

Ex-ante Evaluation

1. Name of the Project

Country: The Socialist Republic of Vietnam

Project: Phan Ri – Phan Thiet Irrigation Project

(Loan Agreement: March 31, 2006; Loan Amount: 4,874 million yen; Borrower: The Government of the Socialist Republic of Vietnam)

2. Necessity and Relevance of JBIC's Assistance

The agricultural sector grew at a high pace, averaging 6.5% annually between 1988 and 1992, following deregulation of cropping and sales as part of the economic deregulation measures introduced by the “doi moi” (renovation) policy. Subsequently, the growth rate declined in the latter 1990s. However, due to the boost in productivity¹ made possible by improvements in agricultural production technology, positive growth of 3.6% was again displayed during 2001 to 2005.²

Due to the country's high economic growth rate stimulated by the switch toward a market economy, the urban poverty rate declined significantly from 25.1% to 5.7% during 1993 to 2004, but the poverty rate in rural areas declined only from 66.5% to 30.5%. Thus, the economic disparity between urban and rural areas is expanding. Because 90% of Vietnam's poor are concentrated in rural areas, agricultural and rural development is the focus of strategies to reduce poverty. The main restriction on agriculture in Vietnam is that the amount of arable land area per household is small due to factors such as the high population growth rate, etc. Therefore, it is important to improve living standards by raising the incomes of farmers through business diversification, together with increasing agricultural productivity through development and dissemination of agricultural technology and development of agricultural infrastructure, and by developing rural infrastructures.

The project site is located in Binh Thuan Province, in the northeast region of southern Vietnam. The eastern part of this province receives the lowest rainfall in Vietnam, amounting to 800 mm to 1,000 mm annually. The amount of rainfall varies greatly in the wet season and the dry season, and therefore the dependence on rainwater limits the seasons when cultivation is possible. Agricultural productivity is low because, with an irrigation installation rate of approximately 30%, lack of irrigation limits the supply of arable land in the province. In Bac Binh District in the northeast of the province where the project will be implemented, 92% of the working population is employed in agriculture. The per capita GDP is low, at 240 dollars (cf. the nationwide average in Vietnam is 483 dollars), and so there is a strong need to expand agricultural production and improve farmers' incomes.

In JBIC's current Medium-Term Strategy for Overseas Economic Cooperation Operations, emphasis is placed on the priority area of “assistance for poverty reduction,” and assistance is to be extended for installation of infrastructure in farm village areas.

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

3. Project Objectives

¹ For example, if a comparison is made of the average yields of rice and maize during 1996-2000 and during 2001-2005, they both increased by 100 kg/ha.

² 2005 figures are provisional.

The objective of this project is to expand agricultural production by development of irrigation and drainage facilities, development of rural infrastructure, and conducting agricultural development including strengthening of agriculture extension services, in Bac Binh District of Binh Thuan Province, and thereby contribute to poverty reduction by improving the incomes of farmers.

4. Project Description

(1) Target Area

Bac Binh District, Binh Thuan Province

(2) Project Outline

Civil works and services that are necessary for the implementation of the project will be provided as follows in Bac Binh District, Binh Thuan Province.

- (a) Construction of irrigation and drainage facilities (Song Luy headworks and main canal, etc.), rehabilitation of Dong Moi main canal (gate repair), on-farm development, and development of 19 farm villages, etc.
- (b) Consulting services: tendering assistance, construction supervision assistance, strengthening of agriculture extension services (training of farming advisors, etc.), guidance on operation and maintenance (including assistance in establishing water user groups), monitoring of the environment, settlement and land acquisition, and infectious diseases, etc.

(3) Total Project Cost/Loan Amount

6,197 million yen (Yen Loan Amount: 4,874 million yen)

(4) Schedule

April 2006-December 2012 (81 months)

(5) Implementation Structure

- (a) Borrower: The Government of the Socialist Republic of Vietnam
- (b) Executing Agency: Ministry of Agriculture and Rural Development (MARD)
- (c) Operation and Maintenance System: The Department of Agriculture and Rural Development of Binh Thuan Province will be in charge of the headworks and the large-scale irrigation and drainage facilities (excluding tertiary canals and the field canals).
Water user groups, which are farmers' organizations to be set up for every tertiary canal, will be in charge of the tertiary canals and field canals.

(6) Environmental and Social Consideration

(a) Environmental Effects/Land Acquisition and Resettlement

(i) Category: A

(ii) Reason for Categorization

This project is classified as Category A because it is in the agricultural sector and has characteristics likely to exert impact, under the "Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations" (established April 2002).

(iii) Environmental Permit

The EIA report was approved in April 2005 by the Department of Natural Resources and Environment, Binh Thuan Province.

(iv) Anti-Pollution Measures

In response to increased usage of agricultural chemicals and chemical fertilizers engendered by the project, excessive usage of them will be avoided by taking steps to set up integrated pest management, in accordance with the local agricultural chemical management guidelines. In the event that levels shown by water quality monitoring to exceed local standards, measures will be taken such as further reducing the usage of agricultural chemicals and chemical fertilizers. Moreover, the domestic wastewater discharged from settlement area will be treated in sewage tanks and then carried through sewage pipes to disposal ponds where it will be naturally processed.

