

## Simplified Ex-Post Evaluation for Technical Cooperation Project

Evaluator, Affiliation	Keiko Asato Foundation for Advanced Studies on International Development	Duration of Evaluation Study
Project Name	The Sustainable Agricultural Training and Extension Project in Rural Areas in the Republic of Panama	January 2010 – December 2010

### I Project Outline

Country Name	The Republic of Panama		
Project Period	January 2004-January 2007		
Executing Agency	Ministry of Agricultural Development (MIDA), National Agricultural Institute (INA)		
Cooperation Agency in Japan	N.A.		
Total Cost	238 million Yen		
Related Projects (if any)	Individual Long term expert (Strengthening agriculture producers) (2001-2004)		
Overall Goal	Farmers of the project target area increase their productivity through applying appropriate agricultural technology in harmony with the environment.		
Project Objective(s)	A sustainable extension model of appropriate agricultural technology is established for small-scale farmers. (In the PDM, it is stated as "A sustainable agricultural extension model is established for small-scale farmers.")		
Output[s]	<ol style="list-style-type: none"> <li>1. The "pilot farms (*)" are established and strengthened.</li> <li>2. The training courses for "the participatory extension model of appropriate agricultural technology by farmers" are developed in INA.</li> <li>3. The appropriate agricultural technology demonstrated at the pilot farms are expanded by farmers to the neighboring communities.</li> <li>4. An agricultural extension service support system initiated by farmers is promoted.</li> </ol> <p>(*) The "pilot farm" is a place where farmer groups can meet, to analyze their problems and practice appropriate technologies with the extension workers at farm field.</p>		
Inputs (Japanese Side)	Inputs (Panamanian Side)		
Experts	3 for Long term, 4 for Short term	Staff allocated	9 persons
Equipments	1.5 million yen	Equipments	N.A.
Local Cost	35.5 million yen	Local Cost	N.A.
Trainees Received	4 trainees (counterpart training)	Land etc provided	Office space for Japanese experts and venue for the technical training were provided.
Others	N.A.	Others	N.A.

### II Result of the Evaluation

#### Summary of the evaluation

This project was implemented so that the farmers could learn the appropriate agricultural technologies through the group activities at "pilot farms" (the Project formulated 4 pilot farms), and also the participatory extension model by farmers of the sustainable appropriate agricultural technologies was established. Here, the "participatory extension model by farmers of the sustainable appropriate agricultural technologies" is defined as a situation which satisfies the following three conditions; 1) the farmers put into practice the agricultural technology extension activities with the small-scale farmers in the poor area, 2) the farmer promoters are selected and fostered within the farmers' group at pilot farms and 3) the promoters put into practice agricultural technology extension activities in the nearby communities.

In the Republic of Panama, MIDA is the organization that usually is responsible for agricultural extension activities. However, MIDA was not active for the original responsibility of extension activities. Therefore, instead of MINDA, INA, the agricultural educational institute, proposed the establishment of a "new extension model" by organizing extension training courses directly to farmers. In this context, the Project started by selecting INA as a counterpart with the idea of involving MIDA once a stable extension model had been developed. In the latter half of the Project, MIDA recognized the effectiveness of the this model, and introduced the methodology to another government program, entitled "Familias Unidas (the United Family)"

This project is consistent with the Republic of Panama's agricultural policy and Japan's ODA policy. The participatory appropriate technology extension model by farmers satisfied the needs of the related Panamanian stakeholders. At the beginning, the Project ran behind its original schedule due to delays in counterpart staff assignment. However, by the assigning of extra staff by the Japanese side, the original project purpose was achieved by the Project's end.

After the completion of this project, it was expected that the "participatory extension model based on the farmers' group activities at pilot farms", which was established by the Project, would continue to be supported by INA, and that this model would be expanded nation-wide by MIDA. However, the INA president was replaced, and the new president, while admitting the effectiveness of this "extension model", returned to the original organizational framework of MIDA and INA, which is "MIDA is responsible for extension activities, and INA is responsible for Education". Therefore the exclusive INA support for the 4 pilot farms of this project was suspended. At the present, INA continues their technical support to the farmers, for example, information exchange meetings at the Exchange Centre. But now its target is the general farmers, and not the specific 4 pilot farmers assisted by this project. In addition to

the INA policy change, at some pilot farms the landowners ordered the farmers to leave the fields, so now the farmers at these pilot farms have only been partially able to continue their group activities. Meanwhile, the extension workers at the MIDA regional office visit the pilot farms every three months to see if the agricultural methodologies brought by the Project are being implemented correctly. With the loss of INA's direct support and the loss the farm fields as the central place for group activities, the "participatory extension model based on the farmers' group activities" now faces an uncertain future.

On the other hand, it is reported that more than the half the farmers, (in and out of the pilot farms), who learned the appropriate agricultural technologies through this project still continue to apply the learned technologies. Moreover, other farmers groups, local NGOs, volunteers, and public organizations, who became acquainted with the appropriate agricultural technologies through the guidelines or site visits to the pilot farms, also currently utilize these technologies. The promoters and farmers currently on the pilot farms are still engaged in the extension service to the farmers in the nearby communities. Because of this, the project impacts partially continue.

In light of the above, this project is evaluated to be fairly satisfactory.

