

## Summary of Terminal Evaluation

<b>I. Outline of the Project</b>		
<b>Country :</b> Guatemala	<b>Project title :</b> Establishment of Mechanism for Agricultural Technology Diffusion and Application to Improve Living Condition of Indigenous and Non-indigenous Small-scale Farmers of Occidental Altiplano in Guatemala	
<b>Issue/Sector :</b> Agriculture/ Forestry/ Fisheries - Agriculture - Agriculture/ General		<b>Cooperation scheme :</b> Technical Cooperation Project
<b>Division in charge :</b> Rural Development Department		<b>Total cost (estimated at completion of the Project) :</b> 420 million yen
<b>Period of Cooperation</b>	<b>(R/D):</b> From October 12, 2006 to October 11, 2011 (5 years)	<b>Partner Country's Implementing Organization :</b> (1) Ministry of Agriculture, Livestock and Food (MAGA), (2) Institute of Agricultural Science and Technology (ICTA)
		<b>Supporting Organization in Japan :</b> Ministry of Agriculture, Forestry and Fisheries
<b>1-1 Background of the Project</b>		
<p>Land area of Guatemala is 109,000km<sup>2</sup> and its population was 12.63 million (2004), and 52 % of which are indigenous people. Although, after the termination of a civil war (1996), the government of Guatemala has been tackling reconstruction of the country, human development index ranked 117 among 177 countries. Poverty ratio of Guatemala was high and half of Guatemalan people were below the poverty line. Agriculture of Guatemala accounts for 22.3% of GDP and 45% of working population engage in agricultural activities. Therefore, agriculture is one of important economic sectors in Guatemala. Majority of indigenous population, most of them are small-scale farmers with less productive land, live in mountainous highlands and have been forced to be in self-sufficiency situation. 76% of them are categorized in poverty condition.</p> <p>Due to abolition of directions in charge for extension services in MAGA in 1997 in accordance with economic structure adjustment policy, cultivation techniques and agricultural information have not been reached to small-scale farmers. Furthermore, various technologies on production and storage of subsistence crops, potato and vegetables obtained by Highland Research Centre of Institute of Agricultural Science and Technology (ICTA-CIAL), that is mandated to carry out research and development of agricultural technologies for highland area have not been extended sufficiently to farmers. Information on credit system for small-scale farmers and information on marketing/commercialization have not been also extended to small-scale farmers. Therefore, their productivity (crop yield) remains low level. Small-scale farmers have not carried joint activities such as joint purchase of agricultural inputs. Therefore, they could not purchase agricultural inputs with lower price. Due to insufficiency of agricultural information, they sell their products with lower price to middlemen. This situation of small-scale farmers was one of reasons that most of them belong to poverty. In order to utilize agricultural technologies and information which have been accumulated in public organizations of Guatemala and advance rural development, it was necessary to reestablish a agricultural technology extension mechanism through capacity enhancement of public organizations, farmers' organization (in order to utilize public services effectively) and to make effective linkage between them. Under these circumstances, this JICA technical cooperation project was started since October 2006 in three departments (Totonicapan, Solola and Quetzaltenango) where majority of small-scale farmers have less than 0.7 hectares. Counterpart organizations are MAGA, ICTA and municipal offices concerned etc.</p>		
<b>1-2 Project Overview</b>		
<b>(1) Overall Goal</b>		
The livelihoods of the small-scale farmers in target areas are improved through the diffusion mechanism established by the Project.		
<b>(2) Project Purpose</b>		
The diffusion mechanism of the agricultural techniques for small-scale farmers is established.		
<b>(3) Outputs</b>		

