

Republic of the Philippines

FY2018 Ex-Post Evaluation of Japanese ODA Loan

Logistics Infrastructure Development Project through ODA Loans

External Evaluator: Miho Sakuma, International Development Center of Japan Inc.

0. Summary

This project aimed to assist in the development of logistics infrastructure throughout the Philippines by providing medium- and long-term two-step loans¹ to local government units (LGU), private enterprises, government-owned and controlled corporations (GOCC), and cooperatives through the Development Bank of the Philippines (DBP). This project meets Philippine logistics infrastructure development policies, Japan's assistance policies, and the development needs of two-step loan end-users. Therefore, its relevance is high. After the project commenced, interest rates started declining and the interest rates of sub-loan projects increased above those of commercial banks. Thus, end-users' development needs changed (from medium- and long-term funds with fixed interest rates to short-term funds with lower interest rates), and the consistency between project and development needs was somewhat hindered. However, the project was carried out without significantly changing its design due to flexible measures such as the expansion of sub-sectors eligible for loans. Although the project period was within the plan, the project cost shouldered by the Philippine side significantly exceeded the plan. Therefore, the efficiency of the project is fair. The achievement degree of "promotion of investment activities for the improvement of logistics infrastructure," "reduction of logistics costs," and "increased volume of transactions in the supply chain" and the improved degree in the ranking of international logistics infrastructure before and after the project's implementation were comprehensively judged, and a certain effect was observed by this project's implementation. Therefore, the effectiveness and impacts are fair. In addition, no major problems have been observed in the institutional / organizational aspect, technical aspect, financial aspect, current status of the operation and maintenance system. Therefore, sustainability of the project is high. In light of the above, this project is evaluated to be satisfactory.

¹ Two-step loans (Financial Intermediary Loans) are implemented through the financial institutions of the recipient country based on the policy-oriented financial system of partner country. These loans provide funds necessary for the implementation of designated policies, such as the promotion of small and medium-scale enterprises in manufacturing, agriculture and other specified industries and the construction of facilities to improve the living standards of the poor. These loans are known as "two-step loans" because under the process, funds pass through two or more financial institutions before the end-beneficiaries receive the funds.

1 . Project Description



Project Location



Tanker purchased by the sub-loan project
(in dry dock)

1 . 1 Background

The Philippines achieved an average annual economic growth of nearly 5% over 2003–2008 while the poverty rate remained high at around 30%. In the Philippines, the development and expansion of logistics infrastructure became an urgent issue to promote domestic and overseas private investments with the aim of sustainable growth toward job creation. However, the insufficient maintenance of ports, roads, processing and storage facilities for agricultural products and livestock, and transportation facilities, were all problems and the level remained low compared to other ASEAN countries. While government policy was determined to promote infrastructure development through private-sector investment and cooperation with local governments, loans from private financial institutions in the Philippines were limited to short-term funds, and the medium- and long-term funds required for infrastructure projects were expected to be loaned by government-affiliated financial institutions such as the DBP.

1 . 2 Project Outline

This project aimed to promote investment activities to develop logistics infrastructure, reduce logistics costs, and increase the volume of transactions in the supply chain by providing LGUs, private enterprises, GOCCs, and cooperatives with medium- and long-term funding to develop logistics infrastructure through DBP, thereby contributing to the Philippines' sustainable economic growth.

Loan Approved Amount/ Disbursed Amount	30,380 million yen / 19,399 million yen
---	---

Exchange of Notes Date/ Loan Agreement Signing Date	June 2009 / November 2009
Terms and Conditions	(1) Interest Rate 1.4% Repayment Period 30 years (Grace Period 10 years) (2) Consulting Services 0.01% Repayment Period 40 years (Grace Period 10 years)
Borrower/ Executing Agency	DBP
Project Completion	December 2016
Target Area	All over the Philippines
Main Contractors (Over 1 billion yen)	None
Main Consultants (Over 100 million yen)	Berkman International, Inc. (Philippines)
Related Studies (Feasibility Studies, etc.)	Feasibility study of developing RRTS to improve mobility Study on the Domestic Shipping Promotion Plan
Related Projects	【ODA Loan】 Domestic Shipping Modernization Program I (December 1994) Domestic Shipping Modernization Program II (September 1998)

2. Outline of the Evaluation Study

2.1 External Evaluator

Miho Sakuma, International Development Center of Japan Inc.

2.2 Duration of Evaluation Study

This ex-post evaluation study was conducted with the following schedule.

Duration of the Study: August 2018 – November 2019

Duration of the Field Study: October 21, 2018 – November 13, 2018

June 23, 2019 – June 28, 2019

3. Results of the Evaluation (Overall Rating: B)²

3.1 Relevance (Rating: ③)³

3.1.1 Consistency with the Development Plan of the Philippines

In the Arroyo Administration's Medium-term Development Plan (2004–2010), the reduction of logistics costs through the development of efficient logistics networks

² A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

³ ③: High, ②: Fair, ①: Low

such as the completion of the Strong Republic Nautical Highway (SRNH) that utilizes a Road Roll-On/Roll-Off⁴ (Ro-Ro) Terminal System (RRTS) that combines land and ferry transportations services was set as a policy objective. In addition, Presidential Decree No. 170 (January 2003), which advocates the promotion of investments in RRTS development and management and includes private sector participation, stipulates that DBP will provide the private sector with a long-term financing system for sustainable development plans, which is highly consistent with the project's development policies at the time of appraisal.

The idea of a national maritime route highway plan using Ro-Ro and RRTS was handed over to the Aquino administration's mid-term development plan (2011–2016), too, but in the development of logistics infrastructure during the Aquino administration, the focus was shifted to highways, urban transportation, air transportation, and railways. The development of public infrastructure, including logistics infrastructure, is also the Duterte administration's top priority and the current mid-term development plan (2017–2022) targets the launch of 8–9 trillion pesos. The Medium-term Development Plan is based on the Philippine Long-Term Development Plan, *AmBisyon Natin 2040* and aims to realize a poverty-free Philippine society centered on the middle-income group by 2040 by improving connectivity (roads, bridges, ports, airports, land transportation, transportation systems, communications, etc.).

Therefore, this project conforms to the Philippine development policy from the time of appraisal to the time of ex-post evaluation.

