

Summary of Terminal Evaluation

I. Outline of the Project		
Country : Cambodia		Project title : Freshwater Aquaculture Improvement and Extension Project
Issue/Sector : Others		Cooperation scheme : Technical Cooperation Project
Division in charge : JICA Cambodia		Total cost (estimated as of end of fiscal year 2009) : 513 million yen
Period of Cooperation	(R/D): From February 28, 2005 to February 27, 2010	Partner Country' s Implementing Organization : Fisheries Administration, Ministry of Agriculture, Forestry and Fisheries
		Supporting Organization in Japan : Fisheries Institute of the Integrated Agriculture and Forestry Research Center of Saitama Prefecture, and Tokyo University of Marine Science and Technology
1. Background of the Project		
<p>In Cambodia, around 80% of working population is engaged in the agriculture sector including fisheries, making their livelihoods primarily from rice farming. Although Cambodia has been established self-sufficiency of rice since 1995, the productivity of rice farming is low as compared with that of the neighboring countries. In this context, the Government of Cambodia has been promoting improvement of productivity and diversification of crops in the agriculture sectors in focusing the food security for poverty reduction as principal goals. Cambodia has rich water resources such as Tonle Sap Lake and Mekong River, and the catch of the freshwater fish provides 75% of animal protein uptake for the people of Cambodia. However, the supply of fisheries products to rural areas, where 90% of poverty is occurring in the country, is not always sufficient due to the poor transportation infrastructure development. Therefore, there is high expectation among the people in the rural areas for development of small-scale freshwater aquaculture by using paddy fields, canals and ponds that would contribute to crop diversification, nutrition improvement and income generation for them. The aquaculture development in rural areas, however, is hampered by insufficient supply of fingerlings among other reasons. In this circumstance, the Royal government of Cambodia requested Japan for a technical cooperation that aims at improvement and extension of aquaculture into small-scale and poor farmers in four southern provinces, namely, Prey Veng, Takeo, Kampong Speu and Kampot provinces. In response, JICA sent the preliminary study team to confirm the needs for assistance and to discuss the details of the Project. The Record of Discussion was signed on December 23, 2004. This 5-year project, namely, the Aquaculture Improvement and Extension Project, started from February 28, 2005 and will be completed in February 27, 2010.</p>		
2. Project Overview		
(1) Overall Goal		
Aquaculture production in target provinces is increased.		

(2) Project Purpose

Small-scale aquaculture technologies are extended largely in target provinces.

(3) Outputs

- 1) Seed producing farmers are trained among existing small-scale fish farmers by improving their aquaculture technologies.
- 2) Small-scale aquaculture technologies and its extension methods are improved.
- 3) Aquaculture-related activities to benefit the poor farmers are promoted.
- 4) An aquaculture extension network in rural area is developed

(4) Inputs

Japanese side:

A total of 164.9 M/M of Japanese experts in 11 specialized areas were dispatched for the Project. In addition, there were a total of 10.3 M/M of third-country experts in 8 specialized areas dispatched for the Project. Seven counterpart personnel were dispatched to Japan or/third countries for training. The machinery and equipment in the total value equivalent to 234,088 US dollars were provided. A total of 151 million yen is allocated for the local cost borne by the Japanese side.

Cambodian side:

A total of 39 counterpart personnel were provided for the Project. Office space for Japanese experts, necessary facilities of the Bati Fish Seed Production and Research Center, and the offices of provincial fisheries cantonments of relevant provinces were provided for the Project.

II. Evaluation Team

Members of Evaluation Team	1) Team Leader: Mr. Yusuke MURAKAMI, Senior Representative, JICA Cambodia 2) Aquaculture Extension Planning: Dr. Masahiro YAMAOKA, Professor, Graduate School of Biosphere Science, Hiroshima University 3) Planning Management: Mr. Yukihiro SHIBUYA, Representative, JICA Cambodia 4) Evaluation Analysis: Dr. Kiyoshi MASUDA, Overseas Agro-fisheries Consultants Co. Ltd.
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Period of Evaluation: From September 1 to 16, 2009

Type of Evaluation : Terminal evaluation

III. Results of Evaluation

1. Achievement

- (1) Output 1: “Seed producing farmers are trained among existing small-scale fish farmers by improving their aquaculture technologies.”

There are 47 seed producing farmers currently in operation in the Project area which are more than double of the target indicator for this output (20 seed producing farmers), thus this output has been achieved already.

- (2) Output 2: “Small-scale aquaculture technologies and its extension methods are improved.”

The Project produced various output materials in total number of 65 items by 2008, which included extension materials in various forms; technical manuals, reports, booklets, brochures, extension posters, flipcharts, slide presentations, video CDs and VDVDs, etc. These extension materials were used by extension officers and seed producing farmers in their training courses to disseminate

aquaculture techniques to small-scale farmers. The Project achieved this output.

(3) Output 3: “Aquaculture-related activities to benefit the poor farmers are promoted”

There were 18 villages in the four target provinces supported by the Project for the stock enhancement activities with community refuge ponds by 2008. The Project is currently working with four additional villages for introducing the community fish refuge program. It is expected a total of 22 community fish refuge ponds, which exceeds the indicated target number of 20 ponds, will be under the management of the Fish Refuge Pond Committee established for each pond at the time of termination of the Project.

(4) Output 4: “An aquaculture extension network in rural area is developed”

The network was established in 2007 with 59 seed producing farmers in the four target provinces. The network member farmers conducted 147 times of training or 2.5 times/farm in 2008, which exceeds the target frequency of once a year. Similar or even more frequent training are expected to be conducted by the member farmers in 2009. The network held their provincial meeting three times in each province and also held a general meeting with all participants from the four provincial members in 2008. The network will conduct meeting in a similar manner in 2009. The Project achieved this output for 2008 and will achieve for 2009.

