

## Summary

### 1. Outline of the Project

Country: Kingdom of Cambodia

Project Title: Battambang Agricultural Productivity Enhancement Project

Issue/Sector: Agriculture

Cooperation Scheme: Technical Cooperation Project

Division in Charge: JICA Cambodia Office

Total cost (as of the time of evaluation): 281 million Japanese yen

Period of Cooperation (Duration):

R/D Signed on: December 20, 2002

Cooperation period: April 1, 2003 – March 31, 2006

Partner Country's Implementing Organization: Battambang Provincial Department of Agriculture, Ministry of Agriculture, Forestry and Fisheries

Supporting Organization in Japan: Ministry of Agriculture, Forestry and Fisheries

Related Cooperation: The Project for Technical Service Center for Irrigation System

#### 1-1 Background of the Project

Although the Kingdom of Cambodia (hereinafter referred to as "Cambodia") struggled with civil war and political turmoil for a long time, the Paris Peace Agreements were concluded in 1991 and the government of Cambodia was established. Thereafter, general elections were held in 1998 and a new administration was formed, which is providing domestic stability and is focusing on the reconstruction and development of the country.

In Cambodia, about 84% of the total population is engaged in agriculture, forestry and fisheries, accounting for about 40% of the GDP. Rice is a particularly important product, accounting for about 90% of the country's total cultivated land. However, due to a lack of irrigation facilities, cultivation takes place mostly through wet season cropping, which relies on rain. Therefore, such agriculture is susceptible to weather and is therefore unstable, and the yield of rice remains at the very low level of 1.9t/ha. Under such conditions, many farmers are still living in poverty, and the improvement of agriculture in the region is an urgent issue.

Consequently, the government of Cambodia had been requesting a technical cooperation project aimed for the improvement of agricultural technology and the diffusion thereof to farms.

Japan International Cooperation Agency dispatched individual experts in

January 2001 for a one-month period, and implemented the Project Formulation Study in April that same year. As a result, a plan “to establish a system to proliferate quality seeds based on the Bek Chan Agricultural Station and to promote their diffusion through demonstrations and exhibitions at actual farms” was suggested in Battambang Province, which has a high potential for agricultural production, serving a major role as it does in rice cultivation in Cambodia. Based on this suggestion, the First Preparatory Study Team was dispatched in January 2002, followed by the dispatch of the Second Preparatory Study Team in May 2, 2002 and the dispatch of the Project Implementation Study Team in December of the same year. Through these dispatches of study teams, the framework of the project was created and an agreement was reached on an implementation system in partnership with the government of Cambodia.

## 1-2 Project Overview

In December 2002, the Project Implementation Study Team and the government of Cambodia signed the Record of Discussions (R/D) and the Minutes of Meeting (M/M). It was decided that the project would be initiated from April 2003 and conducted over a period of three years. The outline of the project is as follows.

- The project purpose is: “Participating farmers’ agricultural productivity in Kamping Puoy area is to be enhanced, and their livelihood stabilized with their active participation.”
- Baseline surveys (socio-economic survey, etc.) should be conducted during the inaugural year of the project in the targeted area so as to ascertain actual conditions in the target areas.
- The major activities of the project should focus on the improvement of rice production technologies, the improvement of agricultural management (including the diversification of agricultural production), and the formulation and strengthening of farmers’ group.
- With a view to accomplishing the above-mentioned purposes, the Japanese side decided to dispatch four long-term experts and short-term experts as needed, accept counterparts (hereinafter referred to as “C/Ps”) as trainees, provide equipment equivalent to about 20 million yen, develop infrastructure equivalent to 8 million yen and to bear some of the costs necessitated by the implementing activities.
- It was decided that the Cambodian side would appoint C/Ps and provide facilities and rice paddies in two agricultural stations, and secure the basic operational costs for the project such as water and electricity costs.

- It was decided that the Director of the Department of Agronomy and Agriculture and Agricultural Land Improvement of the Ministry of Agriculture, Forestry and Fisheries would be appointed as Project Director, and that the Deputy Director of the Battambang Provincial Department of Agriculture, Forestry and Fisheries in would be appointed as Project Manager, with a view to establishing the Joint Coordinating Committee and the Steering Committee and managing the progress of the entire project.

Three long-term experts and one short-term expert were dispatched in April 2003, and the project was officially launched.

(1) Overall Goal

-Farmers' livelihood in Kamping Puoy area is to be stabilized.

