Thailand

Agriculture Sector Loan

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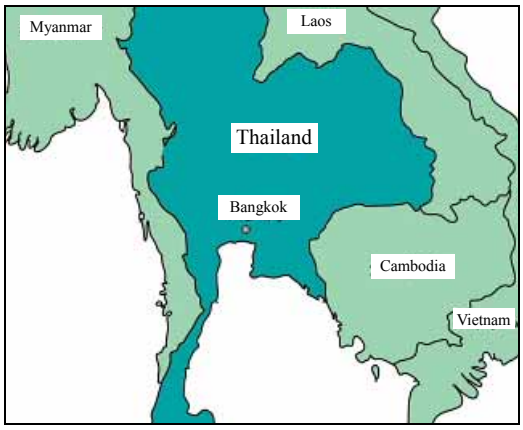
Field Survey: March 2007

1. Project Profile and Japan's ODA Loan



Map of project area
Target region: whole of Thailand

Meeting of farmers' meeting

1.1 Background

Organizing farmers is the most important issue which Thailand has faced as it strives to develop its agriculture sector. This is vividly reflected in the name of the ministry that oversees the agriculture sector: the Ministry of Agriculture and Cooperatives (MOAC). Accessing the market on an individual basis will prove to be an ineffective way of collecting and accumulating information for an increase in agricultural productivity and strengthening of bargaining power toward purchasers of agricultural products. For many years, the challenge for the government of Thailand has been gaining market competitiveness by the improvement of farmers' ability to gather information and improve productivity by the formation of organizations in which farmers would cooperate with each other.

It is difficult to organize farmers by encouraging them to keep their membership in agricultural cooperatives or water users' associations while urging non-member farmers to join. Arbitration between individual farmers disputing over vested interests often goes sour and hinders agricultural productivity and makes it difficult to keep farmers' organizations viable. For example, even if an irrigation facility is in place, effective distribution of water is not be achieved if the farmers are unable to agree on the use of the irrigation facility. As the result.

productivity sags. Organizing farmers and making the agricultural sector more efficient are two sides of the same coin.

Since the 1970s, the government of Thailand several times tried to implement measures which intended to organize farmers. The government, however, failed to communicate its intent to the farmers. The government was aware that Thai farmers tend to act selfishly and that this tendency impeded the development of cooperative organizations in Thailand. For example, the supporting scheme was introduced at village level in 1992 but the scheme did not cover equipments to increase the value of products such as grading/classification and packaging. Cooperative Promotion Department recognized that the scheme could not control selfish conduct of farmers and failed to increase the attractiveness of collaborative works[1].

Despite of many plans based on lessons learned from the past, nearly all failed. The government acknowledged that the large-scale, comprehensive, and long-term program would be needed for the change of Thai farmers' behavior.

The economic crisis in 1997 devastated the Thai economy. Thailand had experienced rapid economic growth by industrialization and shift toward a service economy but the economic crisis made Thailand realize the importance of the agriculture sector as a source of employment in time of crisis and a reliable way of earning foreign currency. On the other hand, the economic crisis also created an opportunity to provide a large amount of ODA loans into the agriculture sector. The government of Thailand, in cooperation with the Asian Development Bank (ADB), formed a comprehensive agriculture sector reform program which focused on efforts to organize farmers. The comprehensive program comprises various projects, which, broadly speaking, can be divided into those related to software and those to hardware. JBIC's loan financed two important elements of the hardware such as the irrigation improvement project and the project for improving the quality of agricultural products. It is a financing project that JBIC undertakes in collaboration with the ADB, which is in charge of the remaining four programs that make up the software aspect. Moreover, along with the Economic Recovery and Social Sector Program Loan that were implemented at the same time, the present project bears the responsibility for giving emergency loans to the government of Thailand, which was directly hit by the currency crisis.

1.2 Objective

In collaboration with the ADB, the project aimed to promote joint action of farmers (1) by providing ODA loans to Thailand as a possible emergency assistance and helping its economy recover, and (2) by implementing an agriculture sector reform program that utilizes counterpart

[1] Based on the documents prepared by an executing agency in charge of the project for improving the quality of agricultural products.

funds throughout Thailand, thereby strengthening the constitution of the agriculture sector.[2]

1.3 Borrower / Executing Agency

Kingdom of Thailand, Ministry of Finance / Ministry of Agriculture and Cooperatives

1.4 Outline of Loan Agreement

Loan Amount / Loan Disbursed Amount	36 billion yen / 18 billion yen
Exchange of Notes / Loan Agreement	September 1999 / September 1999
Terms and Conditions -Interest Rate -Repayment Period (Grace Period) -Procurement	 1.0% (Emergency special interest rate for structural adjustment-related assistance) 25 years (7 years) General untied
Final Disbursement Date	January 2005
Main Contractors	–
Consulting Services	None
Feasibility Study (F/S), etc.	Asian Development Bank (1998/1999)

2. Evaluation Result (Rating:B)

2.1 Relevance (Rating:b)

The project objective is deemed to be necessary and in line with the development policies and measures formulated at the time of appraisal as well as at the time of ex-post evaluation. However, considering its short-term disbursement, the project turned out to be inconsistent with the sector policy to strive toward long-term reform of the agriculture sector.

2.1.1 Relevance at the time of appraisal

The relative importance of Thai agriculture had declined with the advancement of industrialization, but the number of people engaged in agriculture, the ratio of farmland to the total area of Thailand, and the ratio of agricultural products (including processed goods) to the

[2] Along with the Agriculture Sector Loan, the Economic Recovery and Social Sector Program Loan was provided. Under this project, in 1998, 20 billion yen's worth of assistance was provided, followed by 9.627 billion yen in 1999. These assistance were incorporated into the government of Thailand's general treasury's funds, which means that, under the New Miyazawa Initiative, a budget totaling 66 billion yen was provided by JBIC (at the time, OECF) as emergency loans to Thailand. However, granting emergency loans, in its literal meaning, is a role for the Economic Recovery and Social Sector Loan to play, and the 36 billion yen Agriculture Sector Loan did not involve immediate provision of emergency economic assistance. Instead, it was made after a certain set of conditions regarding the contents of the program were met. As a measure to deal with the currency crisis, the program has backup characteristics. Additionally, it was the role of the Economic Recovery and Social Sector Loan to bear the responsibility for social adjustment that was required immediately after the currency crisis hit Thailand. Thus, there was a sense of immediacy about the Economic Recovery and Social Sector Program Loan, but the project related to the Agriculture Sector Loan is a long-term project that should be understood in terms of the efforts that will be made within the Ministry of Agriculture and Cooperative over the next 30 years at the minimum.

export value were high. Consequently, agriculture remained extremely important for the Thai economy, but it was hit hard by the currency crisis. Especially devastating were (1) the sharp increase in the number of people in urban areas returning to their farms; (2) the decline in the income of migrants earned outside of agriculture; and (3) the drop in agricultural income due to increases in the price of fertilizer and input goods.