<p>1) MAGA departmental offices acquire capacity on preparing agricultural extension plan and coordinating it within the framework of a proposed agricultural extension mechanism.</p> <p>2) Highland Research Center of the Institute of Agricultural Science and Technology (ICTA-CIAL) acquires capacities on participatory technology development, technology verification and technical transfer on appropriate agricultural technologies and also capacities on coordination and implementation of training within the framework of a proposed agricultural extension mechanism.</p> <p>3) The municipal offices serve as the lead agency in sustainable rural development in the municipalities.</p> <p>4) Farmers' groups acquire capabilities to use knowledge and skills necessary for production and organizational activities.</p> <p>5) The mechanism is disseminated in other communities, municipalities and departments.</p>		
<p><b>(4) Inputs</b></p> <p><b>Japanese side :</b>  Long-term expert total 4 persons, Short-term expert total 4 persons, Trainees received in Japan 15 persons and trainees received in third countries 43 persons, Provision of equipment 467 thousand Quetzals and 408 thousand US dollars, Local cost expenditure 5.7 million Quetzals (as of end of December 2010)</p> <p><b>Guatemalan side :</b>  Counterpart total 48 persons (at the time of terminal evaluation), Local Cost 3.27 million Quetzals (as of end of December 2010), Provision of land and facilities Office space at MAGA Quetzaltenango Office, training rooms and experimental fields of ICTA-CIAL</p>		
<p><b>II. Evaluation Team</b></p>		
<p><b>Members of Evaluation Team</b></p>	<p>1) Team Leader: Mr. Shiro AKAMATSU, Senior Advisor, Japan International Cooperation Agency (JICA)</p> <p>2) Planning Coordination/ Agricultural Extension: Mr. Tomoyuki OKI, Director, Field Crop Based Farming Area Division 1, Field Crop Based Farming Group, Rural Development Department, JICA</p> <p>3) Evaluation Analysis: Mr. Isao DOJUN, Chuo Kaihatsu Corporation</p>	
<p><b>Period of Evaluation</b></p>	<p>From February 23, 2011 to March 18, 2011</p>	<p><b>Type of Evaluation :</b> Terminal</p>
<p><b>III. Results of Evaluation</b></p>		
<p><b>3-1 Achievement</b></p> <p>(1) Output 1: MAGA departmental offices acquire capacity on preparing agricultural extension plan and coordinating it within the framework of a proposed agricultural extension mechanism.  <u>Achievement:</u> This indicator is not achieved and will not be achieved by the end of the Project. Although there is certain coordination between MAGA departmental offices and the municipal offices, more involvement of the officials of MAGA departmental offices is necessary.</p> <p>(2) Output 2: Highland Research Center of the Institute of Agricultural Science and Technology (ICTA-CIAL) acquires capacities on participatory technology development, technology verification and technical transfer on appropriate agricultural technologies and also capacities on coordination and implementation of training within the framework of a proposed agricultural extension mechanism.  <u>Achievement:</u> Although there is some room for further improvement, the degree of achievement of the Output 2 will be at a satisfactory level at the end of the Project.</p> <p>(3) Output 3: The municipal offices serve as the lead agency in sustainable rural development in the municipalities.  <u>Achievement:</u> Most of 8 municipal offices have prepared annual operational plan which includes agricultural development projects. All 8 municipal offices have municipal technical committee related with agriculture and the committees provide assistance for preparing annual operational plan. Regarding to whether the municipal technical committee are working well or not, current situation is different with the committees. Although there is room for further improvement, the municipal offices of the Project are functioning as key actor for sustainable agricultural</p>		

development in their municipalities at a satisfactory level.

(4) Output 4: Farmers' groups acquire capabilities to use knowledge and skills necessary for production and organizational activities.

Achievement: It seems that the knowledge and skills on production activities of the farmers' groups have been improved satisfactorily. It may difficult to say that organizational capability of farmers' groups is enhance well.

(5) Output 5: The mechanism is disseminated in other communities, municipalities and departments.

Achievement: It is planned to hold one more seminar on agricultural extension mechanism of the Project. If more municipal mayors participate in the seminar, the output will be achieved by the end of the Project.

(6) Project Purpose: The diffusion mechanism of the agricultural techniques for small-scale farmers is established.

Achievement: In this project, agricultural extension services to small-scale farmers have been delivered in a coordination and collaboration framework among the municipal office as core actors (department of planning, extensionists and technical committee), MAGA departmental offices, ICTA-CIAL, farmers' groups and development councils (COMUDE, etc.). Although a workable extension mechanism can be presented by the Project, there are risks on sustainability especially in terms of finance and technique.

### **3-2 Summary of Evaluation Results**

#### **(1) Relevance: High**

There are consistencies on the needs of target areas and farmers, development policies of the government of Guatemala, and the assistance policy of Japan.

#### **(2) Effectiveness**

A workable extension mechanism can be presented by the Project. However, there are rooms for further improvement.

#### **(3) Efficiency: Medium**

There were some insufficiency of inputs (human and financial resources) of Japanese side and Guatemalan side. During the second half of the project period, there was effort to promote better understanding of the project purpose. Afterwards, creation of a workable extension mechanism has been progressed significantly.

#### **(4) Impact**

1) Prospect of achieving the Overall Goal "The livelihoods of the small-scale farmers in target areas are improved through the diffusion mechanism established by the Project."

It is still difficult to prospect surely at present whether the Overall Goal can be achieved in future.

2) Other Impact

- i) At the stage of planning of this national agricultural extension system, the extension mechanism of the Project was referred.
- ii) Cooperated activities with health sector for nutrition improvement

#### **(5) Sustainability**

1) Policy aspect

Poverty reduction, reduction of disparity, and agricultural modernization are regarded as important by the Government of Guatemala. And MAGA is establishing agricultural extension mechanism in the whole country. Therefore, policy sustainability will be secured even after the completion of the Project.