3.1.2 Consistency with the Development Needs of the Philippines

Fifty projects were assumed eligible for sub-loans at the time of appraisal, with a total loan amount of 18,055 million pesos (37,617 million yen translated at the weighted exchange rate of 0.479963956; hereinafter the same)⁵ and almost the same amount of funding needs as the sub-loan project cost (planned) of 37,600 million yen (of which 30,080 million yen was eligible for ODA loans). During the project implementation period, 155 sub-loan applications, which exceeded the assumptions made at the time of appraisal, equivalent to 27,968 million pesos (58,269 million yen) were considered candidates for the primary sub-loan projects in this project. Of these, only 89 were listed as approved primary sub-loans at the time of project completion (December 31, 2016), and 17,598 million pesos (36,667 million yen) had been approved. Sixty-six other loan applications amounting to 10,369 million pesos (21,602

⁴ A ferry transport system in which cargo trucks and the like can get in and out by themselves. Since it is unnecessary to load and unload containers at ports, high efficiency of cargo handling can be achieved.

⁵ Documents provided by JICA

million yen) were delisted because of the use of loans from DBP’s own resources outside of the project (30 cases), the use of loans from other banks (4cases), deferred or cancelled projects (23 cases), and deficiencies in submitted documents (9 cases).⁶

Of the 89 sub-loan projects that passed assessment for primary sub-loans in this project, only 62 (70%) had been disbursed by the time of the ex-post evaluation (September 30, 2018), and 27 (30%) had not been disbursed⁷ (see Table 1). The main reason was that interest rates had started declining during this project’s implementation period, particularly for 2012–2016, and the competitiveness of sub-lending rates to end-users in this project providing medium- and long-term funds had declined compared to commercial banks’ interest rates. As shown in Table 2, the Philippine long-term interest rate (10-year Philippine Dealing System Treasury Reference Rates (PDST-R)) remained at 7% or more until 2010 but dropped below 5% in 2012 and then stayed around 3–4% until 2016. In 2012–2016, when long-term interest rates fell below 5%, the number of primary sub-loans that passed assessment for the project but for which loan agreements were not signed exceeded 30% of the approved sub-loans. In particular, the number of sub-loans for which loan agreements were not signed in 2015 reached 54% of the number of approved sub-loans. In 2015, the interest rate on this project’s sub-loan was at its lowest during the project period and competition with the interest rates of the regional banks and DBP’s own funding of loans other than in this project seemed to have intensified.

Table 1 The number of approved primary sub-loans and the number of sub-loans that were approved but not released

	Number of approved primary sub-loans	Number of sub-loans that were approved but not released as of September 30, 2018 (Percentage (%))
~ End of 2010	14	2 (14%)
2011	12	2 (17%)
2012	16	5 (31%)
2013	11	3 (38%)
2014	17	6 (35%)
2015	13	7 (54%)
2016	6	2 (33%)
Total	89	27 (30%)

Source: Prepared by the evaluator from documents provided by the DBP

⁶ Documents provided by DBP

⁷ 5 of the 27 loans were financed from DBP’s own resources other than the project, with an average interest rate of 5.34% (4 with fixed rates and 1 with variable interest rate) and a lending period of 3 months to 5 years.

Table 2 Comparison between long-term interest rates (PDST-R) and sub-loan interest rates of this project

	7 years (%)	10 years ⁸ (%)	20 years (%)	Interest rate of released sub-loans (average) (%)
2010	6.385324	7.117216	8.477886	9.11
2011	5.610738	6.154300	7.652565	8.41
2012	4.619816	4.955856	5.776961	8.16
2013	3.281370	3.447673	4.151079	7.64
2014	3.760762	4.004019	5.015561	6.75
2015	4.026178	4.029150	4.916535	6.28
2016	3.897203	4.179987	4.828681	6.36

Source: The long-term interest rates are averaged annually by the DBP based on data from the Philippine Central Bank. The interest rate of this project sub-loan was calculated by the evaluator on an annual average basis based on data provided by the DBP.

As described in 3.4.4, the secondary sub-loans using revolving funds were implemented continuously even after the project's completion and the need for funds at the time of ex-post evaluation is high.

From the above, the need to develop logistics infrastructure was consistently high from the time of appraisal to the time of ex-post evaluation. However, interest rates in the Philippines entered a downward trend during the project period and interest rates for sub-loans in this project rose above those in the market. Thus, end-user needs changed (from medium- and long-term funds with fixed interest rates to short-term funds with lower interest rates), and thus the consistency between this project and the development needs slightly decreased.

3.1.3 Consistency with Japan's ODA Policy

In Japan's Country Assistance Program for the Philippines (June 2008), "Sustainable Economic Growth to Create Employment Opportunities" was cited as a priority area and "Development of the Basis for Economic Growth" was identified as a development issue. Based on said program, JICA's Country Assistance Implementation Report (July 2009) included the Transportation and Traffic Network Development Program as a cooperative program; the policy was to allocate funds efficiently and place priority on the development of trunk roads and maritime trunk traffic networks. Therefore, this was highly consistent with Japan's aid policy at the time of appraisal.

⁸ The 10-year bond yield averaged 7.154% in 2007, 8.300% in 2008, and 7.993% in 2009. (<https://jp.investing.com/rates-bonds/philippines-10-year-bond-yield>, accessed March 27, 2019)

3.1.4 Appropriateness of the Project Plan and Approach

After this project commenced, interest rates turned downward and the market competitiveness of sub-loan rates in this project weakened. According to data and interviews with relevant parties at the time of appraisal, it was difficult to accurately predict medium- and long-term interest rate trends and the Philippines maintained a high interest rate trend for a long period until the time of appraisal. Therefore, the possibility that the interest rate on long-term treasury bonds, which is the basis on which sub-loan interest rates are set for the project, would be lower than the fund cost (7%⁹) of the project was not predicted, and was therefore not assumed as a risk.

In the context of negative changes in the economic environment, DBP made efforts to promote sub-loans for the project by taking flexible measures such as reducing sub-loan interest rates by reducing fund costs and credit spreads, expanding eligible sectors, and blending the project's sub-loans with DBP's own resources¹⁰ without significantly changing its project designs and approaches.