The per-capita productivity of Thai agriculture is low, and the average per-capita income in the agriculture sector is only one twelfth of non-farm workers. Farm household income remains stagnant due to a decline in the global demand for rice and other staple crops, with the result that the poorest segment of the population continues to be concentrated in the agriculture sector. In addition, since the 1960s, increases in the production of agricultural products in Thailand had triggered illegal reclamation of land in certain areas, causing natural resources to be reduced or deteriorated. Amid these developments, despite the fact that water resources are crucial for an agricultural nation like Thailand. The northeastern part which does not have enough irrigation facilities and lacks enough water rescouces such as rainfall, or rivers, the poor conditions of Agriculture had been the cause of poverty. Even where irrigation facilities were available, farmers who relied on them did not have much interest in their proper operation and maintenance.

The currency crisis that was triggered in Thailand in 1997 destabilized its macro economy and greatly aggravated the balance of payments, thus forcing the government to face up to the need to radically restructure the Thai economy. Under these circumstances, the economic situation deteriorated, triggering the bear speculation in baht and destabilizing the exchange market. There was clearly a need to provide emergency financial aid to Thailand in cooperation with the IMF, the World Bank, and others. The funds that were made available were used to support the agriculture sector, which was expected to absorb the rapidly increasing number of unemployment in the urban area and to expand exports to improve the balance of payments. Consequently, the project was deemed to be of high relevance.

The policy objectives of the project were (1) strengthening the production capacity of Thai agriculture; (2) enhancing the exportability of agricultural products; and (3) improving sector management and the process of policy formation. Since the Thai agriculture sector had been considered in need of reform, efforts were made to promote the streamlining and development of Thai agriculture, and given the fact that the importance of the agriculture sector is stressed by the 8th Five-year Plan, the project was highly relevant at the time of appraisal.

2.1.2 Relevance at the time of evaluation

Organizing farmers remains the linchpin of the agricultural policy of the government of Thailand. Calling for the development of knowledge-intensive agriculture and strengthening of

community-based competitiveness, the 10th Five-year Plan (2006–2010) regards rural development as highly important. The economic white paper, which Thailand published for the first time in 2004, stresses the importance of grass-roots development. Although concerns about political stability in Thailand have been heard since the September 2006 coup d'etat, when the field survey was conducted, the practical business affairs of the Ministry of Agriculture and Cooperatives were still based on the 10th Five-year Plan, which also stresses the importance of organizing farmers.

As of 2005, the agriculture sector remained an important sector accounting for about 42% of Thailand's labor force and some 10% of its GDP. Above all, it is noted for being the sector where the poorest segment of the population is concentrated. Strengthening the composition of the agriculture sector is a problem that the government of Thailand should solve. Of course, in solving this problem, it is necessary to organize farmers step by step while patiently holding discussions with them. Efforts in this direction need to be made over a long period of time. In this respect, careful adjustments will be required to use of the ODA loan fund. Under the Thaksin administration, due to the policy to reduce the amount of foreign assistance, the second half (Tranche 2) of the ODA loan was not disbursed.

2.2 Efficiency (Efficiency: b)

For the evaluation of "Efficiency", the planned amount and the actual amount of project costs was compared in consideration of the change in outputs.Due to the cancellation of Tranche 2, the output was 50% of the original plan. Project implementation was delayed, but the project cost was also reduced by 50% as a result of the cancellation. Given the change in outputs, project costs is along with the plan. Thus, the project turned out to be efficient in general.

2.2.1 Outputs

In this project, foreign currency funds, in the form of ODA loans that were extended to Thailand in the aftermath of the currency crisis, were set aside to increase Thailand's foreign exchange reserves (for making import-substitution payments). At the same time, in Thailand, counterpart funds (local currency account comparable in value to the foreign aid volume) were accumulated to be used to implement agriculture sector development programs, including those for improving the country's irrigation systems and the quality of its agricultural products. Original and actual accumulation of foreign exchange reserves and counterpart funds are shown in Table 1 below.

Table 1: Planned and Actual Accumulation of Foreign Exchange Reserves and Counterpart Funds

	Planned	Actual

ODA loan expenditure (yen)	36 billion yen	18 billion yen
Account on Thai side (accumulation of counterpart funds)	10.89 billion baht	6.13282 billion baht

The actual accumulation was lower than the original plan because of the policy switch made under the Thaksin administration to get the country out of the economic crisis so that, as a general rule, Thailand would not have to accept foreign aid. In the original plan, aid was to be disbursed in two tranches, but only the first tranche was disbursed. As a result of the cancellation of the second tranche, the expenditure was 18 billion yen, enabling the cost of the original plan to be halved. As a result, about a third of the large-scale irrigation improvement project was left unfinished, thus forcing continuation of the project with Thailand's own funds.

The project's target was divided into two separate components, the irrigation improvement project and the project to improve the quality of agricultural products. In both components, the objective was to organize farmers. In order to promote the organization of farmers, the importance of conveying the merits of participating in organizations through infrastructure building was also stressed. Efforts to improve irrigation facilities covered a wide range of engineering work including converting large-, medium- and small- scale mud walls to concrete walls and building floodgates, as well as laying clay pipes underground and developing water sources.

Figure 1: Irrigation Improvement Before, During and After (Thung Samrit Irrigation)

Prepared from data obtained at the time of field survey

In the project to improve the quality of agricultural products by organizing farmers, a variety of cooperatives were targeted, including those of rice millers and producers of dairy products, rubber, or palm oil.