Project Purpose: “Small-scale aquaculture technologies are extended largely in target provinces”

It is expected that approximately 9,000 farmer households will be practicing aquaculture in the four target provinces at the end of this Project based on the two different methods of estimations: 1) based on the number of participants in the training courses, and 2) based on the number of customers who bought fingerlings from the seed producing farmers. According to these estimates, the target indicator for the Project Purpose of 4,400 households was exceeded sometime before the end of 2008. Thus, the Project achieved the Project Purpose already and will extend aquaculture into more than double of the indicated number of farmers by the end of the Project.

Overall Goal: “Aquaculture production in target provinces is increased”

According to the government statistics, the aquaculture production by small-scale farmers in the four target provinces increased from 1,390 tons in 2004 to 2,294 tons in 2008, or by 1.65 times. Accordingly, the Project has already achieved the target indicator of 1.5 time-increases in the aquaculture production.

2. Summary of Evaluation Results

(1) Relevance: High

The Project is compliant with the needs of the target area and the target people, the national development policy, the fisheries development policy, and the Japanese aid policy. In addition, the Project is also appropriate as a means to solve the development issues of the fisheries sectors in Cambodia. Considering these factors, the Team evaluated the relevance of the Project is high.

(2) Effectiveness: High

The Team evaluated the effectiveness of the Project as very high as it is confirmed that the Project by implementing the input activities according to the PO has already achieved the Project Purpose with

surpassing performances within the intended timeframe.

(3) Efficiency: High

The Project input systematically the Activities step by step for achieving the Outputs; firstly to improve the technology, secondly to develop seed producing farmers using the improved technology, thirdly to let the seed producing farmers extend the aquaculture into the small-scale farmers, and then lastly to strengthening the network formed by the seed producing farmers in consideration for the sustainability of the Project after its termination. As all the activities were input accordingly to the PO and the Project achieved the Project Purpose with surpassing results within the planned time frame, the Team evaluates the Project' s implementation as efficient.

(4) Impacts: High

The Project has already achieved the Overall Goal. In addition, the team found the Project generated positive impacts on 1) fisheries development policy of Cambodia, 2) nutritional status of the target people, 3) income generation for the target people, 4) the other donor programs, 5) increased interest on culture of high valued fish species by the advanced fish farmers, 6) stable supply of fingerlings in the region, and 7) transfer of technology outside of the target area. The team evaluated the Project's impacts is high with the confirmation of achieving the Overall Goal and these positive impacts.

(5) Sustainability: High

The sustainability of the Project is evaluated as high with the results of analyses on: 1) continued compliances to national development policy and fisheries development policy, 2) institutional capacities of the implementation agency as well as the aquaculture network, 3) technical sustainability for small-scale farming and fish seed production, 4) maintenance of facility and equipment, and 5) social and environmental risks.

3. Conclusion

The Project has successfully implemented without any major or critical problem and is considered to have been achieved already the Project Purpose to date as well as the Overall Goal in terms of the numerical indicators stipulated in the PDM. The Project has been evaluated as high on all the five evaluation criteria. Therefore, it has concluded that the Project will be terminated as stipulated in the R/D.

For the long term sustainability of the aquaculture development in the target region, however, the Team recognized that the aquaculture network of the fingerling producers that has just established in the later phase of the Project needs further institutional strengthening especially for technical upgrading in fingerling production and financial stability through fingerling sales and marketing information exchange among the member seed producing farmers whose economic sustainability would hold the key for the continuous development of aquaculture in the target region after the termination of the Project. For the rest of the Project period, the Project should continue working for accomplishing the remaining activities related to the strengthening of the aquaculture network.

4. Recommendations

The Team recommends the Project to focus its activities on the following work areas for the remaining period of the Project.

(1) To continue strengthening the network for long term sustainability of the Project:

- Enhance the function of network for technical upgrading and brood fish exchange among the member seed producing farmers.
- Develop marketing function for increasing the customer bases through the coordinated fingerling sales and the market information exchange.

(2) To strengthen monitoring on the community fish refuge activities for the stock enhancement

- The Project should continue monitoring the effects of fish stocking and its impacts on all stakeholders of the community fish refuge activities, and identify best practices based on the analysis of the 22 cases carried out.

(3) To summarize the three step technology transfer including farmer to farmer extension

- The three step technology transfer was the main factor for the successful implementation of the farmer to farmer extension. The Project is highly recommended that it summarize its experience as a successful case of freshwater aquaculture extension in a rural development context, and advises to produce a series of documentation in a form that can be applied to the similar projects.

5. Lessons Leaned

- 1) The three step technology transfer including farmer to farmer extension accelerates further development of rural aquaculture when the technology is slotted onto the local condition.
- 2) The development of village hatchery business plays a key role for the sustainable freshwater aquaculture in rural society.
- 3) A rural aquaculture development project needs a production system that fits to the livelihood strategy of the small-scale farmers for improving quality of life.
- 4) Establishment of aquaculture network of seed producing farmers contributes technical and marketing development through sharing experience about seed production techniques, sharing marketing information, and financial arrangement.
- 5) Establishment and management of community fish refuge pond requires appropriate procedures, i.e., setting accessible criteria for site selection, involvement of stakeholders, monitoring, controlling and surveillance.
- 6) School' s education program on freshwater aquaculture will contribute to disseminate its idea in society and raise people' s concerns.