As stated above, this project has been highly relevant to the Philippines' development plan and development needs, as well as Japan's ODA policy. Therefore its relevance is high. While the negative impact of external factors (continued downward trends in interest rates) changed end-users' development needs during implementation (from medium- and long-term funds with fixed interest rates to short-term funds with lower interest rates), which resulted in the partial impairment of consistency between the project and development needs, the project was carried out by taking flexible measures without majorly changing the project plans and approaches.

3.2 Efficiency (Rating:②)

3.2.1 Project Outputs

【Sub-loan projects】

The plan and results of the sub-loan project are shown in Table 3.

Table 3 Sub-loan projects

	Plan (At the time of appraisal)	Actual (At the time of project completion) (December 31, 2016)
Eligible end-users	① Private enterprises (at least 70% of the Philippine capital), ② LGUs, ③ GOCCs, and ④ cooperatives	As planned but there was no sub-loan lending to GOCC

⁹ JICA materials

¹⁰ This was applied to three of the 62 the primary sub-loans.

Lending method	① Direct loans (retail loans) ② Indirect loans through PFIs/MFIs (wholesale loans)	① Direct loan: primary sub-loans implementation ② Indirect loans: None
Lending scheme 1) End-user interest rate 2) Sub-loan maturity period 3) Sub-loan size ceiling	Fixed rate Treasury securities rate + 1–4% spread according to the borrower's credit risk From three months to 20 years or less (deferred for five years or less) Private enterprises: 80% of the total project cost of sub-projects LGUs, GOCCs, and cooperatives: Up to 90% of the total project costs for sub-projects * In principle, the maximum amount of loans per sub-project is 1.5 billion yen. * Up to 100% of total operating expenses will only be provided for loans to Ro-Ro vessels.	As planned Cost of fund + 1–4% credit spread according to the borrower's credit risk* As planned As planned
Eligible sub-sectors	① Construction and purchasing of Ro-Ro vessels, ② RRTS facilities, ③ Toll roads, LGU roads, access roads, and maintenance equipment, ④ transport facilities, ⑤ Bulk chain, and ⑥ Cold chain	① As planned ② As planned ③ Additional bridges, tunnels, land transport facilities, and transportation systems** ④ Additional facilities related to air, railways, urban transportation, marine and water transportation, and logistics facilities including public markets** ⑤⑥ As planned
Eligible uses of sub-loan	① Initial working capital, ② working capital required to operate the sub-project, ③ interest rates and consulting services	As planned

Source: Prepared by evaluator from documents provided by JICA and Project Completion Report

Note: * On September 30, 2011, a change from the plan was agreed between JICA and DBP.

** Approved by the National Economic Development Agency Investment Coordination Committee on February 24, 2014.

This project included 62 primary sub-loans. End users were 40 LGUs (65%), 21 private enterprises (34%), 1 cooperative (2%), and zero GOCCs. Looking at their size of assets, 27% were medium-sized (DBP standards: ≤100 million pesos), 68% were large-sized (DBP standards: >100 million pesos) and 5% were conglomerates (DBP

standards: a group of two or more enterprises across different industries). There were 15 sub-loan projects in Luzon, 17 in Visayas, 21 in Mindanao, and 9 nationwide (Luzon, Visayas and Mindanao); no regional bias was observed.

There were two types of lending method: direct (retail) loan and indirect (wholesale) loan. However, there were no uses of indirect lending. The interest rates of sub-loans were planned to be based on the interest rates of long-term treasury bonds, which was linked to the market interest rate. However, the interest rate on long-term treasury bonds was sluggish during the project period and if the interest rate on long-term treasury bonds became lower than the fund cost, DBP—with JICA's consensus—changed the basis of sub-loan's interest rates to the fund cost plus a spread of 1–4% according to the borrower's credit risk. DBP sought to improve the competitiveness of its sublease rates by reducing the administration cost, which is the cost of managing its own operations, to the greatest extent possible. The applied sub-loan interest rates were in the range of 5.88–11.80% and the average lending period was 9.96 years (minimum five years and maximum 15 years).

DBP expanded the eligible sectors to enable them to form and finance a wider range of sub-loan projects in light of changes in the environment such as the decline in market interest rates and changes in priority development areas due to changes in government administration.

As shown in Table 4, the biggest loan amount was for roads (54%) and the second biggest was for Ro-Ro vessels (30%), and the sub-sectors of toll roads (31%) and Ro-Ro vessels (29%) accounted for 60% of the total loan amount.

Table 4 Primary sub-loans (Loans by Sector)

Target sectors/sub-sectors		Number of loans	Loans (million pesos)	Percentage of Loans by Sub-Sector *	Percentage of Loans by Sector*
Ro-Ro vessels	Ro-Ro vessels	7	2,872	29%	30%
	RRTS facilities	1	79	1%	
Road	Toll road	3	3,127	31%	54%
	Local road	14	1,568	16%	
	Heavy equipment	18	731	7%	
Transportation facilities	Public market	8	257	3%	3%
Bulk chain	Bulk chain facilities	4	340	3%	12%
	Bulk cargo vessels	4	862	9%	
Cold chain		3	224	2%	2%
Total		89	10,060	100%	100%

Source: Prepared by evaluator from data provided by DBP

Note: *Total exceeds 100% due to rounding to decimal places.

The total amount of sub-loan project cost and the total amount of sub-loans are shown in Table 5. Output at completion, i.e., the amount of sub-loan loans, was 20,250 million yen, or 67% of the plan (30,080 million yen).

Table 5 Sub-loan costs

	Plan (At the time of appraisal)	Actual (At the time of project completion) (December 31, 2016)
Total sub-loan project cost (million yen)	37,600 (Of which, ODA loans 30,080; shouldered by the Philippine side 7,520)	56,199 (Of which, ODA loans 19,315; shouldered by the Philippine side 35,949)
Sub-loans (million yen)	30,080 (ODA Loans only)	20,250 (Of which, ODA loans 19,315; no amount was shouldered by the Philippine side)

Source: Documents provided by JICA and DBP

【Consulting Services】

In this project, consulting services were planned to: ① support the assessment, supervision, and evaluation of individual sub-loan projects for DBP, and PFIs/MFIs; ② support the setting of operation and effect indicators for individual sub-loan projects; ③ support the facilitation and management of potential sub-loan projects for end-users; and ④ support the strengthening and coordination of collaboration between DBP, related government agencies, and related industry associations.