The Agricultural Sector Program Loan, a co-financing loan provisioned by ADB, set policy actions in three category. First tranche of ADB's loan was disbursed after assessing the fulfillment of the policy actions. For the Agricultural Sector Loan, which was provisioned by JBIC, the first tranche was disabused under the condition that ADB's loan was released. It is difficult to quantify the attribution of each policy action. As a whole, however, the fulfillment of

policy actions presumably contributed to create the enabling environment for the incidence of project effect. The fulfillment of policy actions can be regard as the outputs for the incidence of policy effects. Major policy actions, both planned and actual, are following

Table 2 : Main policy actions (Planned and Actual)*

Category	Major Policy Actions (Planned)	Policy Actions (Actual)
Increased Productivity	・ Cabinet decision to strengthen water resource management ・ Cabinet decision to promote community participation in irrigation management ・ MOAC decision to develop a program for O&M and rehabilitation ・ Legislation to establish the National Farmer Development and Rehabilitation Fund	・ The Cabinet approved the national water policy in 2000. ・ Royal Irrigation Department establish units for participatory irrigation management and recruited 240 community organizers ・ Terms of References for contracting out O&M was finalized. ・ Government Savings Bank started a credit program for SMEs in rural areas. The Rural Development Fund started a scheme for long-term lending.
Enhanced Export Competitiveness	・ Cabinet decision to establish a National Council for Agricultural Research ・ Cabinet decision to establish a National Agricultural Standards Products Institute (NASPI) to determine quality standards for the export of agricultural products. ・ Withdraw from a subsidized program direct procurement and distribution of fertilizers	・ The National Agricultural Research Committee was established to include a farmer representative. ・ NASPI was established under MOAC. Action plans for export competitiveness in four products were approved in 2002. ・ The Government withdrew from the procurement in 1999 and provided loans to farmers' cooperatives. The delay in the distribution of fertilizer was

		improved.
Restructuring Sector Management and Improving Governance	・ Cabinet decision to establish a Committee for the restructuring of MOAC ・ MOAC decision to establish a private sector advisory council ・ MOAC decision to decentralize the planning of the Agricultural sector.	・ The Committee provided recommendations on the restructuring of MOAC to the Cabinet in 2001. MOAC reorganized its departments into functional clusters in 2002. ・ The committee for private sector advisory was established but the private sector was more active in subcommittee-level. ・ Tambon-level planning activities were implemented in 107 pilot areas.

*Excerpt from the Project Completion Report on the Agricultural Sector Program, which was prepared by ADB. "Policy Actions (Actual)" were as of June, 2006.

2.2.2 Project period

The implementation period of the project was initially 52 months, from September 1999 to December 2003, but actually required 64 months, from September 1999 to December 2004 (12-month extension). The main causes of the extension included: (1) the change of plan triggered by the request of the government of Thailand to cancel the second half of the project worth 18 billion dollars; and (2) the dispute over expropriation of land. Consequently, it even became difficult to complete the first half of the project within the 52-month period originally planned.

Another reason for the extension of the irrigation project was the difficulty the ADB and the government of Thailand had in coordinating their efforts to address the user fee issue.[3] In ADB's original implementation plan, farmers were to bear part of the cost of building an irrigation canal in the target area. The idea was to raise the awareness of farmers as owners of the water. However, the government of Thailand did not accept the initial implementation plan ADB proposed on the grounds that, considering the state of affairs in Thailand, it was unreasonable to force farmers to bear even a small part of the cost of building the irrigation canal. Consequently, the government has not collected money from farmers to cover even part of the cost of building the irrigation canal. It took a long time for this issue to be resolved. Thus, obtaining authorization for the subproject was delayed.

[3] The project provides financing jointly with the ADB Agriculture Sector Program Loan, while JBIC financing targets the irrigation improvement project and the project for improving the quality of agricultural products.

2.2.3 Project cost

As discussed above, in the original plan, the entire cost of the project (ODA loan disbursement) was 36 billion yen but the actual cost was 18 billion yen. The difference was caused by the cancellation of the 18 billion yen disbursement of Tranche 2. As a result, the 8 billion baht that was supposed to cover the cost of the irrigation improvement project was actually reduced to 4.67263 billion baht. Similarly, the 2.89 billion baht that was supposed to cover the cost of the project to improve the quality of agricultural products by revitalizing the cooperatives was reduced to 1.52019 billion baht.

2.3 Effectiveness (Rating: a)

Various measures to promote Thailand's rural development were implemented. However, because of the inability of farmers to standardize products and add value to them and the difficulty of accessing management information such as information on production and marketing, which provides the basis for product standardization and is the source of added value, the rural development measures proved less effective than expected. Consequently, a need arose to enhance the ability of farmers to control the price of agricultural products by promoting the activities of farmers' organizations and jointly directing them toward more efficient farm management. Awareness of these weaknesses was at the heart of the government of Thailand's agricultural policy for years.

In this connection, the temperament of Thai farmers became an issue. It is a widely held notion that Thai farmers place importance on dyadic relationships. On the one hand, even when two people meet for the very first time, if they share a mutual interest, they will not hesitate to deal; but on the other hand, Thai people are not adept at cooperating with their peers.[4] Agricultural products with high added value are being carried out strictly on an individual basis. Individual farmers rarely work in concert, so it is very difficult for Thai farmers to improve the quality of their products. The objective of this project was to help launch a movement that will get Thai farmers with such temperament to take part in cooperative activities. This was undertaken by providing financial assistance for (1) activities of water users' associations in charge of water management, the cornerstone of agriculture, and improvement of irrigation facilities and (2) activities of agricultural cooperatives and improvement of their infrastructure.[5]

[4] This view was expressed at a hearing held by the executing agency. In his study titled "Thailand, A Loosely Structured Society," *American Anthropologist*, 1950, John F. Embree refers to Thai rural society as "loosely structured" and compares it to a tightly structured society like Japan. In his study "Thai Noson no Kaihatsu to Jumin Soshiki" (Rural Organizations and Development in Thailand), Institute of Developing Economies Research Series, 1996, Shinichi Shigetomi depicts, from the same perspective as Embree, Thai society as a form of accumulation of dyadic human relationships.

