter referred to as the "Existing Port"), which processes over 90% of the Jakarta Metropolitan Area's total volume of cargo, is likely to fail to meet the area's container-handling demand for 2025 (a forecast of 10.24 million TEUs) even with the port's existing extension plan (a capacity increase of 3.0 million TEUs in or after 2024). In addition, given the area's road traffic congestion, it is expected that the government will construct a new port in the outskirts, thus expediting cargo transportation and dispersing cargo traffic in the metropolitan area.

(2) Development Policies for the Port Sector in the Republic of Indonesia and the Project's Position

In the National Medium-Term Development Plan (RPJMN) for 2015–2019, the Government of Indonesia states infrastructure development as a priority item among its national development initiatives, to help promote the country's economic growth. In the Global Maritime Fulcrum concept advocated by President Joko Widodo, importance is attached to enhancing logistics functions and enhancing connectivity through the program to develop port facilities. Furthermore, the Greater Surabaya Metropolitan Port Master Plan (2012) issued by the Ministry of Transportation, contains a measure to build a new port in the eastern part of the metropolitan area, separate from the Existing Port area, with the aim of improving the logistics of Jakarta Metropolitan Area fundamentally.

In 2015, the Ministry of Transportation conducted a study to consider where to

establish the proposed new port, and proposed the Patimban area in Subang Regency, West Java, at the top of the list of prospective new development sites. Following the issue in May 2016 of a presidential decree on the new port development, the Ministry of Transportation carried out a survey to revise the national port master plan and create a master plan for a new port for the Patimban area. This plan positioned the Patimban port to serve as Indonesia's principal port, functioning as a key trading location in the country. Accordingly, the Patimban Port Development Project (hereinafter referred to as the "Project") receives high priority in the government's policy and its port infrastructure development plan. After the Project completion, the government plans to expand the port in stages by making use of private-sector capital.

(3) Japan and JICA's Policy and Operations in the Port Sector

Japan's Country Assistance Policy for Indonesia (April 2012) specified assistance for further economic growth as one of its priority areas, and the Project is positioned as a metropolitan transportation and traffic environment development program. Furthermore, JICA Country Analysis Paper on Indonesia (March 2012) states that the upgrading of the country’s port functions to achieve further economic growth in the coming years is an urgent issue. Thus, the Project is consistent with the policy and analysis. In addition to helping develop Indonesia's principal ports with Japanese ODA loans, JICA has provided assistance for formulating port development plans and strengthening the nation's port and marine transportation security systems until now. From May 2012 onwards, JICA dispatched a Port Development Policy Advisor to the Directorate General of Sea Transportation, Ministry of Transportation of Indonesia.

(4) Other Donors' Activities

The World Bank, in its 2016–2020 Country Partnership Framework (CPF) for Indonesia, specifies the maritime economy and connectivity as one of six priority areas of engagement, and the development and operation of ports is among these areas in the assistance program. Under this framework, the World Bank has provided the country with technical cooperation designed to streamline port cargo handling as well as a program loan (USD400 million, approved in November 2016) aimed at improving logistics functions. In addition, the Islamic Development Bank gave aid to extend the Port of Belawan in Medan, North Sumatra Province.

(5) Necessity of the Project

It is highly necessary and relevant for JICA to assist the implementation of the Project because it: 1) is a high priority in the Indonesian government's development policies; 2) is aligned with Japan's assistance policy; 3) will help Indonesia achieve inclusive and sustainable economic growth and industrialization through logistics function improvement based on handling capacity expansion at metropolitan ports; and 4) will likely contribute to efforts toward Sustainable Development Goal (SDG) 9.

3. Project Description

(1) Project Objective(s)

The Project will build a new port in Patimban in the eastern part of the Jakarta Metropolitan Area (including facilities such as container and car terminals) to reinforce the area's logistics functions and improve the investment environment in Indonesia, thereby contributing to its further economic growth.

(2) Project Site/Project Areas: Patimban, Subang Regency, West Java

(3) Project Components

1) Build a port with a container handling capacity of 2.86 million TEUs and finished car handling capacity of 0.6 million units (dredging, breakwater, embankment, quay, land reclamation, soil improvement, pavement and facilities development, among others, for an area of 183 hectares), access roads (8.1 kilometers, four lanes) and a bridge (1 kilometer) (International Competitive Bidding [Tied]).

2) Consulting services (detail design, work supervision, tender assistance and operator selection assistance, among other services) (Short List Method)

* Regarding the detailed design, tender assistance for contractor selection for a port block to be opened in 2019 ahead of other parts (a 60-hectare port block as well as a bridge and access roads), JICA will provide these services in a technical cooperation program. Therefore, the above-mentioned consulting services will target the detailed design, tender assistance, work supervision and operator selection assistance for the port blocks other than the one to be opened in 2019 ahead of other parts.

3) Procurement and installation of loading-unloading equipment and systems (those not targeted by the Japanese ODA loan)

(4) Estimated Project Cost (Loan Amount)

210.482 billion yen (out of which, a total loan amount of 175.815 billion yen and a yen loan amount on this occasion of 118.906 billion yen)

(5) Schedule

From November 2017 to December 2023 (74 months in total). The Project will be deemed as completed on the date on which the facilities begin to be made available (December 2022).