According to interviews with DBP and consultants, only technical assistance (such as support for sub-loan assessment, supervision, and evaluation) was provided to DBP because no indirect loans were provided in ①. Although the logistics consultants' expertise was strong, activities related to the development of monitoring/evaluation systems were insufficient. Therefore, the operation and effect indicators were basically set up by DBP counterpart staff and JICA local staff, and the support provided by DBP consultants to ② was limited. The support of ③ and ④ was implemented as planned.

From the above, the degree of project output achievement (actual disbursement amount of sub-loans) was 67% of the plan, which is fair.

3.2.2 Project Inputs

3.2.2.1 Project Cost

Table 6 shows the project cost (plan) and Table 7 shows the project cost (actual).

The degree of output achievement (the total amount of sub-loans) at the time of project completion (20,250 million yen) was 67% of the plan (30,080 million yen), while the amount of input (funding for sub-loans was 19,315 million yen) was 64% of that planned (30,080 million yen), indicating that a decrease in input was commensurate with the decrease in output.

Meanwhile, the total project cost amounted to 59,271 million yen (including 19,399 million yen for ODA loans and 39,872 million yen shouldered by the Philippine side), and 146% (64% for loans and 392% for those shouldered by the Philippine side) of the plan (40,540 million yen including 30,380 million yen for loans and 10,160 million yen shouldered by the Philippine side). The increase in total project cost was due to the increase in cost shouldered by the Philippine side, mainly due to a decline in the competitiveness of interest rates during this project. In particular, approximately 69% (24,668 million yen) of the total sub-loan project cost shouldered by the Philippine side (35,949 million yen) was raised by several local private banks for the Tarlac-Pangasinan-La Union Expressway (TPLEX) Project that extends to the northern part of Luzon.

As a result, the total project cost (actual) exceeded the planned (146%), although the project input had declined (64%) in line with the achieved output (67%).

Table 6 Project cost (Plan)

Unit: Million yen

	Plan (At the time of appraisal)					
	Foreign currency portion		Local currency portion		Total	
	Total	ODA loans	Total	ODA loans	Total	ODA loans
① Sub-loan	11,280	9,024	26,320	21,056	37,600	30,080
② Consulting service	153	153	147	147	300	300
③ VAT	0	0	36	0	36	0
④ Interest during construction	2,342	0	0	0	2,342	0
⑤ Commitment charge	262	0	0	0	262	0
Grand total	14,037	9,177	26,503	21,203	40,540	30,380

Source: Documents provided by JICA and DBP

Note: Exchange rate: 1US dollar = 90.4 yen, 1US dollar = 48 pesos, 1 peso = 1.88 yen, price escalation rate: foreign currency 2.6%, local currency 7.4%, base year of the cost estimation: March 2009

Table 7 Project Cost (Actual)

Unit: Million yen

	Actual (As of December 31, 2016)					
	Foreign currency portion		Local currency portion		Total	
	Total	ODA loans	Total	ODA loans	Total	ODA loans
① Sub-loan	19,315	19,315	35,949	0	55,264	19,315
② Consulting service	84	84	0	0	84	84
③ VAT	0	0	0	0	0	0
④ Interest during construction			3,819	0	3,819	0
⑤ Commitment charge	0	0	104	0	104	0
Grand total	19,399	19,399	39,872	0	59,271	19,399

Source: Documents provided by JICA and DBP

Note: The local currency portion of the sub-loan (Actual) is the portion borne by end-users of the sub-project (such as their own resources and borrowings from other banks). Weighted average exchange rate: 0.479963956, rounded

3.2.2.2 Project Period

The project period was 86 months (100%) from December 2009 to December 2016, which was the same as planned.

3.2.3 Results of Calculation for Internal Rates of Return

The internal rates of return of this project was not calculated at the time of appraisal and cannot be compared. Therefore it is not calculated.

As stated above, although the project period was within the plan, the project cost exceeded the plan. Therefore, efficiency of the project is fair.

3.3 Effectiveness and Impacts (Rating:②)¹¹

3.3.1 Effectiveness

3.3.1.1 Quantitative Effects (Operation and Effect Indicators)

In this project, neither operation nor effect indicators were set at the time of the appraisal. Indicators were difficult to set, partly because of the nature of two-step loans in which lending targets were not decided until the implementation of sub-loan projects. Approximately after four and a half years from the project's commencement, the

¹¹ Sub-rating for Effectiveness is to be put with consideration of Impacts.

executing agency and JICA reached an agreement regarding setting indicators in July 2014. By that time, 70% (62 of 89) of the sub-loan projects had been approved.

Which operation and effect indicators show which items of the project objectives (outcomes) is summarized as follows.

Project objectives	Indicators
Promotion of investment activities to improve logistics infrastructure	<ul style="list-style-type: none"> • Total amount of sub-loan projects • Ratio of delinquent receivables (Qualitative effect indicators: "Improving the assessment and operational capabilities of DBP and PFIs/MFIs")
Reduction of logistics costs	Effect Indicators <ol style="list-style-type: none"> 1. Ro-Ro vessels: decreased travel time 2. RTTS-related facilities: decrease port dwell times expressed in hours and number of days required for ship repairs 3. Toll roads, LGU roads, access roads, and maintenance equipment: reduction of travel time 4. Packaging, transport and distribution facilities: reduction of spoilage volume, etc. 5. Cold chain: reduction of spoilage volume, etc.
Increased volume of transactions in the supply chain	Effect indicators other than the above-mentioned indicators for reducing logistics costs

Table 8 shows the operation indicators and Table 9 shows the effect indicators.

Regarding the "promotion of investment activities to improve logistics infrastructure," 80% of the target value for the total amount of sub-loans was achieved at the time of ex-post evaluation (two years after project completion). The sectors covered by the sub-loan whose construction and purchase had been planned but failed to fully meet their target, were "RTTS facilities" and "cold chain." Regarding RTTS facilities, although the construction of a Ro-Ro terminal was completed at the time of ex-post evaluation, data could not be gathered because the use of such facilities had not yet started and a sub-loan for improving/constructing shipyards was expected to be disbursed at the time the indicators were being examined, but the target values could not be achieved because the sub-loan had not been successfully closed. Regarding cold chain, although the target number of improved/constructed cold storage facilities was achieved, actual cold-storage capacity was much less than planned and could not attain the target value. Regarding reefer trucks, sub-loan projects were expected to be implemented at the time when the indicators were being examined, but in reality, sub-loan contracts had not been made successfully and the target value had not been achieved. The percentages of overdue amounts of unpaid credit and the number of overdue unpaid credits had fully met their target.