2) Organizational aspect

(a) MAGA

It is necessary organizational involvement of officials of the MAGA departmental offices into

the extension mechanism of the Project.

(b) ICTA-CIAL

It is necessary to continue involvement into training activities, verification of technologies, and technical transfer to extensionists and farmers.

(c) Municipal offices

There is risk on continuation of employment of extensionists and continuation of technical committees due to possible change of municipal mayors who are elected every 4 years.

3) Financial aspect

(a) MAGA

It is necessary to allocate budget for coordination and collaboration with the municipal offices and participation in the meetings of the technical committee of the municipal offices.

(b) ICTA-CIAL

ICTA's budget is very limited at present and it is necessary to allocate budget for the training programs for extensionist and technical development and technical adaptability activities in order to ensure the extension mechanism of the Project.

(c) Municipal offices

Although, available budget for production project is not much for the municipal offices, it is necessary that the municipal offices allocate budget for agricultural extension activities continuously.

4) Technical aspect

(a) ICTA-CIAL

It is necessary to continue technical development and technical adaptability investigation based on the needs of farmers, climate and soils conditions of different areas. It is also necessary to improve the training curriculum and programs flexible in accordance with the needs of extensionists, and continued implementation of the training programs is necessary.

(b) Municipal offices

If continuation of staff (staff of planning department and extensionists) is ensured, it is possible to operate the extension mechanism of the Project continuously. Technical capability of extensionists is different by their academic background, experiences as extensionist and participation to the training programs. It seems that further continued capacity development for the extensionists is necessary in order to provide technical knowledge and skills which farmers require.

**3-3 Factors that promoted realization of effects**

(1) Related to the project plan and implementation process

No specific issue

**3-4 Factors that impeded realization of effects**

(1) Related to the project plan

Main objective of the Project was changed significantly, which is to establish agricultural extension mechanism, before the implementation of second preliminary study. However, it seems that there was no deep consideration about difficulty to establish agricultural extension mechanism, and decision making was done mainly from the view point of its necessity. Therefore, there was no indication of concrete process how to create agricultural extension mechanism in the project activities. Appropriate direction correction was not made till the mid-term review study which was carried out from August to September in 2009 (nearly 3 years from the start of the Project)

(2) Related to implementation process

1) Number of targeted farmers' groups is too many (around 60 groups) and lot efforts were made for planning and implementation for extension activities. It was necessary to instruct to the project team for reducing the number of farmers' groups.

2) Data collection and analysis on the activities carried out for the farmers' groups and feedback of such information to decision makers were insufficient.

3) Lack of analysis of institutional system on the decentralization (municipal administration) and development council system.

**3-5 Conclusion**

Agricultural extension services to small-scale farmers have been delivered in a coordination and collaboration framework among the municipal office as core actors (department of planning, extensionists and technical committee), MAGA departmental offices, ICTA-CIAL, farmers' groups and development councils (COMUDE, etc.). It can be said that this framework or this extension mechanism is an effective agricultural extension mechanism. It is necessary to take several actions in order to improve further the agricultural extension mechanism of the Project, to make this mechanism more replicable one and to reduce risks on sustainability. These actions are described in the following item as recommendations.

### **3-6 Recommendations**

3-6-1 Recommended actions to be taken by the project team in the remaining project period

- (1) Preparation of a guideline for agricultural extension mechanism based on the experience of the Project
- (2) It is expected that the extension mechanism of the Project will be applied widely in the framework of the decentralization. It is necessary to be considered this mechanism within the National Agricultural Extension Program.
- (3) Compilation of the results and analysis of the activities implemented with the farmers' groups
- (4) Improvement of the training curriculum, implementation of training on marketing for municipal extensionists, and compilation of the training materials.
- (5) Compilation of the results of activities on technical development and technology adoptability investigation as a reference for future use. To continue technical development and technology adoptability investigation in accordance with the needs of farmers and different climate and soil conditions.
- (6) In order to ensure continued use of the equipment at municipal offices after the completion of the Project, it is necessary to make an agreement between MAGA and the municipal offices.

3-6-2 Recommended actions to be taken by the Guatemalan side

- (1) Involvement of officials in charge of the National Agricultural Extension Program into the extension mechanism of the Project.
- (2) Continuation of training programs and technical transfer to extensionists and farmers
- (3) To set up a unit in charge of training at ICTA-CIAL.

### **3-7 Lessons Learned**

The target areas of the Project are communities where many indigenous people live in. The extensionists, who employed by the municipal offices, belong to same community or municipality, and they have same culture with the targeted farmers. Therefore, technical transfer from the extensionists to farmers has been carried out smoothly.