#### <Recommendation to JICA>

1) In this project, considering the reality that in Panama of the relationship between MIDA and INA was not functioning well, INA proposed to establish the "new extension model by farmers" by organizing extension training courses directly to farmers, and thus, formulated the Project. In this context, the Project selected INA as a counterpart. Even though the project purpose and outputs were achieved within the project period, it was difficult that the effects of the Project would last after the completion of the Project. This project tried to introduce the new extension model of "participatory extension model by farmers with direct technical support by INA", which was new to Panamanian agricultural administration system. The introduction of new administration system would take time to be established and settled down. Taking this into consideration, in case of the similar project, it is recommended to secure the enough period so that the new administrative system, which the Project try to establish, to be fasten after the completion of the Project, by followed-up by another project and others.

2) For the similar projects, farm and land property rights confirmation is essential so that the farmers will have places to continue their group activities.

## 1 Relevance

### (1) Relevance with the Development Plan of Panama

The Torrijos government (2004-2009) set a high priority on the "shrinking of income gaps and poverty alleviation in the country" as one of main political targets, and supports poor farmers and indigenous peoples who reside in the country's middle mountainous areas.

### (2) Relevance with the Development Needs of Panama

"Strategic Plan of Agriculture 2004-2009" set the "sustainable rural development" and "improvement of agricultural productivity" as a strategy for the poverty alleviation in rural areas, including the promotion of organic agriculture. At the time this project was planned, farmers also agreed that "low productivity" was one of their problems. Now MIDA assesses the participatory extension model by farmers as effective.

### (3) Relevance with Japan's ODA Policy

"ODA Charter" and "Japan's Medium-Term Policy on Official Development Assistance" highlights "the improvement of agricultural productivity to shrink the regional gap" and "the support to strengthen the community organization" as one of Japan's important aid policies. At the time of planning JICA's Country Assistance Program for Panama, the shrink of "economic and regional gap" and "the increase of economic capacity of the poor" were specified as the important cooperation issues. At the end of the Project, JICA still sees "the support for the improvement of the agricultural productivity for the rural farmers and fisheries" as significant areas to support in the assistance program.

This project has been highly relevant with the Panama's development plan, development needs, as well as Japan's ODA policy; therefore its relevance is high.

## 2 Effectiveness / Impact

### (1) Achievement of Project Outputs and Project Objective(s)

At 4 areas, the pilot farms were established and strengthened with the formulation of the pilot farm management plan. More than 50% of appropriate agricultural technologies that were introduced to these pilot farms during the Project, were implemented at the time of completion of the Project at these 4 pilot farms (the target indicator of the application of technologies was "more than 50%", which is related to Output 1.). At INA, training courses for the extension workers and promoters were conducted 11 times (target was 9 times), and those for the farmers were conducted 43 times (target was 36 times). 224 extension workers and promoters, and 611 farmers participated in these courses (target number was 100 for all). Also the appropriate training materials were developed for 34 species (the target number was 30). With this progress, we can say that the training system to train farmers to conduct the participatory extension model was established in INA (These are related to Output 2). The exchange programs organized by farmers at pilot farms were not implemented at the planned frequency. However, the more content rich programs by farmers, not only introducing the technologies but teaching technologies, were organized 16 times (original target was 36 times). The extension activity technical guidance by farmers in the nearby communities was conducted less than once a month (which was target of the Project), but the farmers taught the technologies to farmers visiting the pilot farms (These are related to Output 3). At INA, about 800 persons (farmers, extension workers, promoters and others) a year participated in the INA Exchange program (the target number was 500). In January 2007, the participatory extension model by farmers guidelines were compiled, and a seminar on how to use them was conducted. The coordination meetings with the related extension organizations were organized for the efficient project operation, but not with the expected frequency (target was 12 times). However, due to well-organized small meetings with those stakeholders at the beginning of the Project, the support system for the efficient project operation to create the participatory extension model was prepared (These are related to Output 4). With the situation mentioned above, except for Output 3, most of the outputs were approximately achieved. The targeted 4 pilot farms succeeded in establishing the participatory extension model, satisfying the requisites defined above.

For the achievement of the project purpose, the extension activities delivered to the neighboring 23 communities, even not enough to

reach the targeted 25. The number of farmers groups and farmers who learned the appropriate agricultural technologies from those 4 pilot farms was about 50 to 80 each time (the target was 30). With the situation mentioned above, the project purpose was approximately achieved at the end of the project period.

#### (2) Achievement of Overall Goal, Intended and Unintended Impacts

After the completion of the Project, it was expected that, by 2012, the agricultural productivity would increase by 50%, compared with that of 2005, and the 3 new crops would be cultivated at 4 pilot farms. Among the the target pilot farms, at one farm, the rice and frijol beans productivity was increased by 20-30% in 2009 compared with that of 2005. With this pace of progress, we can expect that a "50% increase" can be achieved on this group farm by 2012. However, regarding productivity improvement of at the other 3 pilot farms, we could not obtain any information. Concerning the new crop production at the pilot farm mentioned above, 8% of the farmers cultivated the 3 new crops and in the other one farm, more than 50% of farmers presently produce the new 3 crops. However, at the other 2 pilot farms, no new crops are cultivated. With this information, the productivity improvement and the introduction of new crops, as a result of group activity at the pilot farms, have not reached to the target levels. Meanwhile, other than these 4 pilot farms, there are several farmers groups, local NGOs, volunteers, and public organizations who are currently applying the appropriate agricultural technologies, which they learned through the guidelines and by visiting the pilot farms. Also MIDA introduced this "participatory extension model by farmers of appropriate agricultural technologies", which was introduced by this project, to another national program, "Familias Unidas (the United Family)". In addition to these impacts, at some pilot farms out of 4, farmers are still teaching the appropriate agricultural technologies to the farmers in the neighboring communities. As mentioned above, we can continue to identify these partial impacts.