[5] Some point out the possibility of utilizing religious associations centering on temples or territorial associations to

From the nature of the project, though the development of the project needs to be closely monitored in the coming months and years, at the time of evaluation, the objectives of the project were all confirmed to have been achieved.

2.3.1 Irrigation improvement project

In this project, the key is participatory irrigation management (PIM). The principal objective of the project is to have farmer beneficiaries, who use irrigation water themselves, assume the main responsibility for the operation and maintenance of the irrigation system. As shown in the table 3, over 20,000 water users' associations are organized. The number of federations, which bind water users' associations, was almost 600.

Table 3: Number of Water Users' Associations
(at the time of evaluation)

Type of water users' association	Number of groups
WUG (Water Users' Group)	28,386
IWUG (Integrated Water Users' Group)	562
WUA (Water Users' Association)	36
WUC (Water Users' Cooperatives)	54

Data made available by the executing agency

In various parts of Thailand, before the project was implemented, there were water users' associations that maintained and operated irrigation facilities and decided how water should be allocated among them. However, in these areas, water users' associations were formed haphazardly, so that internal adjustment was often not achieved, and there was not much coordination with the Royal Irrigation Department.

Efforts to organize water users' associations were advanced by the education program implemented in the project. The sentiment in the executing agency is captured in this response: "Before ASPL, Thai farmers believed that water management was the responsibility of the government, so they tended to look to the government to intervene in disputes over water utilization. But after ASPL, realizing that water belongs to them, the same farmers now tried to settle disputes on their own, without government intervention."[6]

Every water users' association holds at least two meetings a year: the first at the beginning of the dry season, and the second at the beginning the rainy season. Some associations hold meetings every month or once every three months.

The concept of participatory irrigation management has just begun to spread throughout Thailand, and the executing agency acknowledges that there are problematic irrigation facilities. However, since the problems are within permissible limits, the agency believes that the concept

intensify economic activities, suggesting the importance of ascertaining whether or not intensification of cooperative activities was achieved by effectively utilizing existing social networks in evaluating the effects of the project. That being said, the analysis presented here does not delve into the matter that deeply. In the Ministry of Agriculture and Cooperatives, the executing agency of this project, a view was expressed claiming that Thai farmers are conservative in the sense that they value territorial organizations, but when it comes to monetary matters, they play the percentages. The analysis presented here relies heavily on this view.

[6] Response to a questionnaire given by the executing agency

of participatory irrigation management is steadily permeating through rural Thailand.

In spreading the idea of participatory irrigation management, it is not the educational program that should be addressed first, but rather the demonstration of the actual benefits of participating in irrigation management. ADB, which formulated the plan for implementing the Agriculture Sector Loan and was in charge mainly of the software aspect of the project, believes that infrastructure building that JBIC participates in should take precedence above all else.[7]

Planned and actual improvements of irrigation facilities are summarized in Table 3.

Table 3: Irrigation Facilities (planned and actual)

	Planned	Actual	Actual/Planned Ratio (%)
Benefit area (rye)			
Large-scale irrigation facilities	1,472,812	962,755	65
Medium-scale irrigation facilities	116,330	134,740	116
Small-scale irrigation facilities	46,800	43,900	94
Irrigation efficiency (%)			
Large-scale irrigation facilities	46.97	49.54	105
Medium-scale irrigation facilities	n.a.	n.a.	n.a.
Small-scale irrigation facilities	31.57	49.18	156
Cropping intensity (%)			
Large-scale irrigation facilities	140.44	144.81	103
Medium-scale irrigation facilities	114.10	115.32	101
Small-scale irrigation facilities	72.67	66.35	91

Data are from the executing agency. Irrigation efficiency is the ratio of the amount of water that can be used at the terminal to the amount of water at intake. Cropping intensity is defined in terms of the ratio of cultivated acreage to irrigation area.

In the small-scale irrigation project, the actual cropping was less intense than the planned cropping, but, overall, the actual intensity of cropping exceeded that of the planned cropping. The actual benefit of participating in water users' associations increased as a result of the improved irrigation facilities. Also, by enabling farmers at meetings of water users' associations to collect information necessary for improving agriculture earnings[8], the project succeeded in stimulating the activities of water users' associations.

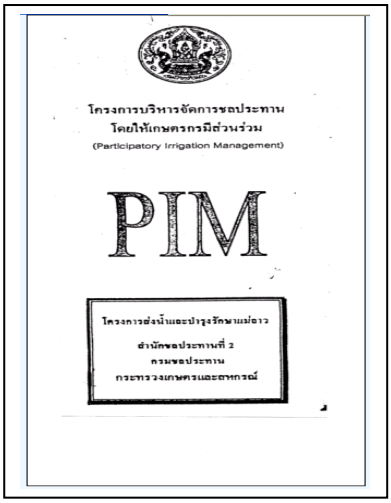
2.3.2 Lao River weir improvement project, a case study

[7] ADB's project completion report

[8] Meeting places of water users' associations came to function as village information centers. In addition to serving as places where villagers shared information they had collected, these meeting places also served as places where information necessary for rural development was provided. This valuable information was gathered by the Ministry of Agricultural and Cooperatives, with the Office of Agriculture Economics playing the key role.

In the farmland (148,343 rai) stretching across the Lao River basin in Chiang Rai Province, an irrigation project had already been implemented from 1950 to 1963. However, more than 30 years later, in and around 2000, the irrigation facilities that were built then had deteriorated so much that they could not be left unattended. The actual spread of the irrigation area was reduced by 105,560 rai, or about 71% of the original spread. Since water leakage was also a serious problem, the irrigation canals, 77.3% of which were concrete before the start of the project, were improved to 100% concrete, setting the target of raising irrigation efficiency from 31% to 41%. In addition, a plan was hammered out to raise the utilization ratio of land by appropriately distributing water by enhancing the functional capability of the device used in controlling water flow, thereby expanding the cultivated acreage and diversifying agricultural products during the dry season. The numerical target was set at 125%, far above the actual 79.1% recorded before the start of the project. The project stresses its software aspect even more than the hardware aspect. For example, among other things, the plan entails not only consigning water users' groups themselves to democratically adjust the amount and timing of water intake and execute the irrigation system conservation operation, but also to establish the principle of autonomous control in such matters as the organization and management of water users' associations that will play a pivotal role in establishing such control. Thus, a development study type of experiment for establishing among farmers a sense of autonomous control by impregnating them with awareness of their rights and duties may be regarded as the hallmark of this project.

