

終了時評価調査結果要約表（英文） Summary of Terminal Evaluation

I. Outline of the Project	
Country : Nicaragua	Project title : Project on Diffusion of the Sustainable Agricultural Technology for Small Farmers
Issue/Sector : Poverty Reduction in Rural Area/ Agriculture General	Cooperation scheme : Technical Cooperation Project
Division in charge : Rural Development Department	Total cost (estimated at completion of the Project) : ¥387 million
Period of Cooperation	(R/D): From March 31, 2008 to March 30, 2013
	Partner Country's Implementing Organization : Nicaraguan Institute of Agricultural Technology (INTA)
	Supporting Organization in Japan : None
1. Background of the Project	
<p>The Republic of Nicaragua covers an area of 129,000 km² and a population of 5.67 million (in 2008, National Institute of Information Development). The gross domestic product (GDP) per capita is US\$ 1,096 (Report of the Central Bank of Nicaragua, 2009). Due to the civil war that plunged the country into economic crisis and continued for more than a decade since 1979, is regarded as the second low-income country in the region after Haiti.</p> <p>According to the national survey conducted in 2001, the ratio of population in poverty (less than US\$383 annual income) is 45.8% and ratio of population in extreme poverty (less than US\$200 annual income) is 15.1%. The target of poverty reduction in PRSP-II (World Bank and IMF approved the National Development Plan prepared in November 2005 as PRSP-II) is to reduce poverty ratio to 11.5% by the year 2010. In order to achieve this target, it was necessary to conduct measures for poverty reduction through development of agriculture sector which accounts 30% of working population of Nicaragua (data of the central bank of Nicaragua in 2008).</p> <p>Challenges for small-scale farmers (agricultural land holding is less than 14ha) are low productivity and low profitability due to lack of proper techniques on management of soil fertility, pests and diseases, and lack of information on market, lack of organizations for purchasing agricultural inputs and selling agricultural products in collaborative manner. Also, due to inadequate use of pesticides, there are problems on health, environment, and degradation of soil fertility. The government of Nicaragua prepared the National Strategy for Promotion of Organic Agriculture in Nicaragua in 2005 and is promoting organic agriculture considering one of alternative agricultural techniques that can bring sustainable, competitive and low cost methods appropriate in local conditions, and trying to accelerate and expand organic agriculture as alternative techniques that small-scale farmers can apply.</p> <p>In order to solve problems that small-scale farmers facing in line with this strategy, it was necessary to provide optional and concrete techniques to small-scale farmers. The government of Nicaragua did not have sufficient experiences on this field, therefore, the government of Nicaragua requested to the government of Japan a technical cooperation on development and diffusion of techniques on sustainable agriculture for small-scale farmers.</p> <p>Target areas of the project are the central highland (Jinotega and Matagalpa districts) and the Pacific</p>	

lowland (Masaya, Granada, Carazo, and Rivas districts). The former is the major vegetable production area and the latter is the major fruits production area. The implementing agency, INTA, consists of a headquarter in Managua and six local offices. Each local office has experimental fields and extension offices, respectively in charge of agricultural experimental tests and technical extension activities.

2. Project Overview

The objectives of the project are to strengthen the extension system and to apply developed techniques for small-scale farmers in the target areas by developing sustainable agricultural techniques, establishing a system to extend the techniques, and implementing technical trainings for small-scale farmers.

(1) Overall Goal

The techniques of sustainable agriculture for small scale farmers will be diffused in target areas.

(2) Project Purpose

The extension system of sustainable agriculture in INTA is strengthened and small scale farmers in the target area initiate using the learned techniques.

(3) Outputs

- Techniques on sustainable agriculture are developed.
- Methodology for certification of technicians on techniques on sustainable agriculture is established.
- Farmers in the target area learn the techniques of sustainable agriculture.