This project has somewhat achieved its objectives, therefore its effectiveness is fair.

### 3 Efficiency

#### (1) Outputs

As stated in "2. Effectiveness / Impact", the expected outputs were achieved approximately.

#### (2) Elements of Inputs

The appropriate experts and equipments were delivered without delay, and they were used during the project period to achieve the expected outputs.

#### (3) Project Cost, Period of Cooperation

The project cost was reported 1.5 million yen for the equipment, and 35.5 million yen for local activities. We have no figures on the cost at the time of planning to compare with, but no negative remarks were noted related to the project cost in the terminal evaluation. The actual project period was 36 months as planned.

The inputs are appropriate for producing outputs and achieving the project objective therefore efficiency of the Project is high.

### 4 Sustainability

#### (1) Related Policy towards the Project

MIDA emphasizes the importance of strengthening of farmers organizations to enforce the competitiveness of small-scale farmers in the "Strategic Orientation for the Development of the Agro-fishery Sector 2010 - 2014 (Orientaciones Estratégicas para el Desarrollo del Sector Agropecuario 2010-2014)".

#### (2) Institutional and Operational Aspects of the Executive Agency

It was expected that after the completion of the Project, INA would continue to supporting the 4 pilot farms for the maintenance of "participatory extension model by farmers of the appropriate agricultural technologies", and MIDA would expand the model nation-wide. With this perspective, even though the counterpart was INA, the Project tried to involve MIDA in expanding the appropriate agricultural technologies through the participatory extension model by farmers. However, after the completion of the Project, the president of INA was replaced. The new president returned the original organizational framework of MIDA and INA, which is "MIDA is responsible for extension activities, and INA is responsible for Education" (Even he acknowledged the effectiveness of its model). The number of staff at Department of Extension and Community INA has increased from 5 to 6, but due to this policy change at INA, their support to the 4 pilot farms was suspended, and continues the restricted support for extension, such as organizing the information exchange meetings at Exchange Center to the general farmers. The staff assigned at INA by the Project has already left. But the extension workers at the MIDA regional office are visiting the pilot farms every three months, and observe the condition of application of appropriate technologies.

#### (3) Technical Aspects of the Executive Agency

The instructors at INA are maintaining their professional skills by participating in the training course held at main farm field at INA and by participating in the related conferences. However, these technical skills are not necessarily utilized to support the farmers at 4 pilot farms, supported by the Project. The extension workers at MIDA also have kept their professional skills. The promoters and farmers at 4 pilot farms also maintain their skills by participating in the training course offered by MIDA and other government agencies.

#### (4) Financial Aspects of the Executive Agency

The income and expenditure at INA increased consistently from 2007 to 2010; income increases from 189,793 B/ (Balboa) to 332,761B/, and expenditures also increased from 229,121B/ to 286,643. However, financial status of each fiscal year fluctuated between surplus and deficit during this period. However, as stated above, now that INA does not take the main role (supporting the 4 pilot farms), it has affected the pilot farm's management negatively. Regarding the financial status of pilot farms, one farm is operating well with some surplus, borrowing some funds from NGO and selling their agricultural product, and livestock. The other 3 pilot farms did not show us their exact financial status, but they reported that they have a budget shortfall, and they are compensating for the deficit by sales of land and livestock, and other subsidies.

**(5) Continuity of Effectiveness and Impact**

One pilot farm continues their group activity at approximately same level as during the Project. However, 2 out of 4 four pilot farms were ordered to leave the fields by the landowner, and can only partially continue their group activities (such as group sales of farm product and livestock). For the remaining farm, due to the high acidity of the land, many of the farmers were obliged to leave it. However, many farmers are currently applying more than half of the appropriate technologies, either they continue to belong to the pilot farm, or they have had to leave the farm. The promoters and farmers who remain at the 3 pilot farms are still teaching the appropriate technologies to the farmers in the neighboring communities (even the number of the communities decreased from 23 to 11). Other than the activities mentioned above, the meetings of exchanging nursery and agricultural technologies are held once a month at INA Exchange Center, and the training courses for the general farmers (not specific to the farmers at pilot farms) are conducted at INA at present.

With the information referred above, major problems have been observed in the structural and financial aspects of the executing agency; therefore, sustainability of the project effects is low.

## Simplified Ex-Post Evaluation for Technical Cooperation Project

Evaluator, Affiliation	Junko Noguchi Foundation for Advanced Studies on International Development	Duration of Evaluation Study
Project Name	The Project for the Improvement of Regional Veterinary Diagnostic Services in Jalisco State	January 2010 – December 2010

### I Project Outline

Country Name	United Mexican States			
Project Period	December 2001-December 2006			
Executing Agency	Secretariat of Agriculture, livestock, Rural Development, Fisheries and Food (SAGARPA), Secretariat of Rural Development (SEDER), Government of the State of Jalisco			
Cooperation Agency in Japan	Ministry of Agriculture, Forestry and Fisheries of Japan			
Total Cost	596 million yen			
Related Projects (if any)	JICA, "Animal Health Center Project"(Project-type Cooperation) (1981-1987)			
Overall Goal	Animal health status is improved in the State of Jalisco.			
Project Objective	The integrated diagnostic system is strengthened at the laboratories of the State Committee for the Fomentation of Livestock and Animal Protection (COMITE) in the State of Jalisco.			
Output[s]	1. Basic examination techniques are improved at El Salto Lab. 2. Diagnostic techniques for infectious diseases prevailing in the State of Jalisco are improved at El Salto Lab. 3. Knowledge and techniques of animal health are improved in personals concerned with animal health, including one of the other COMITE laboratories in the State of Jalisco.			
	Inputs (Japanese Side)		Inputs (Ecuadorian Side)	
Experts	7 for long term, 16 for short term		Staff allocated	22 counterpart personnel
Equipments	120 million yen		Equipments	N. A.
Local Cost	26 million yen		Local Cost	48 million pesos
Trainees Received	16 trainees		Land etc provided	Facilities and equipments
Others	N. A.		Others	N. A.