Figure 2: Leaflet Urging Farmers to Participate



The thinking pattern of Thai farmers, especially those of middle-aged farmers, is conservative, and such individuals are not adept at working in groups toward a specific goal. From the beginning, how to change the attitude and thinking pattern of Thai farmers was a big challenge for the project's executing agency.

As one way of tackling this problem, in the runup to the implementation of the project, the government of Thailand (Royal Irrigation Department, the Ministry of Agriculture and Cooperatives) prepared and distributed among farmers at least three types of leaflets titled PIM (including the one shown in Figure 2) and called for their participation. The basic reason for motivating farmers to participate is to make them realize that "to gain further profit, it is useful to act in concert with neighboring farmers." The leaflets were designed to promote farmers' participation in water users' association, make them aware of their rights, and help them realize that they can secure their own profit by exercising those rights. After rights come duties.

Examples of duties include: attending meetings hosted by water users' associations; participating in irrigation improvement work; reporting to leaders which vegetables are being cultivated and the planted acreage; observing the feed water plan decided by the group; and prohibiting acts that lead to water leakage. It is unclear how effective the PIM leaflets were in persuading farmers to participate in the project. However, in each of the jurisdictional areas divided by the Royal Irrigation Department, a leader was elected through votes cast by the participating farmers, resulting in the registration of one water users' association after another. These developments suggest that the campaign the RID conducted to get farmers to participate yielded a certain degree of success.

Next, a bird's-eye view of water users' associations is presented to identify the nature of their main activities, taking as an example the water users' association of the No. 2 Branch of the Mae Lao weir improvement project. The association comprises water users from five villages and 36 groups of eight districts on the left side of the canal that draws water in from the canal on the left side of the Lao River, and covers an area of 16,300 rai under tillage. The association's objectives and composition are as follows: (1) to formulate plans for the effective use of irrigation facilities and lands; (2) to cooperate with the official in charge in executing the project; (3) to promote farmers' participation in maintenance work; (4) to offer information beneficial to association members; (5) to promote awareness of the importance of environmental conservation; (6) to amicably settle disputes between association members and those between association members and non-members; and (7) others. Regarding the rights and duties of association members, first, the rights are cited: These include: (1) the voting right and the right to hold office in the association as well as rights related to organizational operation such as the right to vote on issues taken up in formal association meetings; (2) the right to receive a fair amount of water supply; (3) the right to make a demand; and (4) others. As for the duties, the following are cited: (1) attending meetings; (2) adhering to the feed water plan; (3) conserving facilities: (4) working in collaboration; (5) since May 2006, bearing part of the cost of irrigation maintenance; and (6) others. Here, details of organizational operation are left out of the discussion, but plenary meetings are held at least twice a year, and in addition, each group holds its own meetings and other meetings are held as needed.

It looks as though at least the beginnings of farmer participation have been made; however, whether this trend will continue in the medium to long term cannot be easily judged at this point. It has already been pointed out that Thai farmers are by nature reluctant to organize or participate in collaborative work. Consequently, their performance in carrying out their duties holds the key to whether the project succeeds in meeting its objectives. The difficulty of operating and maintaining the activities of water users' associations can be gauged from the punitive clause contained in Rule No. 6 of water users' associations referenced here. For example, it cites: (1) drawing water before the planned time for providing water service; (2) drawing more water than the amount of water drawn from a canal block to one's farmland; (3) leaving obstacles unattended in a canal block; (4) not notifying damage to an irrigation canal caused by water buffalos or tractors; (5) not attending a water users' association meeting without giving prior notice; (6) not participating in irrigation conservation work without giving prior notice; and (7) others. Rule No. 6 also refers to whistle blowing by association members. Among the rules are those that may be interpreted as urging whistle-blowing activities as in the rule that states that, if a charge is justified, the fine that has been collected should be split between the association and the whistle blower. Thus, as this example shows, it should be kept in mind that the project's call for organizing conservative farmers may, on first glance, seem highhanded and premature. Although no data were available regarding he number of association members punished for violating the punitive clause and the penalties paid during project implementation, the punishable items may be understood as suggestive of the latent behavior of association members.

Figure 3: Farmers Enthusiastically Participating in a Meeting

Figure 4: Farmers Participating in Canal Cleanup

Figures 3 and 4, however partially, cast away these concerns. The former shows farmers participating in a meeting held in each jurisdiction; the latter, farmers working in concert to preserve the irrigation system. The project appears to be on the verge of fulfilling its goal of getting farmers to participate in the activities of water users' associations. In running these

associations in the days to come, instead of just making the punishments severer, it will be necessary to capture the hearts and minds of farmers and make participation part of their daily life by working out a comprehensive strategy that interweaves bazaars, culture, sports, and the like.[9]

2.3.3 Project to improve the quality of agricultural products by revitalizing the cooperatives

The essence of this program is the revitalization of agricultural cooperatives. The targets of the subprojects were the agricultural cooperatives. This objective was to revitalize the target agricultural cooperatives through infrastructure building, and establish a systematic production and distribution system, thereby boosting the market value of their products.

The program targets a wide range of subprojects: 228 related to rice, 26 related to cow milk, 47 related to rubber, 2 related to livestock feed, 1 related to fish processing, and 1 related to a palm oil factory. The objectives of these subprojects vary widely.

Figure 5: Examples of Subprojects Implemented under the Project to Improve the Quality of Agricultural Products

From left: rice-milling plant, palm oil factory, rubber desiccation facility

Common factors among these subprojects are the construction of infrastructure and management support, both of which prop up the activities of agricultural cooperatives. The actual benefits brought about by infrastructure building and enhancement of management knowledge on cooperative activities increase the number of farmers participating in cooperative activities and they begin to act in concert with the activities, thereby enhancing the appeal of the cooperatives. These programs raise hope for the creation of such a virtuous cycle. The success or failure of a program can be measured by the change in cooperative membership. Since farmers play the percentages, if they are persuaded that there is merit in belonging to an

[9] Although Japanese JA has a different organizational goal from that of water users' association,, they conduct the activities which contributes to the collaborated action among farmers as countermeasures for an decrease in their members, From these activities, one can withdraw useful examples. In addition, the successful cooperatives in southeast Asia conducted similar activities..

organization, membership will increase; if they are not, they will immediately leave the organization.

