

Ex-ante Evaluation**1. Name of the Project**

Country: Republic of the Philippines

Project: National Irrigation Sector Rehabilitation and Improvement Project

Loan Agreement: 30 March 2012

Loan Amount: 6,187 million yen

Borrower: The Government of the Republic of the Philippines

2. Background and Necessity of the Project**(1) Present State and Problems of Irrigation Sector in the Philippines**

Philippines has been the world's largest importer of rice since 2007 due to the insufficient domestic production compared to the rapid annual population growth in the recent years (Self-sufficiency in rice (2009): 85.83%). Furthermore, the country's agriculture sector is one of its major industries, providing employment to 33.6% of the population and accounting for 16.8% of GDP. Under such circumstances, the government of the Philippines has set "Rice Self-Sufficiency Plan 2009-2013", targeting to achieve rice self-sufficiency for the country by 2013. Given the recent degrees of rice self-sufficiency (2005: 83.98%, 2006: 85.38%, 2007: 85.47%, 2008: 81.90%, 2009: 85.83%), the government's target to achieve rice self-sufficiency by 2013 is unlikely to be fulfilled. Rice supply shortfall is mainly due to delay in the development of new irrigation facilities and the lack of farmers' awareness regarding the importance of operation and maintenance (O&M) of the irrigation facilities, as well as the damages and antiquation of the existing irrigation facilities due to insufficient O&M resulting from budgetary deficit of National Irrigation Administration (NIA).

Against this background, what needs to be urgently done to secure stable food supply is to enhance productivity of farmlands and farmers through the expansion of irrigation areas by recovering functions of the irrigation facilities, the strengthening of O&M ability under the Irrigation Management Transfer (IMT) plan and the enhancement of farming ability.

(2) Development Policy for the Irrigation Sector and the Meaning of This Project

In its Philippine Development Plan (2011-2016), the government of the Philippines regards the development of the agriculture sector as essential in achieving its goals of "inclusive growth" and "poverty reduction". Its key policies include food security and an increase in incomes in agriculture through the enhanced agricultural productivity, the development of irrigation facilities and the dissemination of agricultural production technologies. In addition, "Food Staples Sufficiency Program (2011-2016)" plans to increase rice producing areas in irrigated paddy fields by 820,000 ha between 2011 and 2016. In addition, for enhancing the productivity in agriculture, "NIA Corporate Plan: 2010-2020" focuses on the construction/rehabilitation of irrigation facilities and the implementation of the IMT plan. This project, which rehabilitates the existing irrigation facilities nationwide, strengthens Irrigators Associations (i.e. associations formed by farmers)' O&M capability of irrigation facilities and provides agricultural support, is aligned with the government of the Philippines' development plan.

(3) Japan's and JICA's Policy and Past Activities of Assistance in the Irrigation Sector in the Philippines

Japan has been providing Yen Loan, Grant Aid and Technical Cooperation to the irrigation sector of the Philippines, as exemplified by Bago River Irrigation System Rehabilitation and Improvement Project (2002), to support the development of irrigation facilities, the capacity development of Irrigators Associations and farming. Japan's Country Assistance Program for the Republic of the Philippines (June 2008) sets "Assistance

for Empowerment of the Poor and Improvement of living Conditions of the Poor” as one of its priority targets, and JICA’s country assistance plan for the Philippines, (July 2009) prioritizes “Assistance for Empowerment of the Poor and Improvement of living Conditions of the Poor”. This project contributes to enhance farmers’ income (the poverty rate of farmers for 2006 is 44% relative to the national average of 33%) through the development of irrigation facilities, the strengthening of Irrigators Associations, development of agricultural infrastructure and the extension of agricultural technology. As such, this project is well aligned with these policies.