### II Result of the Evaluation

#### Summary of the evaluation

This Project aimed to improve animal health, by upgrading animal disease diagnosis skills for personnel at El Salto Laboratory through lectures and OJT, and upgrading the knowledge and skills of personnel at two regional (small) laboratories through lectures. El Salto Laboratory and the two regional laboratories were under supervision of the State Committee for the Fomentation of Livestock and Animal Protection (COMITE) of Jalisco. Jalisco is a leading livestock production state in the country, while it had challenges in controlling animal health. In this sense, the Project was in accordance with Jalisco's needs.

As a result of the Project, staff of El Salto Laboratory acquired new examination techniques and learned to diagnose more animal diseases. Before the Project was completed, 3 diseases were rated "free of disease", among 9 diseases in a national campaign. However, since the Project terminated, there has not been much change in the phase of the campaign diseases. In addition, it was pointed out in this evaluation survey that some farmers were hesitant to let animals be diagnosed because they feared the commodity value is reduced if some infection is detected.

Regarding COMITE's communication with other related organizations, the Secretariat of Agriculture, livestock, Rural Development, Fisheries and Food (SAGARPA) and the Secretariat of Rural Development (SEDER) of Jalisco were to supervise and direct COMITE, and the National Center of Diagnostic Services for Animal Health (CENASA) were to give technical support to each laboratory. However, this collaboration was not functioning well in the early stage of the Project. Communication improved as the Project went on, but after the Project ended, it has restored to its former state.

(The two regional laboratories were closed after the Project ended and their functions were transferred to El Salto Laboratory. The samples are now sent to El Salto Laboratory. When they were functioning, these laboratories were certified by SAGARPA and performing as supplementary laboratories to El Salto Laboratory. Therefore, there is no change and problem in the diagnostic services of animal health in Jalisco as a whole.

In light of the above, this project is evaluated to be satisfactory.

#### <Recommendations for COMITE>

1. Establish a regular communication channel to share animal diseases related issues in Jalisco and discuss necessary actions to take among El Salto Laboratory, SAGARPA (both at national and state level), SEDER and CENASA.
2. For animal disease control, first of all, farmers use the diagnostic services of animal health. Therefore, again they should be informed of the importance of the animal disease diagnosis.

#### <Constraints of the this evaluation study>

The data and information about the two regional laboratories was not available including the data during the Project period.

Therefore, the achievement of the Project Purpose was verified only with the information obtained from El Salto Laboratory.

Note: "Free of a disease" means that a disease doesn't occur again for 12 months after it is eradicated.

## 1 Relevance

### (1) Relevance to the Development Plan of Mexico

The "Sector Program for Agricultural, Livestock and Fishery Development: 2001-2006" reported that the animal health is one of the important elements for the development of the livestock industry. Also in the national program for rural development "Alianza Contigo," the improvement of the animal health and livestock promotion were the target areas for the subsidy.

### (2) Relevance to the Development Needs of Mexico

According to Jalisco's "State Plan for Development (2001-2007)", it led the country in the production of pork, chicken and milk, and took second place in meat production in 2000. The agriculture and livestock industry has occupied an important position in state development. However, among the 9 animal diseases which the country tried to eradicate in a national campaign, none was "free" at the time of the Project commencement. There was a great need for the animal health improvement.

### (3) Relevance to Japan's ODA Policy

In the policy consultations for economic cooperation held in November 2001 and 2004, "industrial development and regional promotion" was discussed as one of the priority assistance areas, and the Project was in line with this area

This project has been highly relevant to the country's development plan, development needs, as well as Japan's ODA policy; therefore, its relevance is high.

## 2 Effectiveness / Impact

### (1) Achievement of Project Outputs and Project Objective

As outputs achieved by the end of the Project, the staff of El Salto Laboratory acquired 21 new basic examination techniques (6 virological, 8 bacteriological, and 7 pathological examination techniques), and was able to diagnose 50 kinds of infectious diseases including those prevailing in the state. Also, a total of 33 training courses and seminars were held for the personnel concerned with animal health in the state. These outputs were all more than the targeted. As a result, among 9 national campaign diseases, 7 diseases which COMITE was in charge of were all able to be diagnosed at El Salto Laboratory. The other two COMITE laboratories were closed after the Project, so the function of disease diagnosis was transferred. When they were functioning, these laboratories were certified by SAGARPA and performing as supplementary laboratories to El Salto Laboratory (Terminal Evaluation Study), and therefore, it can be judged that the Project Purpose was achieved.