(4) Inputs

Japanese side :

Long-term Expert: total 6 persons, Short-term Expert: total 4 persons, Trainees received: 12 persons in Japan and 60 persons in third countries, Provision of equipment: 2.3 million yen, Local cost expenditure: 1.9 million yen

Nicaraguan side :

Counterpart: total 92 persons (at the time of terminal evaluation), Local Cost: 123 million yen (most part of cost is remuneration of staff of INTA), Provision of land and facilities: office space for Japanese experts, meeting room and storage

II. Evaluation Team

Members of Evaluation Team	1) Team Leader: Dr. Narihida Nagayo, Senior Advisor, JICA 2) Cooperation Planning: Mr. Toshiyasu Suzuki, Farming Area Group, Rural Development Department, JICA 3) Evaluation Analysis: Mr. Isao Dojun, Chuo Kaihatsu Corporation 4) Interpreter: Ms. Saeko Sakahama, Japan International Cooperation Center (JICE)
Period of Evaluation	From November 19, 2012 to December 9, 2012
	Type of Evaluation : Terminal

III. Results of Evaluation

1. Achievement

Output 1: “Techniques on sustainable agriculture are developed.”

Achievement: The indicator of the Output 1 will be achieved its target by the end of the project. However, it is necessary to systematize sustainable agriculture techniques (eg, establishment of application of those techniques in cropping cycle of each crop) in order to disseminate those techniques to farmers as an established methodology. For this purpose, it is expected that INTA carries forward technology development with her own effort using knowledge and experiences gained with the project.

Output 2: “Methodology for certification of technicians on techniques on sustainable agriculture is established.”

Achievement: The indicator of the Output 2 will be achieved its target by the end of the project Regarding the indicator 2-1, the curriculum for themes on "soil conservation and soil fertility management" and "integrated pest management" will be prepared until the completion of the project. Regarding the indicator 2-2, extension staff could not get technical certification by the end of September 2012 due to delay in establishing the certification system. It is scheduled that 12 persons of extension staff of Managua office receive technical certification at the meeting of Joint Coordinating Committee which will be held on 5 December 2012 (12 extension staff have received technical certificate). A system for technical certification will be established by the end of the project. Therefore, the Output 2 is expected to be achieved at a satisfactory level by the project completion.

Output 3: “Farmers in the target area learn the techniques of sustainable agriculture.”

Achievement: The two indicators for Output 3 (number of farm field for demonstration and training (PDC) and number of farmer participants) have been already achieved its target. A survey on farmers conducted under the project indicates that the degree of acquisition and application of the sustainable agricultural techniques that farmers learned under the project is quite well. Therefore, it can be judged that degree of achievement of Output 3 is at a satisfactory level.

Project Purpose: “The diffusion system of sustainable agriculture in INTA is strengthened and small scale farmers in the target area initiate using the learned techniques.”

Achievement: Technical capacity extension staff has been strengthened through the trainings and extension activities at the PDCs, while it is in the process of establishing a system for technical certification for extension staff (a system is expected be proposed before the end of the project). Situation of adoptability of sustainable agricultural techniques by farmer beneficiaries is good. It is judged the degree of achievement of two indicators of the project purpose is at a satisfactory level. Therefore, degree of achievement of the project purpose is at a satisfactory level too.

2. Summary of Evaluation Results

(1) Relevance

Relevance of the Project is judged high from the following viewpoints, 1) relevance to the needs of the target area, society and the target group, 2) relevance to the national development plan of Nicaragua, etc., 3) conformity to ODA policy of Japan, and 4) project approach.

(2) Effectiveness

Technical capacity extension staff has been strengthened through the trainings and extension activities at the PDCs, while it is in the process of establishing a system (draft) for technical certification for extension staff, and it is planned to submit a proposal of a system on technical certification by the end of the project. It is confirmed that situation of adoptability of sustainable agricultural techniques by farmer beneficiaries is good. Therefore, effectiveness of the project is high.

(3) Efficiency

Considering whole aspects on inputs and outputs, it is judged that efficiency of the project is fair.

(4) Impact

1) Prospect of achieving the Overall Goal: “The techniques of sustainable agriculture for small scale farmers will be diffused in the target are.”

It is estimated that there is possibility in achieving the target of the indicator of the overall goal by the year 2016.