(4) Other Donor Operations

Since 2009, the World Bank has been implementing Participatory Irrigation Development Project (PIDP) with objectives to provide support for the rehabilitation of national irrigation systems and the transformation of NIA into a more viable irrigation service agency. In parallel with the restructuring of NIA’s human resources under the Rationalization Plan for NIA, the World Bank is aiming to transfer responsibilities for O&M of the national irrigation systems from NIA to Irrigators Associations under the Irrigation Management Transfer (IMT) scheme. This project, that helps establish institutional mechanisms for improved O&M of the irrigation systems, is to supplement this IMT scheme. Furthermore, the Asian Development Bank (ADB), too, plans to implement “Irrigation Systems Operation Efficiency Improvement Project (ISOEIP)”, a project that aims to improve O&M of the national irrigation system. The sub projects of this project do not overlap with the target areas under the PIDP and ISOEIP, and will be conducted by sharing the outcomes of each donor’s support for the IMT scheme at briefing sessions.

(5) Necessity of the Project

This project is aligned with the government of the Philippines’ development policy, Japan and JICA’s support policies. It intends to establish sustainable irrigation systems through rehabilitation of large-scale irrigation systems which are under the management of NIA, strengthening of Irrigators Associations and provision of agricultural support, thus contributing to stable rice supply and increase in farmers’ incomes-- issues facing the agriculture sector in the Philippines. It also plays a role in adapting to changes at the time of monsoon onset due to climate change through the rehabilitation of the irrigation facilities. Therefore, JICA’s support to this project is necessary and relevant.

3. Project Description

(1) Project Objectives:

This project conducts the rehabilitation of irrigation systems throughout the Philippines, strengthens Irrigator Associations for proper O&M, and provides agricultural support. Through these components, the project aims to enhance rice productivity and strengthen the O&M of the irrigation systems through the establishment of the IMT scheme, thus contributing to stable rice supply and the enhancement of farmers income.

(2) Project site/Target Area:

The whole area of the Philippines

(3) Project Outline

11 target areas for the sub projects have been selected based on factors such as the urgency for rehabilitation and economic efficiency. In each area, the followings will be conducted:

- Civil works (rehabilitation of irrigation facilities, the construction of facilities for strengthening the O&M capacity (cottage for Irrigators Associations’ meeting, etc.))
- Institutional Development (training regarding capacity development for the O&M of irrigation facilities)
- Agricultural support
- Consulting services (detailed design, construction supervision support, procurement support, capacity

development of NIA/Irrigators Associations, assistance for agricultural support, etc.)

(4) Total Project Cost

7,563 million yen (Yen Loan amount: 6,187 million yen)

(5) Project Implementation Schedule

March 2012 - December 2017 (70 months) Project Completion is defined as the completion of all the components: civil works, institutional development, and agricultural support (scheduled as December 1017).

(6) Project Implementation Structure

- 1) Borrower: The Government of the Republic of the Philippines
- 2) Project Executing Agency: NIA (NIA is responsible for civil works and institutional development, while Philippine Rice Research Institute (PhilRice) is responsible for agricultural support.)
- 3) Operation and Maintenance System: The O&M of irrigation facilities is conducted in compliance with the O&M contract to be signed between NIA and Irrigators Associations.

(7) Environmental and Social Consideration, Poverty Reduction, and Social Development:

1) Environmental and Social Consideration

① Category: B

② Reason for Categorization: This project does not falls into the category of “large scale project” in the “Agriculture involving large-scale land clearing or irrigation” as defined in the “Japan International Cooperation Agency (JICA) Guidelines for Environmental and Social Considerations” (April 2002). In addition, the project does not have sensitive characteristics nor is located in or near sensitive areas as defined in the above guidelines.

③ Environmental Permit: This project needs to acquire a permission for the respective sub projects. Currently, Certificate of Non-Coverage (CNC)/ has been issued for four of the eleven target areas, and environmental clearance application has been made for three target areas. Application for Environmental Compliance Certificate (ECC) has been made for the remaining 4 target areas.

④ Anti-Pollution Measures: This project repairs the facilities in the existing irrigation areas and as such, no negative effects on environment is expected.

⑤ Natural Environment: This project is not conducted in or near a sensitive area like a national park, and is expected to cause little adverse impacts, if any, on environment.