### (2) Achievement of Overall Goal, Intended and Unintended Impacts

The Overall Goal of the Project was to improve the phase of campaign diseases. Before the Project was completed, 3 diseases (CSF, ND and avian salmonellosis) got rated free. After the Project, there hasn't been a big change in the phase of the national campaign diseases. However, animal diseases can be suddenly brought by unregistered farming and smuggled animals from other areas, even though once they become free, and therefore "no deleterious change in the disease phase" doesn't mean "no effects of the Project." Besides, the farmers have come to realize the importance of receiving the animal diagnosis. On the other hand, SAGARPA delegation of Jalisco tells that some farmers are hesitant to let animals be diagnosed because they fear the commodity value is reduced in case some infection is detected.

This project has largely achieved its objectives; therefore its effectiveness is high.

## 3 Efficiency

### (1) Outputs

As mentioned above, the outputs were produced as planned.

### (2) Elements of Inputs

It was evaluated that "the inputs were almost as planned in terms of quantity and quality considering the outputs generated, except a small delay of Japanese experts." On the other hand, according to the Project resources at the time of completion, There were some communication difficulties among some personnel and organizations in the early stage of the Project, and this caused the delay of some activities.

### (3) Project Cost, Period of Cooperation

The Project planned the input of 596 million yen. Information regarding the planned cost was not available.

The actual duration of the Project was 60 months as planned. The outputs were produced as planned within the period, except the construction of the facilities for animal experiment and for training. In particular, the training facility was constructed just before the Project, much later than planned, and therefore, it was not used during the Project. The training was conducted in the hotels or COMITE rooms. As not many participants were accepted by these rooms at a time, the training had to be repeated more often than planned, and in the result the burden on the Japanese experts as lecturers reportedly increased.

Some input elements (Mexican side) were not appropriate for producing outputs; therefore, efficiency of the project is fair.

## 4 Sustainability

(1) Related Policy towards the Project

The "National Development Plan 2007-2012" declared that agriculture and livestock provide food, ingredients of processed food, and export items; and therefore is an important sector for the national development. Also in SAGARPA's "Sectorial Development Plan," one of the strategies is to improve animal health for food security and product competitiveness.

(2) Institutional and Operational Aspects of the Executive Agency

During the Project period, a supervisor and a technician were assigned in each area, virology, serology, brucellosis, tuberculosis, and pathology. Regarding the communication including direction and technical training among COMITE, SAGARPA, its delegation of Jalisco, SEDER and CENASA, many of them self-evaluated as "appropriate," while a some suggested that CENASA needs to be more closely manage COMITE in order to better disease diagnosis. Cognition depends on each. The Terminal Evaluation Study recommended establishing the Project Sustainability Committee for activities continuity, but the committee hasn't been held.

(3) Technical Aspects of the Executive Agency

After the Project, 4 personnel have left COMITE among 22 counterpart personnel, but lectures and OJT opportunities are given to newly hired staff upon necessity. The major equipments provided by the Project are regularly inspected and are functioning except some which were replaced by COMITE. El Salto Laboratory obtained accreditation of EMA (Mexican Accreditation Entity) on examination during the Project period. Also the animal experiment facility has received NOM (Mexican Official Norm) certification. Thus, there are no technical concerns.

(4) Financial Aspects of the Executive Agency

The government budget for COMITE decreased by 10% in 2009 and by 20% in 2010 compared with the last year of the Project. Contributions from the farmers have remained almost the same. However, El Salto Laboratory reports that the budget is sufficient and two regional laboratories are closed. Therefore, financially, there are no concerns.

(5) Continuity of Effectiveness and Impact

El Salto Laboratory has provided the diagnosis services for 7 diseases among 9 national campaign diseases' however some organizations point out that "there has not been sufficient diagnosis quality control at El Salto because of personnel changes at COMITE." As explained above at "Effectiveness / Impact," there hasn't been much change in the phase of the campaign diseases.

Some problems have been observed in the structural aspects of the executing agency; therefore, sustainability of the project effects is fair.





## Simplified Ex-Post Evaluation for Grant Aid Project

Evaluator, Affiliation	Nobuko Fujita Foundation for Advanced Studies on International Development	Duration of Evaluation Study
Project Name	The Project for Construction of Fisheries Center	January 2010 – December 2010

### I Project Outline

Country Name	Antigua and Barbuda	
Project Period	March 2004-January 2006	
Implementing Agency	The Fisheries Division, Ministry of Agriculture, Lands, and Marine Resources	
Project Cost	Grant Limit: 921 million yen	Actual Grant Amount: 917 million yen
Main Contractors	Construction and Procurement: Toa Construction Company	
Main Consultants	Ecoh Corporation and Kyokuyo Co., Ltd.	
Basic Design	Basic Design Study: June 25, 2003-March 31, 2004	
Related Projects (if any)	<ol style="list-style-type: none"> <li>1. JICA, Expert in fisheries development (1997)</li> <li>2. JICA, Expert in fisheries development (March 2002-March 2004)</li> <li>3. JICA, Expert in fisheries development and distribution (August-December 2006, June 2007-November 2008)</li> <li>4. JICA, Expert in fisheries development and distribution (January 2010 – January 2012)</li> <li>5. Grant, the project for construction of fish landing and distributing facilities in St. John's in Antigua and Barbuda (1,280million yen, 1997)</li> <li>6. Grant, the Project for Rehabilitation of Artisanal Fishery, Parham (857million yen, 2000)</li> <li>7. Grant, the Project for Rehabilitation of Artisanal Fishery, Urlings (798million yen, 2001)</li> <li>8. Grant, The Project for Construction of Artisanal Fisheries Facilities in Barbuda (1,328million yen 2009)</li> <li>9. Canada (Organizational strengthening of fisheries administration, construction of Codrington Fisheries Center, etc.)</li> <li>10. Technical assistance from CARICOM (Caribbean Community), OECS (Organization of Eastern Caribbean States), FAO (Food and Agriculture Organization of the United Nations)</li> </ol>	
Project Background	<p>Antigua and Barbuda, with a population of 85,000 (2006), has a monoculture economy dependent on tourism. The country places fishing industry as an industry with high potential for growth and with the goal of sustainable use of its marine resources by exercising appropriate development and management while providing a stable domestic fish supply to substitute imports and as exports to earn foreign currency.</p> <p>Given the above context, Antigua and Barbuda planned to construct a fisheries center at Point Wharf which is the country's largest fishing port, and called on Japan for grant aid cooperation. The center (fishing complex) includes landing facilities, a processing plant and hygienic laboratory with internationally recognized sanitation standards, thereby strengthening the landing capability for marine products including those from Barbuda island, and supplying the market with sanitary and safe, value-added marine products.</p>	
Project Objective	To construct landing and processing facilities for fishery products at Point Wharf landing site in order to supply hygienically and safely processed seafood to the market.	
Output[s] (Japanese Side)	<p>-Wharfs, revetment, slipway, an administration office building with a hygienic laboratory and a meeting hall, a processing plant, a work shop and fishing gear lockers and a boat yard are constructed.</p> <p>-Equipment for the hygienic laboratories, processing plant, and meeting hall were procured and installed.</p>	