Regarding the "reduction of logistics costs," judging the degree of achievement was difficult as the target values for the time saving required for Ro-Ro vessels and local

roads were sufficient but reliable data could not be collected on the reduction of spoilage volume due to damage during packaging, and transport and at distribution facilities, and in the cold chain. Collecting data about reduced spoilage volume was predicted to be difficult even when the indicators were being considered.

Regarding the "increased volume of transactions in the supply chain," the target values of the "increased volume of transactions" (passenger capacity and cargo loading capacity) of Ro-Ro vessels and bulk cargo vessels improved/constructed, toll roads, local roads, maintenance equipment, bulk terminals improved/constructed, and cold storage facilities improved/constructed, were sufficiently achieved.

For eligible sectors, "Ro-Ro vessels" and "toll roads, LGUs roads, access roads, and maintenance equipment" sufficiently achieved their target values for both operation and effect indicators. In contrast, the attainment level of the target values of operation and effect indicators for "RRTS facilities" and "cold chain" was low. The operation indicators for "packaging, transport, and distribution facilities" and "bulk chain" could achieve their targets but reliable data could not be gathered on the reduction of spoilage volume. Therefore, it is difficult to judge the degree to which effect indicators were achieved.

Table 8 Operation Indicators

Indicator	Baseline *	Target**	Actual	
			December 31, 2016	September 30, 2018
			Year of project completion	Two years after project completion
1. Sub-loan				
Total amount of sub-loan disbursed	-	30,080 million yen	20,250 million yen	23,913 million yen (including 4 secondary sub-loans)
Percentage of amount of overdue unpaid credit	-	<1.84% (Central Bank of the Philippines standard as of September 2018)	0.123%	0.072%
Percentage of number of overdue unpaid credit	-	<14.26% (average of historical data of Domestic Shipping Modernization Projects I and II)	2.27%	2.33%
2. Ro-Ro Vessels				
Ro-Ro vessels	0	15 vessels	14 vessels	17 vessels

acquired				
Tonnage capacity	0	4,500GT (average: 300 GT/vessel)	17,900.81GT (average 1,278.63 GT/vessel)	21,132.81GT (average 1,243 GT/vessel)
3. RRTS Facilities				
Berthing spaces improved/constructed	0	10 berths	8 berths	8 berths
Shipyards improved/constructed	0	5 shipyards	0	0
4. Toll Road, LGU Road, Access Road and Maintenance Equipment				
Roads rehabilitated/ constructed	0	300 lane kilometers	3,733 lane kilometers	3,769.07 lane kilometers
5. Packaging, Transport, and Distribution Facilities				
Distribution terminals improved/constructed	0	2 facilities (10,000 m ³ each / facility)	6 facilities ¹² (average: 5,162 m ³ each / facility)	9 facilities (average: 5,378 m ³ each / facility)
Cargo storage and distribution capacity increased	0	20,000 m ³	45,173.40 m ³ (669 retainable stalls public market, 69 bays parking/transport terminals)	48,401.90 m ³ (739 retainable stalls public market, 69 bays parking/transport terminals)
6. Bulk Chain				
Bulk terminals improved/constructed	0	3 facilities (average: 28,000 m ³ each /facility)	4 facilities (average: 5,776 m ³ each / facility)	4 facilities (average: 5,776 m ³ each / facility)
Bulk cargo vessels acquired	0	5 units (3,000 DWT each)	9 units (average: 4,423 DWT each)	14 units (average: 3,696.64 DWT each)
7. Cold Chain				
Cold storage facilities improved/constructed	0	6 facilities (10,000 m ³ each / facility)	6 facilities (average: 2,584.79 m ³)	6 facilities (average: 2,584.79 m ³)
Cold storage capacity	0	60,000 m ³	7,754.36 m ³	7,754.36 m ³
Reefer trucks acquired	0	10 units	0	0

Source: Project Completion Report (PCR), Responses to Questionnaires from DBP

Note: *Baseline values were set at the time of sub-loan project approval.

** Target setting was agreed between JICA and DBP on July 28, 2014.

Table 9 Effect Indicators

Indicator	Baseline *	Target**	Actual	
			December 31, 2016 Year of project completion	September 30, 2018 Two years after project completion
1. Ro-Ro Vessels				
Passenger traffic capacity increased	0	300 paxcap × 15 vessels × 300 days	5,737 (average 409.79 paxcap × 14 vessels × 300 days)	6,835 (average 402.06 paxcap × by 17 vessels × 300 days)
Cargo traffic capacity	0	300GT × 15 vessels × 300	854.99GT×14 vessels ×	1,243.11GT×17 vessels × 300 days

¹² Most of the projects financed in this area were the construction of public markets.

increased		days	300 days	
Time saving: decrease in travel time	① Batangas-Calapan: 2.5 hours ② Caticlan-Bulalacao: 4 hours ③ Matnog-San Isidro: 2 hours	25% at minimum	① 2 hours (decreased by 13.04%) ② 3 hours (decreased by 25%) ③ 1.2 hours (decreased by 40%)	① 1.66 hours (decreased by 33%) ② 2.66 hours (decreased by 33.5%) ③ 1.33 hours (decreased by 33.33%)
2. RRTS Facilities				
Dwell time reduction	Cruise Ships : 1 hour Cargo ship: 24 hours	10%	Not available as project is not completed yet	Not available as the facilities are not operating yet
Ship repair and dry docking/ turnaround time improved	Longer than 14 days	14 days or less	No project financed	No project financed
3. Toll Road, LGU Road, Access Road and Maintenance Equipment				
Travel time improved	40 km/h or less	40 km/h or more	Local roads: average 40 km/h or more	Local roads: average 40 km/h or more Toll road: In the open part of the TPLEX, travel times were shortened by 30–60 minutes. When all sections open in September 2019 (planned), the required travel time will be shortened by two hours.
4. Packaging, Transport, and Distribution Facilities				
Spoilage volume reduced	5%	0-3%	Not available	Not available
5. Bulk Chain				
Tonnage capacity increased	0	15,000 DWT	13,270 DWT	51,753 DWT
Bulk storage capacity (bulk chain facility)	0	84,000 m ³	23,102.63 m ³	23,102.63 m ³
7. Cold Chain				
Spoilage volume reduced	5%	0-3%	Not available	Not available

Source: PCR, Responses to Questionnaires from DBP

Note: *Baseline values are set at the time of sub-loan project approval.