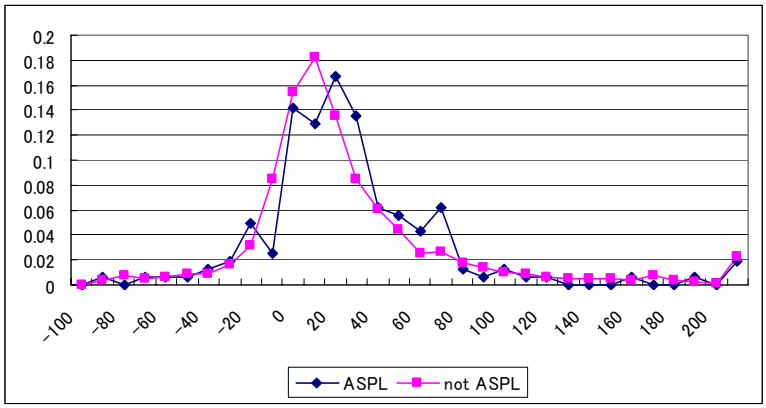
Table 4: Whether Membership in Cooperatives Increased by 10% or More in 2006 Compared with Membership in 2000

	Increase	Not much increase	Total
Project targets	97	65	162
Non-targets	1187	1239	2428
Total	1284	1304	2588

Prepared by the evaluator based on data provided by the executing

Table 4 categorizes the agricultural cooperatives from which data were obtained (total: 2588) in terms of whether or not they were targeted by the project and whether or not membership increased by 10% or more. These data show that those cooperatives that were targets of the project saw their membership increase more than did cooperatives that were not targets.[10]

Figure 6: Relative Frequency of the Rate of Increase in Cooperative Membership (vertical axis)



The horizontal axis represents the rate of increase in cooperative membership.

Figure 6 shows the rate of membership increase along the horizontal axis. In terms of large increases or large decreases in membership, there was little difference between targeted cooperatives and non-targeted cooperatives. But if only changes of 10% or thereabouts are considered, the graph of the cooperatives that were targeted by the project (represented by the blue line = ASPL) lies to the right of the graph of non-targeted cooperatives (the red line = not ASPL).

It can be concluded that cooperatives increased their membership (i.e., the cooperative became more active) just by being targeted by the project. In other words, the program to improve the quality of agricultural products was successful.

2.4 Impact

[10] With the 2×2 contingency table χ^2 assay, the null hypothesis that this table is not valid can be rejected at the probability of 99%.

The goal of the loan was to strengthen the constitution of the agriculture sector. This loan intended to solve the problems, which individual farmers were unable to cope with, by collabotative actions among farmers Since the executing agency did not comprehensively collect data to determine whether this goal was reached or not, no final conclusion could be drawn from the available data. However, according to several interviews, no proof was found that cooperatives were able to enhance their ability to control prices even if they were able to get their members to act in concert. It was evident that he efforts to strengthen the member cohesion in the cooperatives were still far from bearing fruit. By nature, the impact of the project takes long time to apprear.. Thus, it is hoped that the effect of the project will be felt in the future.

2.4.1 Rice producer's price

According to the executing agency, at the time of evaluation, the retail price of rice in Thailand was 8 baht/kg on average. However, interviews conducted in the vicinity of Clagieo found that the price of rice sold from farmers to distributors was about 5.5 baht/kg, and in the vicinity of Samrit, it was about 6.0 baht/kg.[11] Although farmers in these two places were able to cooperate relatively well, the price of rice remained fairly low and the impact of the project was still far from being felt. At the present, it is not possible to comprehensively collect data on earnings and production costs of end farmers and accurately verify the overall effect of the project. The executing agency is expected to provide the data for determining the project impact.

At one hearing, farmers in Samrit profited by using the information they obtained at a cooperative meeting and effectively convert crops. This was a case where a water users' association and an agricultural cooperative not only set irrigation rights, collected goods, and operated processing facilities but also fulfilled their role as centers for providing information concerning agriculture. The executing agency is contemplating institutionalizing cooperatives and at the same time, having farmers use them as places to collect farming information. Toward this end, rather than having the Irrigation Department and the Cooperative Promotion Department perform their respective duties separately, the Office of Agriculture Economics will assume the role of adjusting all subprojects of the present project. Once the knowledge that cooperatives serve as information centers to help farmers' interests takes root, then the effort to organize cooperatives will begin to bear fruit.

2.4.2 As a form of emergency loan

[11] The price of rice varies from place to place and variety to variety. Thus, it is not possible to declare the transaction price of rice without indicating the variety of the rice and where it was grown.

As is summed up in the Evaluation Report for the Economic Recovery and Social Sector Program Loan, Thailand successfully weathered the economic crisis of 1997. Thailand was able to prevent a rapid outflow of foreign currency due to the fact that investors predicted that Thailand would expedite the loan disbursement of this project if the need for foreign currency arose.

2.4.3 Other impacts

No negative impact of the project on the environment was reported.

An NGO lodged a strong protest over certain aspects of the irrigation improvement project.[12] It cannot be denied that, in some cases, the executing agency did not devote enough time to explaining the project in detail and gaining full consent of the beneficiaries before implementing it. The same criticism could be levied against JBIC[13].At that time, JBIC was in a transition period in terms of the treatment of NGO's claims. JBIC did not have an appropriate scheme to cope with criticisms and requests from NGOs .

The government of Thailand is unequivocally the executing body of the project, but in cases where JBIC cooperates in participatory development projects, JBIC needs to listen to criticisms with sincerity and, to a certain degree, serve as a bridge between the government of the recipient country and the executing agency[14].

2.5 Sustainability

At the time of evaluation, there was no particular problems, with the executing agency in terms of its technical capacity, operation and maintenance system, financial status, and operation and maintenance status of the project facilities.