### II Result of the Evaluation

Summary of the evaluation
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This project constructed a fisheries complex at Point Wharf landing site, which is located in St. John's, the capital of Antigua and Barbuda. In phase I, an unloading wharf, revetments, and a slipway (\*1), which were dilapidated and damaged by hurricanes were repaired, and in phase II, an administrative office building with hygienic laboratory (\*2), a meeting hall and an office for the Fisheries Division, a processing plant, a workshop (for engine repair), fishing gear lockers and boatyard were constructed and equipment for the hygienic laboratory, processing plant, and meeting hall were provided.

Although the fisheries complex had some difficulties, the contractor and the Fisheries Division repaired it. Today the wharf, slipway, boatyard, lockers, meeting hall and administration office are effectively utilized. On the other hand, the processing plant has not reached the pre-set target and hygienic laboratory has not yet started full-fledged operation. The Project goal "to provide sanitary and safe, value-added products to the market" has come within reach. However, more time will be necessary for it to be accredited as a processing plant/hygienic laboratory based on internationally recognized sanitation standards. Currently, another grant project "The Project for Construction of Artisanal Fisheries Facilities in Barbuda" to construct a similar fisheries complex in Barbuda is underway. Once it is completed, it is planned that the catch brought in from Barbuda island will increase the landing of fish at Point Wharf, and this will make the processing plant full operational. In order to ensure the development effectiveness, a JICA expert to the Fisheries Division is dispatched.

In light of the above, this project is evaluated to be fairly satisfactory.

(\*1) a tilted way to pull up boats

(\*2) Sensory evaluation (color, odor, parasites), physical inspection (length, weight, contamination), chemical inspection (histamine, moisture content, etc.), and bacteriological analysis were planned to be conducted.

## 1 Relevance

### (1) Relevance to the Development Plan of Antigua and Barbuda

Manifesto 2004, which is the outline of the National Development Plan of Antigua and Barbuda states that diversification of industries is central to economic development. It emphasizes fisheries as an important industry utilizing the nation's natural resources, thereby, promoting self-reliance. In addition, the Fisheries Development Plan (2010) stresses the production of high quality marine products, and the preparation of a sanitary environment for landing and distribution facilities.

### (2) Relevance to the Development Needs of Antigua and Barbuda

An important objective for Antigua and Barbuda is developing a fishing industry utilizing the nation's own resources. With the shift to a Caribbean Single Market Economy, improving marine product quality to increase competitiveness is becoming increasingly acute. Furthermore, in order to export marine products to EU countries (the French Caribbean islands: Martinique, Guadalupe, etc.), EU sanitation and quality requirements need to be met. This has been challenging.

### (3) Relevance to Japan's ODA Policy

In the "New Framework for Cooperation between Japan-CARICOM in 21<sup>st</sup> Century", approved at the ministerial meeting between Japan and CARICOM in 2000, seven important cooperation sectors were defined. These include tourism, fisheries, and agriculture.

From the above, this project has been highly relevant to the country's development plan, development needs, as well as Japan's ODA policy; therefore its relevance is high.

## 2 Efficiency

### (1) Project Outputs

The wharfs, revetments, slipway, administrative office building with hygienic laboratory, meeting hall, office for the Fisheries Division, processing plant, workshop, fishing gear lockers and boatyard were constructed and equipment for hygienic laboratory (high speed refrigerated centrifuge, Soxhlet fat extractor, water activity measuring unit, Kjeldhal digester and auto titration unit, etc.), processing plant (smoke chamber, belt conveyer, vacuum packing machine, etc.) and meeting hall (projector, etc.) were provided. However, it was reported that various types of repair work were needed after that. In addition to some repair work following "the inspection of one year after completion of the project," major repair work was also carried out in 2008 and 2009. Even in 2010, there was leakage from the rain as well as the water from the refrigerant pipe of the air conditioner breaking out. The contractor and the Fisheries Division have conducted a number of repairs to this date.

### (2) Project Period (Project Inputs)

Including detailed designing and tendering periods, the Project was completed as planned in 22 months (equal to 100% of planned period).