** Target setting was agreed between JICA and DBP on July 28, 2014.

3.3.1.2 Qualitative Effects (Other Effects)

According to interviews with the DBP, the technical support from the consultant team helped DBP improve its ability to assess sub-loan applications, supervise and evaluate sub-loan projects, and formulate and supervise pipeline sub-loan projects for end-users. Although coordination/networking meetings with key government agencies and focus group discussions with sector stakeholders helped DBP understand the challenges and needs of industries, these meetings/discussions remained *ad hoc*. In addition, the consultant team could not contribute as much as expected to supporting the setting of indicators for sub-loan projects.

As stated above, the attainment levels of “Promotion of investment activities for Improvement of Logistics Infrastructure” and “Reduction of costs for logistics” are fair and that for “Increased volume of transactions in the supply chain” is high.

3.3.2 Impacts

3.3.2.1 Intended Impacts

At the time of the appraisal, indicators for "sustainable economic growth," defined as impacts in the project outlines, had not been specifically set. Although it is considered to measure the effects of this project using macroeconomic indicators such as the economic growth rate, it is difficult to explain the causal relationship between such macroeconomic indicators and this project. In light of this project's background, it has been decided to use the World Bank's Logistics Performance Index (Overall)¹³ and Transport Infrastructure Rankings (Roads, Ports, etc.) in the Global Competitiveness Report by the World Economic Forum as quantitative indicators for impacts. Changes in the rankings of the Philippines from the time of appraisal to the time of ex-post evaluation were also shown, including comparisons with neighboring countries.

As shown in Table 10, the Philippines' ranking in the Logistics Performance Index (Overall) shows a slight improvement for 2018 compared to 2007. As shown in Table 11, the Philippines' ranking in transport infrastructure (roads) in the 2018 Global Competitiveness Report had significantly declined since 2009; however, as shown in Table 12, the Philippines' ranking in Transport Infrastructure (water transport) in 2018 had significantly improved compared to previous years.

¹³ The Logistics Performance Index is a multidimensional assessment of logistics performance, infrastructure, domestic logistics costs, etc.

Table 10 Logistics Performance Index Rankings (Overall)

	2007	2010	2012	2014	2016	2018
Singapore	1	2	1	5	5	7
China	30	27	26	28	27	26
Thai	31	35	38	35	45	32
Malaysia	27	29	29	25	32	41
Vietnam	53	53	53	48	64	39
Indonesia	43	75	59	53	63	46
Philippines	65	44	52	57	74	60

Source: World Bank “Logistics Performance Index”, each year

Table 11 Transport Infrastructure Rankings (Roads)

	2009	2011	2013	2015	2017	2018
Singapore	1	2	7	3	2	1
Malaysia	24	18	23	15	23	87
China	50	54	54	42	42	28
Thai	77	37	42	51	59	52
Vietnam	102	123	102	93	92	112
Indonesia	94	83	78	80	64	110
Philippines	104	100	87	97	104	134
Cambodia	77	73	80	94	99	104

Source: World Economic Forum “The Global Competitiveness Report”, Transport Infrastructure Rankings (Roads)

Table 12 Transport Infrastructure Rankings (Water Transport)

	2009	2011	2013	2015	2017	2018
Singapore	1	1	2	2	2	1
Malaysia	19	15	24	16	20	5
China	61	56	59	50	49	8
Thai	89	47	56	52	63	47
Vietnam	99	111	98	76	82	32
Indonesia	95	103	89	82	72	43
Philippines	112	123	116	103	114	72
Cambodia	89	76	110	83	81	87

Source: World Economic Forum “The Global Competitiveness Report”, Transport Infrastructure Rankings (Water transport)

3.3.2.2 Other Positive and Negative Impacts



Maintenance of unpaved agricultural roads using heavy equipment purchased through a sub-loan project (Municipality of Ayungong)



Paved farm-to-market roads in the sub-loan project. Tomato fields and sugar cane fields are scattered along the roads. (Province of Batangas)

(1) To revitalize local industries and improve regional agricultural productivity

The sub-loan project has resulted in improved access to markets and tourist destinations, by shortened time and reduced transportation costs, leading to revitalization of local industries and improved regional agricultural productivity. Examples are presented below.

- TPLEX, a toll road connecting central Luzon and northern Luzon (total length: 88.85km), has been gradually extended since the opening of the first section (22.61km) in October 2013. At the time of ex-post evaluation, 74.40km was open to travel and required travel time was reduced by 30 to 60 minutes compared with the travel time prior to the project implementation¹⁴. Average daily traffic increased from 8,470 units in 2014 to 22,393 units in 2018¹⁵, contributing to the revitalization of the tourism industry in the northern part of Luzon and reduction of the travel time to Metropolitan Manila for agricultural products produced in the northern part of Luzon.
- In rural areas, many agricultural roads are still unpaved, and in some cases, they cannot be used during the rainy season. According to interviews with end-users at the provincial government of Batangas and municipal government of Calaca in the southern part of Metropolitan Manila, paving the provincial roads, municipal roads, and barangay¹⁶ roads enabled vehicles to use them even during

¹⁴ Documents provided by DBP

¹⁵ Documents provided by DBP

¹⁶ The smallest local government units in the Philippines. Each city and municipality is composed of multiple barangays.

the rainy season. This enabled more agricultural products to be transported to markets and processing plants in Metropolitan Manila in a shorter time, thereby improving productivity. According to interviews with the municipal government of Ayungong, Negros Oriental, the LGU purchases used heavy equipment, such as excavators and rollers, and maintains unpaved roads and riverbanks in the municipality to ensure access to the public markets.

- In Kanlaon City, Negros Oriental, the city government paved the barangay road to the ecotourism facility¹⁷. As a result, the number of tourists visiting the facility from outside the city and abroad increased from 6,724 persons in 2014 to 62,346 persons in 2018, greatly contributing to the promotion of the city's tourism industry¹⁸. The city also analyzes that paving farm-to-market roads has reduced the transportation costs for farmers, increased the production of vulnerable vegetables such as cucumbers, tomatoes, and broccoli, and increased sales to markets outside the province¹⁹.