(6) Project Implementation Structure

1) Borrower: The Republic of Indonesia

2) Guarantor: None

3) Executing Agency: The Directorate General of Sea Transportation (DGST) of the Ministry of Transportation will manage the entire project, arranging for port construction work, land acquisition and resettlement, and operation and maintenance (O&M). The Directorate General of Highways of the Ministry of Public Works and Housing will oversee construction work for access roads under the control of the DGST.

4) Operation and Maintenance System: The Port Authority for the new port, a

body under the Ministry of Transportation, will maintain and manage the port and access roads to be built through the Project. The Port Authorities of the nation's existing main commercial ports already maintain and manage their facilities without any particular problems, and their relevant expertise will be transferred to the new Port Authority, so there will be no obstacles in technical terms. The Port Authority will not face any financial challenges either because, like other port authorities, it will be allocated non-terminal port O&M funds from national budget appropriations to the Ministry of Transportation, and will obtain port usage fees from the port operator. Each terminal's operation and O&M services are planned to be outsourced to private-sector business operators. Executing agency officials will select technically and financially suitable business operators under the port operation plan to be agreed on between the Japanese and Indonesian governments (the plan is now under formation in a technical cooperation program by JICA).

(7) Environmental and Social Considerations/Poverty Reduction/Social Development

1) Environmental and Social Considerations

(i) Category: A

(ii) Reason for Categorization: The Project falls into the port and road sector specified in the JICA Guidelines for Environmental and Social Considerations (proclaimed in April 2010), and has characteristics prone to have an impact as described in the guidelines.

(iii) Environmental Permit:
In February 2017, the environmental impact assessment (EIA) report for the Project was approved by the Ministry of Environment and Forestry with respect to the entirety of the port and road portions of the project.

(iv) Anti-Pollution Measures: Among measures to be taken for the port, water pollution occurring during the work process will be addressed by using a filter designed to prevent pollutants from spreading and by building an embankment early during the construction. Water emissions and waste from ships after the port starts operating will be processed at the facilities to be installed at the port pursuant to domestic laws and regulations. Dredged soil will be discarded at specified spots in pre-set quantities and every several hours according to domestic laws, coinciding with the above-mentioned anti-water pollution measure, which will thus minimize impact. Regarding access roads, the executing agencies will use equipment compliant with standards to deal with air pollution arising during the construction and will prohibit unnecessary engine idling, among other mitigation measures. To address noise occurring after the port begins operating, the executing agencies will take a mitigation measure in the form of installing sound-insulation walls, among other steps.

(v) The Natural Environment: The planned port construction site does not fall under either a natural preserve such as a national park or a significant nature habitat. Although a forest reserve (a mangrove forest) borders the site to the west, any impact on it would likely be minimal because polluted water from the construction work will not reach the forest. The port construction work will presumably cause corrosion to the west side of the existing quay, so the executing agencies will take protective measures such as quay protection.

(vi) The Social Environment: In the Project, the construction of a backup area and access road will involve the acquisition of land blocks totaling 356.23 hectares and 15.79 hectares, as well as the non-voluntary relocation of 297 and 95 residents, respectively. Moreover, the construction of port facilities will probably impact local fishery operations. Consequently, the executing agencies will acquire land, provide compensation and assist livelihood restoration pursuant to a Land Acquisition and Resettlement Action Plan (LARAP) to be created according to Indonesia's domestic procedures and JICA guidelines. Although no objections have been lodged so far, against the implementation of the Project during consultations with local residents, executing agency officials will consult further with local residents from now on concerning compensation policy and measures to help the residents recover their livelihoods.

(vii) Other/Monitoring: In the Project, under the supervision of the executing agencies, the construction work contractors will monitor anti-pollution and road traffic safety measures during the work period, and it is planned that the Port Authority and private-sector operators will monitor anti-pollution measures after the port starts operating. The executing agencies will also monitor land acquisition and livelihood recovery aid.

2) Promotion of Poverty Reduction: N/A

3) Promotion of Social Development (e.g. Gender Perspectives, Consideration for People with Disabilities, etc.):

In the Project, as a result of consulting with the executing agencies, officials will encourage female participation in dialog with residents, focus group discussions (FGD) and livelihood restoration programs, and listen to the opinions and needs of female residents. Moreover, officials will consider participation of the socially vulnerable (including the poor, the elderly, female households and people with disabilities) in dialogue with residents, and obtain their opinions.

(8) Collaboration with Other Donors: None

(9) Other Important Issues

To implement the Project swiftly, Indonesia wishes to utilize Japan's work techniques for quay and embankment construction, land reclamation and ground

improvement—a skill set superior for shortening the construction period. Accordingly, JICA plans to allow Indonesia to use such work techniques under the Special Terms for Economic Partnership (STEP).