### (3) Project Cost (Project Inputs)

The Project spent 917 million yen against the project budget of 921 million yen (equal to 99.6% of planned cost) during the project period.

From the above, although both project period and project cost were within the plan, there were some problems concerning quality of the outputs. Therefore, efficiency of the Project is fair.

## 3 Effectiveness / Impact

#### (1) Quantitative Effects

The target number of registered fisher folk in Point Wharf was 190 in 2007 as compared to 127 in 2003. As of 2010, there are 147, which is below the target. Although, since some of the boats registered at other three landing points in St. John's Bay use Point Wharf processing plant, actual user may exceed 147. The processed product target at the newly built processing plant was 55t in 2007. It is now 6.75~9t; however the tonnage is trending higher. Although the sample target at the hygienic laboratory was 70 in 2007, it is still in the stage of preparing for operation.

The reason for this is that the Project, as originally planned, expected that the catch from Barbuda would also be landed at Point Wharf. Since the project to construct a fisheries complex in Barbuda is underway as mentioned above, the catch landed at Point Wharf is now mostly sold at foreshore. Therefore the need for processing is low. Because of this, only preliminary processing (scaling, degutting, filet, slice, and packing) is done while other processing methods including freezing (30%), smoking (5%), and salting (5%) were initially planned. (The rest of the 60% was planned as preliminary processing.) As mentioned before, once the fisheries complex in Barbuda is completed, fish caught by Barbuda boats can be stored with ice, making it possible for this catch to be brought into Point Wharf for processing. (111t is expected.)

#### (2) Impacts (Impacts on the natural environment, Land Acquisition and Resettlement, Unintended Positive/Negative Impact)

Wharfs, slipway, locker rooms, workshop, and ice provided at the complex, made the fisher folks' work and maintenance of the boats easier, which contributed to improving their working environment. Processed products are exported or sold to restaurants and hotels in the city.

Moreover, since the Fisheries Division moved into the administration building, and the meeting room was provided, the registration of the boats and consultations between the fishermen and the Fisheries Division have become more efficient.

Before the Project, the export of fresh lobster to EU countries was impossible because the EU made the introduction of HACCP (Hazard Analysis and Critical Control Point) obligatory. By being packed at the Point Wharf processing plant, export of live lobster and live fish were temporarily permitted. However, the plant still does not meet the EU standard since the EU has pointed out several issues to be addressed in order to meet its standard. For example, the processing plant needs to be surrounded by a fence in order to keep a sanitary environment.

As positive indirect impact, beautification of Point Wharf area was pointed out. It used to be an area covered with old buildings, shrubs and uncontrolled vegetation. The Project gave the area more pleasing and aesthetic appearance by not only constructing buildings and facilities, but developing surrounding area as a whole. The trash thrown in the area and sea by locals and fisher folk has been reduced, the local scenery has been substantially improved.

There was no land acquisition and impact on natural environment. The sewage water from the processing plant and administrative building is properly treated.

From the above, this project has somewhat achieved its objectives, therefore its effectiveness is fair.

### 4 Sustainability

#### (1) Structural Aspects of Operation Maintenance

During the planning, Antigua Fisheries Limited was supposed to manage the complex. However, after a change of administration, the Fisheries Division itself is now in charge of its management. A fisheries complex coordinator, who manages the entire fisheries complex in the country (including, Parham, Urlings, Point Wharf) was assigned at the Division. Currently, the Fisheries Division has assigned 7 staff members to the Point Wharf fishing complex. The Hygienic plant was initially planned to be utilized by the concerned division of the Ministry of Agriculture. However, since three years have passed without delivering results, the Fisheries Division is now in charge of operating it. One Cuban animal doctor has been appointed since 2010 and has started preparing to begin operation.

#### (2) Technical Aspects of Operation Maintenance

Some of the equipment is not being used at this moment. In addition to equipment for the hygienic laboratory, a smoke chamber, belt conveyer, and blast freezer, among others in the processing plant are not in use. Currently the Fisheries Division is preparing an independent smoking chamber room on its own, since the smoke chamber should have been placed outside of the processing room, so that dirt and germs are not brought in with logs and smoke does not cause hygienic problem for strictly sanitation-controlled processing room. A conveyer belt whose need has not been identified is also not yet utilized. The blast freezer is not used since there is not enough fish for freezing at the moment. One of the processing plant staff has received training from JICA, and a JICA expert (2010-2012) at the Fisheries Division has been providing technical assistance.

#### (3) Financial Aspects of Operation Maintenance

The Fisheries Division budget has been increasing every year since 2005, and the Point Wharf fisheries complex has been receiving own budget since 2009. However, once full-scale hygienic examination starts operation, the financial aspects of maintenance, for example, whether or not chemicals are adequately supplied, remains to be seen.

#### (4) Current Status of Operation Maintenance

The administrative office building except the hygienic laboratory, the wharfs, slipway, boat yard and lockers, processing plant, and some of the equipment for processing is utilized and maintenance and operation difficulties are properly dealt with. The boat engine repair space is effectively utilized during the daytime, although the fisher folk cannot leave the engines and materials over night since it is an open air. Since most of the equipment is Japanese, some of it is not easy to repair or procure, for example, air conditioners or small spare parts such as switches. Currently, a long-term expert to the Fisheries Division offers support in procuring spare parts and in replacing some of the equipment with ones that are more accessible to after sale services. The Fisheries Division is making efforts in sustainable utilisation of the facilities.