(2) Impacts on the Natural Environment, Negative impacts

It was confirmed from the data and interviews that procedures and monitoring were carried out in accordance with the JICA guidelines for sub-loan projects requiring environmental and social considerations and land acquisition, such as construction of TPLEX, and that DBP reported to JICA appropriately. No negative effects on the environment or negative impacts were observed. No resettlement has occurred.

From the above, a certain effect of the implementation of this project was observed, and the effectiveness and impact were fair.

3.4 Sustainability (Rating:③)

3.4.1 Institutional / Organizational Aspect of Operation and Maintenance

The size of DBP's total assets at the time of ex-post evaluation was slightly lower than at the time of the appraisal (DBP was the fourth largest bank in the Philippines at the end of 2008 and eighth largest at the end of September 2018). DBP has undertaken organizational restructuring several times over the past decade in order to increase efficiency.

¹⁷ This facility is equipped with a pool for children using spring water and accommodation facilities. Trekking roads and hiking trails to Kanlaon volcanoes are also in place and are popular among families and students.

¹⁸ Data provided by Kanlaon City. Tourists from January to December 2014 and from January to September 2018.

¹⁹ Documents provided by Kanlaon City

In 2017, many senior management personnel were changed. The system and structure have stabilized, with the vision of becoming a bank with total assets of 1 trillion pesos by 2022 and a world-class infrastructure development bank by 2040.

3.4.2 Technical Aspect of Operation and Maintenance

In 2012, during the project period, consultants provided training on the project at the Lending Centers in each DBP district, with 351 participants, who were mainly in charge of loan projects. Based on questions raised by lending officers/managers, focus group discussions were held five times between February and May 2013 with industry stakeholders in the sectors of marine transportation management, port management, maritime services, land transportation, and post-harvest facilities. By collaboration between DBP and consultants, manuals and guides on logistics infrastructure development were prepared and used in technical evaluation and social environmental assessment of sub-loan applications. Through this project, DBP has been able to deepen its knowledge of the development of logistics infrastructure, and these manuals and guides are still being used in the formulation and implementation of projects related to logistics infrastructure development.

DBP not only has accountants, but also engineers (civil engineering, electrical engineering, etc.) and specialists on environmental planning, transportation, water supply, sanitation, etc. DBP deals with various types of development project. DBP's Human Resources Development Division (Learning and Development Department) continues to provide human resources development for lending managers, including five-day training courses on loan programs, loan products, various guidelines, and loan packages.

As described above, there is no particular problem with the technical aspect of DBP operation, maintenance, and management.

3.4.3 Financial Aspect of Operation and Maintenance

DBP's net income increased to 4.7 billion pesos in 2015, 4.4 billion pesos in 2016, and 5.4 billion pesos in 2017. Net income had increased by 67% in 2017 over nine years, from 3.6 billion pesos in 2008.

Looking at earnings, return on equity was 12.4% (2015), 9.88% (2016), and 11.41% (2017). Return on assets was 0.93% (2015), 0.83% (2016), and 0.93%, and profitability was stable.

The capital adequacy ratio was slightly low at 7.52% in 2015, but the increase in capital in 2016 resulted in 8.37% in 2016, and 8.12% in 2017, which met the capital adequacy ratio standards of the Bank for International Settlements (8% or

more), and the soundness and safety of management improved compared with 2015 and 2017.

From the above, although the profitability of DBP at the time of ex-post evaluation was slightly lower than that at the time of appraisal, the net profit has been increasing steadily, and it is considered that the soundness and safety of management have been improving, so there is no major problem in the financial aspect in general.

Table 13 Statement of Profit or Loss of DBP (Unit: thousand pesos)

		2015	2016	2017
Income	Interest income	18,032,994	19,151,277	20,355,524
	Non-operating income	3,475,776	2,517,147	2,437,514
	Total profit	21,508,770	21,668,424	22,793,038
Expenses	Interest expense	8,034,653	7,663,076	7,433,998
	Provision for impairment	251,739	757,511	497,059
	Non-operating expenses	7,163,977	7,519,016	7,969,647
	Total expenses	15,450,369	15,939,603	15,900,704
Profit before tax		6,058,401	5,728,821	6,892,234
Provision for income taxes		1,347,899	1,292,350	1,403,030
Profit of the year		4,710,502	4,436,471	5,489,304

Source: DBP Annual Reports

Table 14 Statement of Financial Position of DBP (Unit: thousand pesos)

	2015	2016	2017
Total Assets	504,057,966	536,282,969	592,355,104
Cash and other cash items	3,029,525	3,648,329	5,224,876
Loans and receivables-net	197,453,977	224,199,850	243,771,223
Total Liabilities	466,157,051	491,393,089	544,270,261
Deposits	324,007,472	356,242,441	412,363,755
Total equity	37,900,915	44,889,880	48,084,843
Capital stock	12,500,000	17,500,000	17,500,000

Source: DBP Annual Reports

3.4.4 Status of Operation and Maintenance

Facilities financed by this project are being properly operated and maintained, environmental standards are observed, and there are generally no problems in the status of operation and maintenance. However, although monitoring was carried out appropriately at the site of the sub-loan project, the framework for integrating the monitoring results into the DBP headquarters was somewhat inadequate. In

addition, some of the lending officers of sub-loan projects pointed out that indicators that were difficult to collect were included in the operation and effect indicators of the project.

The revolving fund account was established in 2009, and by 30 September 2018, four secondary sub-loan projects had been approved and implemented without any particular problems.

Table 15 Trend of Revolving Fund Account
(Accumulated amount as of the end of each year) (Unit: million pesos)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Carryover from the previous fiscal year	-	5,060	4,675	4,921	3,843	3,903	3,618	2,751	4,144	3,204
Drawdown from ODA loans	5,060	826	439	1,218	476	-	1,254	-	-	-
Principal repayment from end-users on the primary sub-loans	-	87	216	283	506	1,019	431	2,013	536	705
Principal repayment from end-users on the secondary sub-loans	-	-	-	-	-	-	-	38	51	106
Total cash inflow	5,060	5,973	5,330	6,422	4,824	4,923	5,303	4,801	4,731	4,015
Disbursement of the primary sub-loans to end-users	-	1,298	409	2,579	921	1,305	2,552	209	-	-
Disbursement of the sub-loans to end-users	-	-	-	-	-	-	-	448	1,527	1,508
Total cash outflow	0	1,298	409	2,579	921	1,305	2,552	657	1,527	1,508
Balance	5,060	4,675	4,921	3,843	3,903	3,618	2,751	4,144	3,204	2,506

Source: Prepared by evaluator based on data provided by DBP

Note: The sum may not added up with the total figure because it is rounded to the nearest whole number.