4. Target Outcomes

(1) Quantitative Effects

1) Performance Indicators (Operation and Effect Indicators)

Indicator	Baseline (Recorded in 2016)	Target (2024) [2 years after completion]
Annual container cargo throughput (TEUs/year)	-	800,000
Annual CBU cargo throughput (units/year)	-	360,000
Productivity (boxes/ships/hour)	-	51
Truck turnaround time (hours)	-	2
Container dwell time (Note 1) (days)	-	Export 2, import 3

(Note 1) Export: Number of days from the bringing in of an export container through the port gate to its loading on to the vessel. Import: Number of days from vessel arrival at the quay to the bringing out of an import container through the port gate

(2) Qualitative Effects: Improvement in the investment environment, including the logistics situation in the Jakarta Metropolitan Area, promotion of the economic development of the Jakarta Metropolitan Area, and sustainable economic growth

(3) Internal Rate of Return

Based on the following assumptions, the Project's economic internal rate of return (EIRR) is set at 23.72% and its financial internal rate of return (FIRR) at 4.48%.

[EIRR]

Costs: Construction costs (excluding taxes), O&M expenses, and renewal investment costs

Benefits: Reduction of costs for using other means (existing port) and avoidance of freight value-related opportunity loss arising from container dwell

Project life: 40 years

[FIRR]

Costs: Construction costs (excluding taxes), O&M expenses and renewal investment costs

Benefit: Revenue from port use fees

Project life: 40 years

5. External Factors and Risk Control

Land acquisition for a backup area (a land-part port area lying behind the reclaimed land where terminals will be set up and a container depot and car park will be created in the backup area) and access roads. Risk involved in port-specific regulation,

guidance and system establishment among port operations.

6. Lessons Learned from Past Projects and Application to the Project

(1) Lessons Learned from Past Projects

1) The ex-post evaluation of the Batangas Port Development Project, a Japanese ODA loan program for the Republic of the Philippines, taught JICA the lesson that it must consider the medium- to long-term outlook on the hinterland's industrial structure. This is so relevant government agencies can as a matter of policy promote the use of the new port in an effort to enable cargo-handling to shift from the existing port to the new port. The thematic evaluation section of the Fiscal 2016 Project Evaluation Annual Report features the above-mentioned port, pointing out the importance of: estimating each port's cargo-handling volume through ascertaining the needs of freight owners and port users such as marine transportation companies, in addition to comparing the existing and new ports in terms of transportation costs; and verifying the policy on the formulation and execution of policy actions stimulating port utilization.

2) The ex-post evaluation of the Dumai Port Development Project (II), a Japanese ODA loan program for Indonesia, highlights a lesson showing the importance of developing in a new port project the port itself and its access roads together. The evaluation pointed out that: for the Dumai Port Development Project, officials did not plan access roads, causing the operator to run the port amid adverse road conditions even after the port opened; and the project thus had the effect of improving logistics to a limited degree only.

3) In the La Union Port Development Project, a Japanese ODA loan program for the Republic of El Salvador, although the executing agency (the airport and port authority) had been commissioned to run the port for a certain period after it opened in 2010, it was later decided that the port's operation would be contracted out to a private-sector business operator. However, the costs of installing gantry cranes, dredging and the like proved to exceed expectations, revealing O&M costs would increase. Consequently, the tender for selecting a private-sector business operator was sluggish, causing a delay in private-sector outsourcing with the result that port utilization became lackluster.

(2) Lessons Applied to the Project

1) Learning from the Batangas Port Development Project, officials are actively consulting with the DGST, the West Java government, the Subang Regency government and others concerning their hinterland industrial development plans (such as backup-area development aimed at raising each port's efficiency, as well as a hinterland industrial park). The space plan for Subang Regency newly specified a hinterland area lying alongside an expressway as an

industrial development plan zone. It has been confirmed that the space plan for West Java would conform to Subang Regency's descriptions at the next revision. Furthermore, to streamline port procedures through the introduction of electronic systems, officials are engaged in technical cooperation with existing commercial port operators and will apply such technology to the new port in the future.

2) Learning from the Dumai Port Development Project, the proposed Project for Indonesia plans to develop access roads to existing national roads, based on a road development plan proposed through the cooperative preparatory survey. From now on during the project period, officials will check with their Indonesian government counterparts from time to time on the progress of road development according to the plan, with the aim of seeing the launch of the new port deliver project benefits in a timely and appropriate manner.

3) Learning from the La Union Port Development Project, the proposed Project for Indonesia will prevent the tender process from becoming sluggish due to an unforeseen rise in maintenance-management costs. This will be to ensure that the port operations will be run by a private-sector entity when the advance-opening port section is launched. This will be through an operational planning survey, aided by a JICA technical cooperation program, which will consider appropriate public-private partnership burden sharing as well as the amount of necessary investment by private-sector business operators.

7. Plan for Future Evaluation

(1) Indicators to Be Used for Future Evaluation

1) Annual container cargo throughput (TEUs)
2) Annual CBU cargo throughput (units)
3) Productivity (boxes)
4) Truck turnaround time (hours)
5) Container dwell time (days)
6) Economic internal rate of return (EIRR) (%) <Reference>
7) Financial internal rate of return (FIRR) (%) <Reference>

(2) Timing of the Next Evaluation

Two years after project completion

-END-