[12] From 2001 to 2002, the question of how much of the cost burden of the Lao River irrigation project farmers should bear became an issue. In the present project, farmers were required to, as before, bear the cost of maintenance within their farm at the end portion of the irrigation facilities. ADB had claimedthat farmers should be required to bear at least some of the financial burden that accrued outside of their farm, but the government of Thailand unequivocally rejected such a plan. As a result, in the present project, farmers do not bear any financial burden related to the maintenance of irrigation facilities outside of their own farm.

[13] Decision on the L/A had to be made urgently. Nevertheless, at the time of formation, the supervision of the programs had been paid an attention in consideration of the long-term horizon of the sector reform. However, the attention was not taken over in the implementation phase. Though, it is desirable to establish the scheme that emergency loan should be provided solely for emergency purpose and does not necessary have to be provide counterpart funds for projects/programs with the long-term horizon. For projects/programs which require urgent decision making, it is difficult to define the use of counterpart funds in advance. By nature, for emergency loan, it is not appropriate to pose any restriction on the use of counterpart funds.

[14]It is important not only to give meaningful and relevant answers to claims but also to share information with those who have claims in timely manner. It is understandable to require time to discuss over a claim, involving relevant persons in the head office and representative offices. Frequent and careful responses are essential. The Bangkok office is improving their response for claims. However, individual staff in local office has a limit. Therefore, it is worth assessing the built-in of the periodic dialogues between NGOs and JBIC in the implementation phase.

2.5.1 Executing agency

2.5.1.1 Technical capacity

Since it has implemented agricultural policies for over 30 years, the Ministry of Agriculture and Cooperatives is fully capable of implementing them. The Office of Agriculture Economics is carefully gathering data for project monitoring and supervision.

2.5.1.2 Operation and maintenance system

Departments and agencies of the Ministry of Agriculture and Cooperatives are all well organized, so project sustainability is not in doubt. During project implementation, a program control committee comprising top leaders of the Ministry of Agriculture and Cooperatives, including the minister, was set up. The program management unit under the immediate control of the program control committee controlled the program implementation departments, including the Irrigation Department and the Cooperative Promotion Department, which controlled each project. The program management unit has already been dissolved, but the Office of Agriculture Economics, which has been in charge of the practical business affairs of the program control committee has overall grasp of the projects, which it uses to coordinate between projects.

Numerous subprojects are being implemented throughout Thailand. Both the Irrigation Department and the Cooperative Promotion Department coordinate their activities closely with their regional chapters, and the members of these regional chapters participate in meetings held by water users' associations and agricultural cooperatives. Hence, information is shared between central and local governments as well as between government and cooperatives.[15]

In some quarters, it is believed that there was a lack of communication between JBIC and the executing agency. For instance, it can be inferred that there was a significant difference of opinion between the two regarding the hiring of a consultant for project monitoring and supervision as was planned in the second half of the financing scheme. The following comments were heard at the executing agency. Although the relevant department in the executing agency had wanted to prepare a detailed progress report, out of deference to JBIC, which insisted on hiring a consultant, it was compelled to greatly simplify the contents of the progress report. While JBIC were concerned about not only the serious delay of the submission of the progress report but also its scanty content. JBIC supported the executing agency in preparing the progress

[15] Regarding the subprojects that were implemented as part of the project, there was no problem affecting sustainability as far as the operation and maintenance system was concerned. However, efforts to coordinate with BAAC, which usually handles loans to farmers, failed, and as a result, the revolving funds that were planned in the project were not used. It is possible that a similar lack of coordination may be in the offing. Sufficient time should be expended to implement any major policy.

reports. If JBIC and the person in charge at the executing agency were able to work more cooperatively, the two sides would have been able to monitor and supervise the project more effectively and satisfy their needs.[16] In the case of sector loans, what is desired is project monitoring and supervision that emphasize not the success or failure of individual subprojects but their overall performance and the development of the executing agency's capacity to maintain overall control of the performance. Toward this end, JBIC should build and maintain close communication not only with those at the senior levels of the executing agency but also with those who are in charge of the agency's practical business affairs.

2.5.1.3 Financial status

Interviews with interested parties found no outstanding issues in the executing agency's financial status.

2.5.2 Operation and maintenance status

Irrigation facilities and infrastructure installed by agricultural cooperatives were generally found to be in good condition. Generally speaking, farmers are currently taking part in many activities provided by water users' associations and agricultural cooperatives.

3. Feedback

3.1 Lessons Learned

- The period required for reaching the project objectives should be carefully studied. Consideration should be given to the fact that participatory development projects take a particularly long time to implement. Sufficient time should be set aside, especially compared to usual projects, to allow one to talk with the beneficiaries so that adjustments can be made as needed.
- The project should be formed in such a way that it will enhance the governance of the executing agency. While leaving it as much as possible to the executing agency to monitor and supervise the project, JBIC should stay in touch with the person in charge of the practical business affairs of the executing agency.
- In case projects use counterpart funds, the executing agency should be carefully monitored and supervised.

[16] This loan planned to be disbursed along with careful supervise of programs financed by counterpart funds. As the progress reports which is essential for supervision were submitted in very untimely manner, the supervision of subprojects was quite difficult. In addition, this decision (importance of matter supervision of sub project) was not taken over sufficiently from formation to implementation.

3.2 Recommendations

<JBIC>

In particular, in the case of participatory projects, it is advisable that a sufficient amount of time be expended to talk with the parties concerned, listening carefully to whatever criticism of the project they may voice.

<Executing agency>

It is advisable to collect data on income and prices so that the income situation of farmers, one of the key indicators of the project's impact, may be properly grasped.