-Agricultural productivity in Battambang province is to be enhanced.

(2) Project Purpose

Participating farmers' agricultural productivity in Kamping Puoy area is to be enhanced and their livelihood stabilized with their active participation.

(3) Project Outputs

0. Conditions in target areas are to be ascertained

1. Rice production technology is to be improved

2. Farming practices of participating farmers are to be improved (including crop diversification)

3. Activities by farmers' groups are to be promoted

(4) Project Inputs (as of the evaluation)

Japanese side:

Long-term experts            4 persons

Short-term experts         4 persons

No. of trainees received in Japan 4 persons

Equipment supply           18.8 million yen

Local cost                    55.3 million yen

Cambodian side:

Assignment of C/Ps         13 persons

Local cost                    61.2 million riel (1.6 million yen)

2. Evaluation Team Overview

Members of the evaluation team

Team leader:

Ryozo Nishimaki

Senior Advisor, Rural Development Department, JICA

Agricultural technology:

Yoshihiko Nishimura

Professor, Graduate School of International Development, Nagoya University

Farmers' organization:

Keiko Itagaki

GLM

Evaluation analysis:

Hiroshi Okabe

Kaihatsu Management Consulting, Inc.

Planning management:

Jiro Takeichi

Project Formulation Advisor, JICA Cambodia Office

Evaluation Period

From July 24 to August 6, 2005

Evaluation type: Terminal evaluation

### 3. Overview of Evaluation Results

#### 3-1 Achievements

- The following three indices have been set for the project purpose, and the status regarding accomplishment of each indicator is as follows.

(1) Yield of quality seed user group members has grown to over 80 % of the yield in KADC (Kamping Puoy Agricultural Development Center); this target was achieved by 2004. It is also necessary to conduct a survey after the harvesting of wet season cropping in 2005.

(2) Rice quality at 80 % of that produced by members of the quality seed user group is considered to be quality rice; it has been suggested that a certain level of result was achieved with by enabling the crops to be sold at prices higher than the market price.

(3) More than 50 % of FFS (Farmers' Field School) participants are better off than they were previously; it is necessary to implement an impact survey before the end of the project and to collect numerical data for the purpose of judging the achievement.

- Outputs: The achievements of the four outputs are as follows.

(1) Conditions in target regions is to be ascertained: This has been implemented

sufficiently.

(2) Rice production technology is to be improved: (1-1) This purpose has been achieved as a result of the farmers' groups' commencement of production and use of the seeds introduced through the system. (1-2) The technical guidelines have yet to be created. Based on the analysis on the result of the questionnaire survey conducted among member farmers, there is a strong possibility that this will be achieved before the end of the project.

(3) Farming practices of participating farmers is to be improved: (2-1) An annual agricultural management plan is being used by 60% of the five farm management cooperatives, and as such the purpose has been achieved. (2-2) The plan for the diversification of the farming system has yet to be created. It is necessary to conduct a survey and determine the extent to which the farmers who received the training are utilizing said training before the end of the project.

(4) Activities by farmers' groups are to be promoted: (3-1) This campaign is producing results in terms of the reinforcement of water user group farmers, as the management of irrigation waters in addition to the collection and management of irrigation service fees are being implemented through the reinforcement of water user groups. (3-2) Women's groups were established in all ten targeted villages, and leaders were identified in six of these villages.

- Overall Goal: Increasing rice production in Battambang has been set as the indicator for the overall goal. At the time of evaluation, the production of quality seeds had increased to 69 farming households. However, it is expected that it will take a long time for it to be possible to determine results such as whether the achievement has contributed in increased rice production throughout Battambang Province.

- Input: Almost all the inputs were implemented as originally planned at the start of the project.

### 3-2 Summary of Evaluation Results

#### (1) Relevance

It is considered that the project has been highly relevant based on the comprehensive evaluation from the following viewpoints.

- Whether or not the project has been designed and implemented according to the development policies and strategies of Cambodia

The government of Cambodia has been placing high priority on poverty reduction, the enhancement of agricultural sector and the improvement of rural livelihoods under its development policies and strategies, and as such the project is highly consistent with the country's development policy.

- Whether or not the project meets the needs of its target groups, and whether or not the selection of target groups has been appropriate

The project has been intending to maintain frequent and close communication with the targeted groups through the baseline survey and at both the planning and implementation stages. As a result, the targeted farmers are proactively engaged in the project. The project also eventually came to include not only irrigation farmers but also landless farmers and women, in order to extend the benefits of the project, and as such the selection of targeted group has been appropriate.