2) Other Impact

The following effects and impacts of the project have been confirmed

i) Utilization of sustainable agricultural techniques in INTA’s ongoing and planned programs

ii) Effects generated by applying sustainable agricultural techniques at crop cultivation (reduction of production cost, safety products compared products produced using agricultural chemical, change of attitudes of extension staff and farmers toward use of sustainable agricultural techniques)

(5) Sustainability

There is high expectation that political and organizational sustainability can be secured. INTA depends largely availability of external resources for research and extension activities. Therefore, financial sustainability depends on its availability. In regard to technical sustainability, there is certain degree of sustainability, however, it is expected continued improvement and strengthening on technical capacity.

3. Factors that promoted realization of effects

(1) Planning

None

(2) Implementation process

Good communication between Japanese experts and counterparts personnel, and also among INTA’s regional offices is a promoting factor except during initial stage of the project period. Another factor that promoted diffusion of sustainable agricultural techniques to famers is positive participation by most of staff of INTA central, INTA regional offices, research centers and extension offices in the project area. Furthermore, strategy of the Government of Nicaragua and INTA for disseminating environmentally

friendly techniques e.g. organic agriculture is a promoting factor, because this project is in line with this strategy (by promoting sustainable agricultural techniques).

4. Factors that impeded realization of effects

(1) Planning

Although, strengthening of extension system is one of objectives of the project purpose, as a result, preparation of a proposed system for technical certification for extension staff has become an objective. It was better to describe activity for studying current situation and problems of extension system, preparation of measures for improvement in PDM in order that persons involved in the project can understand easily.

(2) Implementation process

i) There were inadequate project management (insufficient information sharing between Japanese experts and counterpart personnel on the project framework and details of the project activities, and also preparation of detailed project activities)

ii) Insufficiency of capacity of some Japanese experts (extension activities have been progressed very well because some of Japanese experts concentrated in extension activities, however, degree of achievement on improvement of extension system of INTA, capacity enhancement of staff of INTA on preparation of training curriculum, preparation of leaflets and manuals, planning for research and adaptability investigation considering establishment of technical package of specific crop cultivation cycle)

5. Conclusion

Although there are activities to be completed by the end of the project (end of March 2013, around 4 months from now), such as final proposal on a technical certification system for extension staff, preparation of final version of the guide on activities at demonstration and training field, technical leaflets and manuals for extension staff and farmers, etc., degree of achievement of the project purpose will become at a satisfactory level at the end of the project period, considering progress of development of sustainable agricultural techniques, strengthening of capacity of extension staff of INTA, and adoptability of sustainable agricultural techniques by benefited small-scale farmers. Especially, the diffusion of sustainable agricultural techniques to small-scale farmers has generated very good effects in terms of number of beneficiaries and degree of adoptability of techniques. Therefore, it is appropriate that this project terminates at the end March 2013 as scheduled.

6. Recommendations

6-1 Recommendation to the activities in the remaining period of the Project

- (1) Compile all reports and digital data on investigation (technical investigation at research centers and adaptability test at farmer's fields) into file and CD.
- (2) Revise contents of system on technical certification of extension staff and prepare a proposal for utilization of the system in future.

- (3) Finalize technical certification activities for extension staff in the project area.
- (4) Finalize leaflets and manuals for extension staff and farmers, which are under preparation or to be produced.
- (5) Improve the contents of training curriculum for extension staff and compile training materials (filming and recording into CD).
- (6) Prepare final version of guidebook on demonstration and training farms at pilot farmers.
- (7) Hold a seminar on the Project (reporting on the results of the Project)

6-2 Recommendations to the Nicaraguan side after the termination of the Project

- (1) Continuation of adaptability tests at INTA's research centers and farmer's fields
- (2) Improvement of extension methods and extension system
- (3) Further preparation of leaflets on sustainable agricultural techniques
- (4) Improvement of the training curriculum for extension staff and training materials
- (5) Preparation of a strategy for assuring sustainability of the usage of the results of the Project

7. Lessons Learned

- (1) Necessity of monitoring and evaluation system on extension activities of sustainable agricultural techniques to farmers using farm field for demonstration and training (PDC).
- (2) Importance of obtaining well understanding by staff of the counterpart organization on the project concept, goals and detail contents of the project.
- (3) Necessity of consideration of gender approach.