End-users of the secondary sub-loans consist of three private enterprises and one local government. The outline of the secondary sub-loan project is as follows.

Table 16 The secondary sub-loans

Eligible Sector		Number of sub-loans	Loans (in million pesos)	Percentage
Roads	Heavy equipment for road repair	1	15	1%
Bulk chain	Bulk cargo vessels	3	1,403	99%
Total		4	1,418	100%

Source: Prepared by evaluator based on data provided by DBP

As described above, there is no major problem in the aspect of operation and maintenance.

As stated above, no major problems have been observed in the institutional / organizational, technical, financial aspects and current status of the operation and maintenance system. Therefore sustainability of the project effects is high.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project aimed to assist in the development of logistics infrastructure throughout the Philippines by providing medium- and long-term two-step loans to LGUs, private enterprises, GOCCs, and cooperatives through the Development Bank of the Philippines (DBP). This project meets Philippine logistics infrastructure development policies, Japan's assistance policies, and the development needs of two-step loan end-users. Therefore, its relevance is high. After the project commenced, interest rates started declining and the interest rates of sub-loan projects increased above those of commercial banks. Thus, end-users' development needs changed (from medium- and long-term funds with fixed interest rates to short-term funds with lower interest rates), and the consistency between project and development needs was somewhat hindered. However, the project was carried out without significantly changing its design due to flexible measures such as the expansion of which sub-sectors were eligible for loans. Although the project period was within the plan, the project cost shouldered by the Philippine side significantly exceeded the plan. Therefore, the efficiency of the project is fair. The achievement of degree to which "promotion of investment activities for the improvement of logistics infrastructure," "reduction of logistics costs," and "increased volume of transactions in the supply chain" were achieved and the improved degree into which the ranking of international logistics infrastructure was improved between before and after the project's implementation were comprehensively judged, and a certain effect was observed by this project's

implementation. Therefore, the effectiveness and impacts are fair. In addition, no major problems have been observed in the institutional / organizational aspect, technical aspect, financial aspect, current status of the operation and maintenance system. Therefore, sustainability of the project is high. In light of the above, this project is evaluated to be satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

None

4.2.2 Recommendations to JICA

None

4.3 Lessons Learned

Analysis of Issues pointed out in the Mid-term Review and Consideration of Countermeasures

The implementation period of this project was as long as seven years, and changes in the environment were observed, such as a decline in interest rates and a change of administrations of the national government. The review conducted at the midpoint of the project provided an opportunity to identify gaps between plans and actual performance and to consider issues and countermeasures. If a project period is relatively long, the executing agency and JICA can jointly conduct mid-term reviews, compare plans and actual performance, analyze contributing factors and hindering factors, and consider and implement countermeasures to address the identified issues, thereby enhancing the effectiveness of the project.

In this project, at the time of the mid-term review, the sub-loan interest rates were higher than the market interest rates. In addition, it became clear that there was a large gap between the plan and actual performance of the disbursement amount of sub-loans, and DBP was able to take measures such as expanding the eligible sectors and blending of its own funds. On the other hand, it was clarified that the setting of operation and effect indicators was difficult and that there were challenges in the monitoring system of indicators; however, measures to cope with these challenges were not adequately examined and implemented. If JICA could share its knowledge (e.g. sharing knowledge on indicators for similar projects, implementation of training on indicator setting and monitoring, etc.) with the executing agency, and set operation and effect indicators considering availabilities of data and statistics from government agencies of the Philippines (e.g. travel time, spoilage volume of agricultural products, etc.), it would enable more appropriate

measurements of project outcomes.

More thorough risk analysis and consideration of countermeasures at the time of appraisal

Interest rates turned downward after the project's commencement, and the market competitiveness of sub-loan interest rates in the project weakened. The Philippines had a long-term trend in high interest rates until the time of appraisal. Therefore, the possibility that the interest rates on long-term treasury bonds, which was the basis for setting the sub-loan interest rates for this project, would be lower than the fund cost (7%) of this project was not predicted, and it was not assumed to be a risk. The Arroyo administration, which regarded the promotion of Ro-Ro and RRTS as a priority for logistics infrastructure development, was supposed to be ended in June 2010 (approximately six months after the signing of the L/A). However, the possibility of shifting priority for logistics infrastructure development to air and railways after the change of administrations had not been thoroughly examined at the time of planning. While it is difficult to accurately predict medium- to long-term interest rate trends and shifts in development priorities due to the change of administrations, it is important to more thoroughly analyze risks and consider countermeasures to the extent possible at the time of appraisal.

In the case of two-step loans with medium- to long-term funds that cover a wide range of eligible sectors, such as this project, it is important to consider measures to respond flexibly to changes in the political and economic environment, such as ① reviewing interest rates at a certain interval (e.g. every three years, every five years, etc.) even if the loan period is 15 years; ② flexibly setting the scope of loan-targeted projects; and ③ adopting more flexible lending schemes (e.g. enabling loan size ceilings to be changed under certain conditions).

End

Comparison of the Original and Actual Scope of the Project

Item	Plan	Actual
① Project Outputs (Sub-loans)	30,080 million yen (ODA Loans only)	20,250 million yen (ODA loans 19,315 million yen, No amount was shouldered by the Philippine side)
② Project Period	December 2009 - December 2016 (85 months)	As planned
③ Project Cost		
Amount paid in Foreign Currency	14,037 million yen	19,399 million yen
Amount paid in Local Currency	26,503 million yen	39,872 million yen
Total	40,540 million yen	59,271 million yen
ODA Loan Portion	30,380 million yen	19,399 million yen
Exchange Rate	1 peso= 1.88 yen (As of March 2009)	Weighted average exchange rates 0.479963956
④ Final Disbursement	December 2016	