- Whether or not the project has been designed and implemented according to Japan's Assistance Policies for Cambodia

Both the government of Japan and JICA regard agriculture and rural development as prioritized issues, and as such the level of consistency is high.

## (2) Effectiveness

It is considered that the project has been highly effective based on a comprehensive evaluation from the following viewpoints.

- Whether or not the project purpose can be achieved by March 2006
- Whether or not the outputs have been sufficient for achieving the project purpose and effective in doing so

- Whether or not the external conditions described in PDM have actually influenced the project, and whether they have been appropriate for achieving the project purpose

The agricultural productivity of participating farmers in the project is increasing. In addition, based on the results of observations by the study team, it has been ascertained that the farmers who participated in the training program implemented under the project are employing the skills gained through training and are expanding the information network among farmers. Also, some farmers have implemented activities both within and outside their farm-land with a view to increasing their income. Based on these facts, it is expected that the livelihood of these farmers will further improve and become more stable before the end of the project in March 2006, and it can be said that there is a strong possibility that the project purpose will be achieved. However, because there is a lack of quantitative data at present, it is necessary to grasp the effectiveness of the project in further detail by conducting impact

surveys before the end of the project.

Setting the four outputs, namely the survey of needs, the improvement of rice production skills, the improvement of farming practices and the promotion of group activities, for the achievement of the project purpose (improvement of the agricultural productivity, rice quality and livelihoods) assumes the improvement of technical skills and need-based farming patterns as well as the strengthening of networks between farmers and local businesses, and as such this approach is considered to be logical and adequate.

Although the PDM noted that “there is no significant shortage of irrigation water” among its external conditions, the project actually suffered from a lack of irrigation water, and it proved to be possible to conduct irrigation only once during the project period. As many of the project activities are related to irrigation, it has been suggested that the project would have been achieved to an even greater degree had there been no shortage of irrigation water. Because weather conditions are a factor that lies outside the control of the project personnel, it is appropriate to set this as an external condition. However, the inclusion of measures aimed at ensuring the achievement of the project in spite of a shortage in irrigation water should have been considered.

### (3) Efficiency

It is considered that the project has been highly efficient based on the comprehensive evaluation from the following viewpoints.

- Whether or not the outputs have been produced as expected
- Whether or not the project inputs have properly supplied to the project (in terms of time, quality and quantity)
- Comparison with other similar projects
- Whether the external conditions described in PDM have been appropriate to the production of outputs

Almost all outputs related to rice production technology and farmers' groups have been produced as expected apart from the aspects that were being hindered by timing difficulties at the time of evaluation. It is expected that the outputs related to farming practices will have been produced by the time of the end of the project. Therefore, as for the adequateness of activities, it is considered that all the activities necessary for the production of the four outputs have been covered.

As for the adequateness and timeliness of inputs for the activities, although there had been delays in the appointment of C/Ps on the Cambodian side, almost all the

other inputs were implemented as scheduled. Also, there were follow-ups by other C/Ps and project experts, so it is judged that there was no serious impact on the process of project implementation. Comparisons with other similar projects did not reveal any notable differences in terms of the size of the targeted area, the number of beneficiary farming households, the project cost and the contents and volume of inputs, and they are considered to have been adequate.

As for the influence and adequateness of external conditions, the project considers that it is necessary to select and support farmers cooperating in farm management in order to improve farming practices. On the other hand, it was not easy to find this kind of cooperation within the project area. In addition, two cooperating farms had to suspend their activities suddenly due to illness and pregnancy on the part of family members. While the project was not able to control this sort of private matters, it is considered that such eventualities should have been considered beforehand as among the risks inherent in the project.

#### (4) Impact

Based on the evaluation, it is considered that the project has had certain impacts from the following viewpoints.

- Whether or not the overall goals of the project can be achieved in the near future, and whether or not they are logically related to the project purpose
- Whether or not the external conditions described in PDM will befit the achievement of the overall goals
- Positive and negative impacts incurred by the project

As for the probability and adequacy of the achievement of the overall goal, it can be said that the project has spreading effects. Therefore, it can be judged that there is a possibility that the overall goal is being achieved. However, it should be understood that it is necessary to take adequate measures in terms of organization and system and policy development, and that even if such measures are taken it will take at least three to five years to see said achievement.

All external conditions were set adequately for the achievement of the overall goal. In addition, it is essential that KADC continue its activities, in its capacity as the core organization upon the termination of the project.