⑥ Social Environment: This project is for repairing the facilities in the existing irrigation areas, and as such, it does not involve any land acquisition and resettlement of residents.

⑦ Other/Monitoring: Executing agency will monitor water quality, etc.

2) Promotion of Poverty Reduction: None

3) Promotion of Social Development: None

(8) Cooperation with other schemes and/or donors: Through the combined efforts of the World Bank, ADB and JICA under the Rationalization Plan for NIA, sustainability for the Philippines’ entire irrigation sector is expected to be enhanced. The project plans to cooperate with experts dispatched under “Dispatch of Expert for Implementation of Irrigation Management Transfer in Bago River Irrigation System” in implementing IMT.

(9) Other Important Issues: The Philippines expects the impact of changes in rainfall patterns/amount associated with climate change on the country’s agriculture. While the government of the Philippines recognizes the needs for developing infrastructure such as irrigation systems for the agriculture sector to mitigate the impacts of climate changes, this project contributes to the adaption of climate change through the rehabilitation of the irrigation facilities.

4. Outcome Targets

(1) Quantitative effects

1) Operation and Effect Indicator

Indicator	Original (2008) (※1)	Target (2020)(※1) 【3 years after completion of the project】
Actual Irrigated Area (※2) (ha)	25,362	35,670 (Wet season/dry season)(※3)
Yield(paddy)(t/ha)	3.30~4.55 (Wet season) 2.80~4.30 (Dry season)	5.00 (Wet season) 4.80 (Dry season)
Volume of Production (paddy) (t/year)	181,230	297,266
Irrigation Service Fee Collection Efficiency (%)	14~91 (Wet season) 30~91 (Dry season)	Increase by 10% (Wet season/dry season)(※3)

(※1: The data of Original Year and Target Year shall be updated after the Baseline Survey.)

(※2: Actual Irrigated Areas means List of Planted and Irrigated Areas (LIPA).)

(※3: The higher figure shall be used between that of wet season and dry season.)

(※4: When the Original figure exceeds 85%, the Target is set as “Increase”.)

(In addition, the number of Irrigators Associations whose member farm households' gross-income increases will be monitored as a reference figure as to the impact of the project.)

2) Internal Rate of Return:

Based on the conditions below, the Economic Internal Rate of Return (EIRR) is calculated as 22.8% for the whole project.

- Project Life: 25 years
- Cost: the project cost (excluding tax), O&M expenses that increase through the implementation of this project
- Benefit: increase in rice yield

(2) Qualitative Effects

The enhancement of farmers' living standards in the project's target areas, the strengthening of the O&M of the irrigation facilities under the IMT scheme and adaption to climate change

5. External Conditions /Risk Control

Occurrence of natural disasters

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

Lessons learnt indicates that 1) the executing agency's continuous monitoring on the post-project O&M is essential for the continuation of the project and 2) the preparation of the tangible elements, i.e. irrigation facilities, is not enough for the efficient use of irrigation facilities by Irrigators Associations and support to Irrigators Associations for farming is also required to enhance productivity. Another lesson learnt is that the grasp of land use plans is imperative for preventing irrigation areas from decreasing due to the conversion to residential land.

Accordingly, this project provides support to the enhancement of the O&M of the irrigation facilities through the institutional development of NIA and Irrigators Associations that is to be implemented in activities such as the consulting services, since the main responsibility for the O&M of irrigation facilities will be transferred from

NIA to Irrigators Association under the IMT scheme. This project also plans to provide agricultural support in addition to institutional development. The project also sees to it that the executing agency will grasp the existence of changes in land use in the respective targets areas so that it can take measures to prevent the undertaking of any development activity which modifies the characteristics of agricultural lands for non-agricultural purposes.

7. Plans for Future Evaluation

- (1) Indicators for Future Evaluation
 - 1) Actual irrigated area (ha)
 - 2) Yield (paddy)(t/ha)
 - 3) Volume of production (paddy) (t/year)
 - 4) Irrigation Service Fee Collection Efficiency (%)
- (2) Timing of Next Evaluation
 - 3 years after project completion

END