(v) Natural Environment

The project site comprises cultivated land, forest, and wasteland, and there is no protected area such as national parks or habitats of rare species, etc. With regard to the ecosystem of Luy River where the headworks will be constructed, because a larger flow of water than currently exists is expected even during the dry season and because a weir has already been built without a fish ladder in the downstream, no significant adverse impact is foreseen.

(vi) Social Environment

The project is not expected to involve any involuntary resettlement.

The project is expected to require land acquisition of 1,046 ha, which includes farmland owned by a maximum of 140 households. In addition to compensation for loss of farmland, structures, crops, and trees, etc., in the form of equivalent land or cash, measure will be taken such as ensuring opportunities to settle in new farm villages and prioritized provision of irrigated farmland.

(vii) Other/ Monitoring

The executing agency, etc., will conduct monitoring of water quality, vegetation, and land acquisition, etc.

(b) Promotion of Poverty Reduction

The project's beneficiaries are the farmers in the area to be irrigated by the project (including existing households and the expected new settlers who are currently landless farmers). The average annual income of residents in the project site is low compared to the national average, and landless farmers are generally in a state of poverty. The project will contribute to poverty reduction by providing assistance to expand the agricultural production of the farmers.

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

(i) Gender

It has been confirmed that both women and men had opportunities to participate and to speak at the explanatory meetings of the project and at regular meetings of the commune-level People's Committees. Consideration will continue to be given so that the wishes and needs of women and men are reflected.

(ii) Infectious Diseases

Because it is possible that development of irrigation facilities will cause proliferation of

mosquitoes, measures against mosquito-borne infectious diseases (malaria and dengue fever), including regular surveys, distribution of mosquito nets, and examination of cases of disease, will be carried out in cooperation with the province's Department of Health. (The consulting services will provide assistance for the regular surveys.) In conjunction with this, monitoring of HIV infections will be conducted.

(iii) Participatory Development and Good Governance

The field canals and drainage canals will be developed by farmers, who are the beneficiaries of the project, using materials provided. Moreover, as stated above, operation and maintenance of the tertiary canals will be conducted by the water user groups, which are farmers' organizations.

In the improvement of farm village infrastructure, reflection of residents' wishes and resident's active participation will be promoted in the design process by utilizing opportunities such as regular community meetings, etc., to hold explanatory meetings and discussions with residents who are expected to live in the project site.

(iv) Minority Groups

Minority groups known as the Cham, the Nung and Ho, are expected to be included in the beneficiaries, and in new villages, consideration will be given so that members of the same group live together. Moreover, for settlement, the support policy for minority groups prescribed by the Vietnamese government will be implemented, including subsidies, assistance in obtaining farming materials, etc., unsecured loans, and reduction of irrigation fees, etc.

(7) Other Important Issues

To ensure the sustained effects of the project, it is necessary to conduct research for development concerning agriculture that is suitable to the project area and to continuously apply those results in the agriculture extension service. For this, the formation of a technical cooperation project is anticipated.

5. Outcome Targets

(1) Evaluation Indicators (Operation and Effect Indicator)

Indicator	Baseline (2005)	Target (2015, 3 years after completion)
Area benefited by project (ha)	1,200	11,700
Cultivated area by crops (ha)		
• Cotton	0	7,850
• Winter-spring rice	604	1,930
• Summer-autumn rice	1,051	4,750
• Beans	490	3,020
Collection rate of irrigation water charge (%)	n.a.	90
Production volume of major crops (tons/year)		

• Cotton	0	19,625
• Winter-spring rice	2,718	9,650
• Summer-autumn rice	4,414	22,325
• Beans	245	3,020
Yield of major crops per unit area (tons/ha)		
• Cotton	n.a.	2.5
• Winter-spring rice	4.5	5.0
• Summer-autumn rice	4.2	4.7
• Beans	0.5	1.0

(2) Internal Rate of Return

Economic Internal rate of Return (EIRR): 4.8%

- (a) Cost: Project cost (excluding tax), and operation and maintenance cost
- (b) Benefit: Increased production of crops
- (c) Project Life: 30 years

6. External Risk Factors

Lack of rainfall exceeding predications due to irregular weather

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

In previous ex-post evaluations of similar projects in the irrigation sector, it has been recognized that the operation and maintenance following the project completion greatly affects the manifestation of project effects. It has been pointed out that it is necessary to pay attention on the establishment of the operation and maintenance system while conducting project formation and supervision of its implementation. In this project, the consulting services are scheduled to provide assistance for irrigation management, including training for the irrigation management company.

Moreover, it has been pointed out that it is important to provide farming assistance following construction of the irrigation facilities because many of the existing farmers have no experience with irrigation farming. In this project, farming assistance is planned to be provided.

8. Plans for Future Evaluation

(1) Indicators for Future Evaluation

- (a) Area benefited by project (ha)
- (b) Cultivated area by crops (ha)
- (c) Collection rate of irrigation water charge (%)
- (d) Production volume of major crops (tons/year)
- (e) Yield of major crops per unit area (tons/ha)
- (f) Economic Internal Rate of Return (EIRR) (%)

(2) Timing of Next Evaluation

After project completion