As for the positive and negative impacts, several positive impacts have been identified, such as the sales of quality seeds between farmers based on the increase in production volume and the accumulation of seeds production data. On the other hand, no serious negative effects were determined.



## (5) Sustainability

Although concerns remain in regards to organizational sustainability, based on the evaluation it is considered that the sustainability of the project is high in other aspects from the following viewpoints.

- Whether or not policy support can be expected in the continuation of the project activities
- Whether or not institutional capacities, including financing and manpower, can be expected for the continuation of the project's activities
- Whether or not use of the technologies introduced through the project can be further expanded within and outside the ambit of the project
- Whether or not the project can be accepted within local society in terms of traditional and environmental compatibility

As for the expectation of policy support, the government of Cambodia recognizes the importance of this project as being exceptionally high, as agricultural and rural development are among its development priorities. Therefore, it is highly probable that the project can obtain policy support, especially from the Ministry of Agriculture.

As for the expectation of institutional capacities, although the KADC is currently covering some of the funding for activities by producing and selling the necessary seeds and rice, it is impossible for it to continuously finance all of the project activities. External financial sources that include the Ministry of Agriculture, Forestry and Fisheries and donors are therefore required for the provision of the support necessary for the continuation and further expansion of the activities. Also, it is recommended that staff be continuously appointed to the KADC by the Provincial Department of Agriculture, Battambang, and that activities be implemented proactively.

Regarding the extension of technology introduction, the technologies introduced through the project have been simple and farmer-oriented. The project also places efforts on the transfer of the introduced technologies from farmer to farmer by way of establishing farmers' groups. Considering current conditions in Cambodia, it is expected that technologies such as these and the method for transferring such technologies will be utilized by the current government workers in charge of project extension as well as by the farmers themselves, and that use of the technologies in question will also be extended to other areas.

As for acceptability within society, thanks to various thoughtful measures

included within the project, such as the implementation of baseline survey and the maintenance of close communication with farmers, there is a strong possibility that the project will be accepted within the framework of society and traditional culture, and it is considered that the possibility of hindrance of its persistent effects is low.

### 3-3 Factors Contributed in the Production of Effect

#### (1) Planning

It is considered that the matters that contributed significantly to the production of the project's effects are as follows: the ascertainment of farmers' actual conditions and needs through the baseline survey, the incorporation of the results thereof into the project plan, the inclusion of landless farmers and women among the project targets, the consideration of the fact that the economic disparities between those who possess irrigated farmlands and those who do not should not be widened by way of the promotion of irrigated farming.

#### (2) Implementation Process

The project has sought to maintain frequent and close communication with farmers and to select targeted farmers appropriate for the project with the assistance of village heads. It has also supported the proactive activities of C/Ps from the perspective of always transferring technologies to C/Ps through project activities. It is considered that these thoughtful measures promoted the active participation of farmers in project activities and contributed in large measure to the fostering of the independence of C/Ps.

### 3-4 Problems and Factors that Raised Problems

#### (1) Planning

One of the external conditions for the achievement of the overall goal was that there be "no significant shortage of irrigation water." However, the project actually faced the problem of a shortage of irrigation water, and it was possible to implement irrigation for one season only during the project period. As many of the project activities were closely linked to irrigation, it has been suggested that the project would have been achieved to an even greater degree had there been no shortage of irrigation water.

#### (2) Implementation Process

It was not easy to find cooperating farms, including practical and advanced

farmers, within the project area. In addition, two of the five cooperating farms retained had to suspend their activities suddenly due to illness and pregnancy on the part of family members. As a result, it was hard to implement the expansion efforts involving the burrowing of farms' rice paddies at the outset of the project, and the expansion of technologies also did not progress in accordance with original expectations.

### 3-5 Conclusion

Based on the evaluation results stated above, it is considered at present that there is a strong possibility that the project purpose will be achieved by March 2006 when the project is completed. However, in order to ensure the sustainability of the project, it is considered necessary that the governments of both countries adopt further appropriate measures. Because the project is regarded as one of the models for agricultural and rural development in Cambodia, the outcomes should be extended to other areas in Cambodia. Considering these factors, it is considered favorable that the project will be completed as of March 31, 2006 as originally planned.