Comparison of Original and Actual Scope

Item	Plan	Actual
(1) Output		
1. Irrigation improvement project		
Large-scale irrigation improvement	5	As planned (progress rate: 66.37%)
Medium-scale irrigation improvement	6	As planned
Small-scale irrigation improvement	35	As planned
Pipe irrigation facilities	12	1
Natural water resource rehabilitation project	130 (RID:85, LDD:45)	125 (RID:81, LDD:44)
Land liquidation project	9	3
Organizing cooperatives	175 (large scale: 5, medium scale: 5, small scale: 35, natural water resources rehabilitation: 130)	5 (large scale: 5, medium scale: NA, small scale: NA, natural water resources rehabilitation: NA)
2. Project to improve the quality of agricultural products		
Rice and crop production	239	228
Low-temperature disinfection milk plant	6	As planned
Fresh milk collection facility	19	As planned
Corn silo for cattle	1	As planned
Rubber collection center	3	0
STR20 rubber facility	2	1
Rubber sheet smoking facility	93	46
Animal feed facility	5	2
Fish and seafood preservation facility	1	As planned
Palm oil facility	1	As planned
Capacity building of agricultural cooperatives program	N.A.	0
Revolving fund for cooperatives	N.A.	0
3. Consulting services		
Monitoring and supervision of the project	N.A.	0
Preparation of wholesale market construction plan	N.A.	0

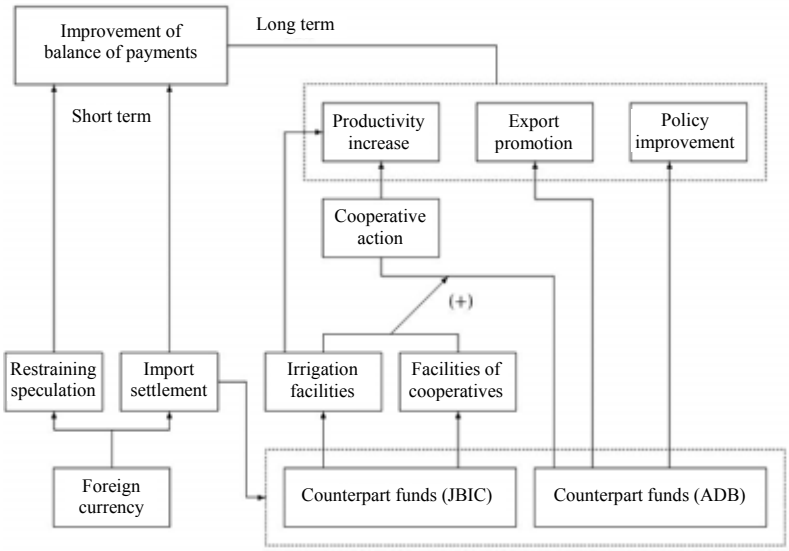
(2) Period		
Loan agreement	September 1999	As planned
1. Irrigation improvement project	Jan. 2000–Dec. 2003	Jan. 2000–Dec. 2004
2. Project to improve the quality of agricultural products	Jan. 2000–Dec. 2003	Jan. 2000–Mar. 2004
3.Consulting services	N.A.	N.A.
(3) Project Cost		
Foreign currency (import settlement fund)	36 billion yen	18 billion yen
Local currency (counterpart fund)	10.89 billion baht	6.13282 billion baht
Foreign currency (consultant)	478 million yen	0 yen
Total	36 billion yen	18 billion
ODA loan portion	36 billion yen	18billion yen
Exchange rate	100 yen = 30.66 baht	100 yen = 34.07 baht

Column: Evaluation Policy

The project comprises two aspects: (1) emergency loan to cope with the currency crisis; and (2) long-term support for structural reform of the agriculture sector. Further, since the project is a co-financing project jointly with ADB, it requires long time to determine how complicated projects should be evaluated.

Coping with the currency crisis

Injecting foreign currency to the Thai economy during the currency crisis supported the country's balance of payment by serving as a fund to settle the payment for import. It also serves as a factor that improved the expectations of speculators that the Thai baht would not continue to depreciate because of the information that Thailand would be receiving large amounts of foreign aid. The expectations of speculators would prevent worsening of Thailand's balance of payments by stopping the depreciation of the baht. The decision to extend ODA loan worth 36 billion yen contributed to the improvement of its balance of payments by forcing speculators to change their behavior. Evaluation of this aspect of the project was already made in the ex-post evaluation of the Economic Recovery and Social Sector Program Loan (FY2006). The project earned high marks in all five evaluation criteria. Althoughthe aspect of the response to the currency crisis is not explicitly mentioned in this evaluation report, it adheres to the conclusion of the evaluation of the Economic Recovery and Social Sector Program Loan.



The evaluation policy was conceived by drawing upon the consultation with the Office of Agriculture Economics (one of the organizations within the Ministry of Agriculture and Cooperatives, the executing agency), which played a pivotal role in project implementation.

Co-financing with ADB

The Agriculture Sector Loan has three objectives: improvement in agricultural productivity (productivity increase); improvement in competitiveness in export of agricultural products (export promotion); and improvement in sector management and policy formation (policy improvement). The project was launched when attention came to be focused on the agriculture sector as the one that should be developed to establish the economy to maintain its balance of payments in the black, by shoring up Thailand's real economy, not by achieving fragile growth based on short-term influx of capital. The project provided not only short-term relief from the currency crisis but also long-term support for balance of payment. It aimed to implement fundamental reform of the agricultural sector for the purpose of the long-term objective. In other words, productivity increase and export promotion are goals that one can expect as a result of long-term structural reform. Consequently, except for the direct effects from the improvement of irrigation

facilities, it is too early to evaluate the long-term effects of this project at the time of ex-post evaluation.

Project for revitalizing agricultural cooperatives

At the time of appraisal, it was believed that farm income should be increased by eliminating the uneven distribution of income between farmers (the primary producers of agricultural products) and distributors/processing plants. The objective of the project for revitalizing agricultural cooperatives is to promote cooperative action in the cooperatives and distribute to farmers the fruits of agricultural production by developing infrastructure such as rice-milling machines, rubber-processing facilities, and oil plants. It is hoped that this project would increase productivity and promote export by eradicating poverty among farmers and strengthening the constitution of rural villages.

Irrigation improvement project

Improvement of irrigation facilities leads directly to securing of water, the basis of agriculture production, and contributes to an increase in production. However, the biggest feature of this project is that it aims to make the shift from disorganized situation which the government control of water and the traditional customs of the community could not be reconciled to a more orderly situation based on water management system by the cooperative action of farmers themselves. This shift is being promoted as an ADB project and is being realized as the institutionalization of PIM (participatory irrigation management) presented in this report. Irrigation infrastructure building intended to support the expectation that it would, by promoting cooperative action by water users, lead to strengthening of water management, then, strengthening of the rural community, and, eventually, productivity increase.