### 3-6 Recommendations (Specific Measures, Recommendations and Advices on this Project)

(1) The project should conduct an impact survey by the time of its termination so as to clearly determine the extent to which the project has improved farmers' livelihoods. The data obtained through the baseline survey should be used for comparison with data obtained from the baseline survey. In addition, a follow-up survey should also be conducted in order to determine the extent to which the farms that participated in the agricultural and farming technology training have adopted said technologies.

(2) Project personnel must continuously provide support with a view to strengthening the Farmer Water User Community (FWUC), not only in terms of the collection of irrigation service fees but also from the perspective of water management based on the plan prepared by the Provincial Department of Water Resources and Meteorology, with the aim of ensuring the adequate management of the irrigation system for the remaining period.

(3) Considering the significance of the project in Cambodia, the project needs to implement further public relations activities such as providing notification of project performances to the central government and other donors.

(4) The outcomes of the project should be extended to other areas after the termination of the cooperation period. In particular, the technology transfer methods adopted by the project, including the FSS, could be applicable to similar projects in Cambodia. Therefore, the Ministry of Agriculture, Forestry and Fisheries and the Provincial Department of Agriculture should first implement surveys on the needs of farmers in suitable for development areas, the situations in regards to the government staff in charge of extension, and differences in the area development potential.

(5) Because of the high level of demand for quality seeds in the project area, the Provincial Department of Agriculture should facilitate the multiplication of seeds through affiliated experimental stations. It is possible that the Kamping Puoy Agricultural Development Center, if managed well, might be able to sustain themselves financially through the profits obtained from the growing and selling of qualified seeds to farmers. A study as to whether other stations could also achieve sustainability by doing the same should therefore be conducted.

(6) In order to make irrigated agriculture successful, the linkage between the Agricultural Department and the Department of Water Resources and Meteorology at the provincial level and that between the Ministry of Agriculture, Forestry and Fisheries and the Ministry of Water Resources and Meteorology at the central government level should be further strengthened. Because the Provincial Department of Water Resources and Meteorology and the Ministry of Water Resources and Meteorology should be responsible for formulating plans for the delivery of irrigation water, and the Provincial Agricultural Department and the Ministry of Agriculture, Forestry and Fisheries are responsible for the implementation thereof, linkage and cooperation between the four organizations is strongly anticipated.

(7) The project had been bolstering the capacity of C/Ps in terms of their outreach activities and experimental cultivation at experimental stations. It is recommended that opportunities for agricultural education be provided at post-graduate schools with a view to further improving the capabilities of the staff of the Provincial Department of Agriculture.

(8) Further consideration is necessary in regards to the setting of overall goals (in particular, in terms of the addition, clarification and review of indicators and method for obtaining said indicators). Specifically, it is necessary to set an indicator for the goal of

“Farmers’ livelihood in Kamping Puoy area is to be stabilized.” Also, as for the increase in rice production in Battambang, it is recommended that “the extent to which the project can contribute in terms of production volume in Battambang” be determined at the time of the termination of the project, since the influence of the project in regards to this aspect is spreading widely.

### 3-7 Lessons Learned (Matters Helpful for Discovering/Forming Similar Projects Derived from this Project and Implementation, Operation and Administration Thereof)

(1) It has been confirmed that the project’s approach, which aimed to enhance the relationship between rice farms and the market (with rice millers in particular) has been effective in improving the livelihoods of farmers. BARN (Battambang Agriculture and Rural Network), established by way of this project, has also made a significant contribution to the enhancement of such relationships. The Provincial Department of Agriculture should therefore consider making use of the private sector as much as possible in its development of agriculture.

(2) One of the indicators used to measure the achievements of the project purpose is “whether rice qualities are considered to be quality rice.” It means that farmers can gain large profits by producing and selling high quality rice to markets if it is accepted as such by the market, and it is clearly and directly linked with the project purpose. As the evaluation of this indicator is entrusted to the market, it may not always be objective, but because the project is market-oriented, it is considered to be an effective indicator.

(3) Many activities pertaining to the project are closely related to irrigation water. While it was mentioned in the PDM, as an external condition, that “there is no significant shortage of irrigation water,” unfortunately, due to a water shortage at the Kamping Puoy Dam, the project could only use irrigation water for one season during the three-year period of the project. This obviously has limited the effectiveness of the training in regards to the betterment of the farmers’ life. This serves as one lesson, namely that even if a project is irrigation-based, a strategy aimed at assuring that the project’s performance level remains high without irrigation water must be formulated. For example, the project could have performed better if some activities, such as training related to rain-fed rice cultivation, the establishment and strengthening of market-oriented groups, etc., had been included.