Some problems have been observed in structural aspects and current status of operation maintenance; therefore sustainability of the project effect is fair.



## Simplified Ex-Post Evaluation for Grant Aid Project

Evaluator, Affiliation	Junko Noguchi Foundation for Advanced Studies on International Development	Duration of Evaluation Study
Project Name	The Project for Improvement of Vocational Training in Ecuador	January 2010 – December 2010

### I Project Outline

Country Name	Republic of Ecuador	
Project Period	November 2004-March 2006	
Implementing Agency	Servicio Ecuatoriano de Capacitación Profesional [Ecuadorian Professional Training Service] (SECAP)	
Project Cost	Grant Limit: 809 million yen	Actual Grant Amount: 808.89 million yen
Main Contractors	Mitsubishi Corporation	
Main Consultants	Japan Development Service Co., Ltd.	
Basic Design	“Basin Design Study on the Project for Improvement of Vocational Training in Ecuador,” Japan Development Service Co., Ltd., August 2004	
Related Projects (if any)	1. JICA, “Technical Cooperation Project for Improvement of Vocational Training in Ecuador,” JICA, “Technical Cooperation Project for Strengthening of the Occupational Training for the Vulnerable Sector” 2. JICA, “Japan Overseas Cooperation Volunteers to CEFIC, CERFIN, etc.”	
Project Background	In Ecuador, it was urgent to promote the development of national industries and diversify the industrial structure, which had been difficult due to a shortage of human resources. The Ecuadorian Government, in its “National Development Plan (2003-2007),” put priority on vocational training for poverty reduction, decrease of unemployment and increase of productivity. Quito, Cuenca, Ambato and Guayaquil are 4 major cities in Ecuador, where 84% of the small and medium enterprises are located. Thus, development of vocational training in these cities was regarded important.	
Project Objective	To procure necessary equipment and machinery at 6 major vocational training centers in order to provide skilled workers with the required level of professional ability.	
Output[s] (Japanese Side)	Procurement of equipment and machinery -Areas: Electrical/electronic, machine/metal, automobile mechanic, industrial sawing, etc. -Target centers: CERFIN, CFMQS, CEFIC, CEFIA, CCSFMG and CERFIL	

### II Result of the Evaluation

#### Summary of the evaluation

This Project aimed to strengthen the training courses at Ecuador's major vocational training centers by procuring necessary equipment and machinery. Furthermore, the Project intended to develop human resources for the local industries and diversification of the industrial structure. At the same time, the “Technical Cooperation Project for Improvement of Vocational Training in Ecuador (2002-2007)” was implemented, and these two projects have generated synergetic effects. For example, the technical cooperation project had outputs such as training needs assessed, curriculum/material developed and instructors retrained. Based on these outputs, the necessary equipment and machinery were identified for this Project and have been fully utilized. The retrained instructors of different centers started communication to exchange information and skills for the curriculum revision and equipment maintenance. The Project's effects are expected to continue.

In light of the above, this Project is evaluated to be highly satisfactory.

#### <Constraints of the evaluation study>

It should be noted that the Project's achievement could not exactly be compared with the target objectives originally set at the Ex-Ante Evaluation because the method of counting the number of the courses has changed due to (i) the change of the duration of a training course and (ii) the integration of two courses to one course. However, this did not affect the evaluation analysis and results because complementary data and information were used.

#### <Recommendations to SECAP>

The system for implementing training has been strengthened at the 6 target training centers\*. By sharing the outputs produced at these centers (training needs assessment, curriculum/material development, and operation and maintenance of the equipment/machinery) with other SECAP training centers, the vocational training could be strengthened at the national level. To ensure this, it is recommended to utilize the retraining system of the instructors at the Industrial Training Center of the North Region (CERFIN) and also the network established among the retrained instructors.

\* The five target centers other than CERFIN are the Industrial Training Center of Cuenca (CEFIC), Industrial Training Center of Ambato (CEFIA), Industrial Training Center of the Coastal Region (CERFIL), Multiple Training Center of Quito Sur (CFMQS), and Center for Commerce/Services and Female Training (CCSFMG).

## 1 Relevance

### (1) Relevance to the Development Plan of Ecuador

In the "National Development Plan (2002-2003)" vocational training and human resource development were listed as priority issues, and the successive plan for 2005-2007 likewise aimed to improve the productivity of the domestic industries and develop the vocational capabilities. In the "National Development Plan (2007-2010)," these issues continue to be priorities, identifying the modernization of SECAP and vocational training of the vulnerable, including women, as the national strategies.

### (2) Relevance to the Development Needs of Ecuador

In Ecuador, the petroleum and industry sectors account for 12% of GDP. These are easily affected by the change of the international oil price and so it was urgent to develop alternative industries and human resources. However, SECAP, which was the only vocational training center in the industrial sector, had needed to upgrade the instructors and equipment/machineries to satisfy the demand from the industrial sectors.

### (3) Relevance to Japan's ODA Policy

In the policy consultations held in 1999 and 2005, "poverty reduction," "environmental conservation" and "disaster prevention" were discussed as priority areas for assistance. Among these areas, "poverty reduction" includes the development of key industries (industrial human resource development and vocational training for the vulnerable).

This project has been highly relevant to the country's development plan, development needs, as well as Japan's ODA policy; therefore, its relevance is high.

## 2 Efficiency

### (1) Project Outputs

There was a small change in specification and quantity of some equipment at the time of the re-bid. This was because the freight increase compared to the expected due to a doubling of the oil price. Also, because the Ecuadorian government procured part of the equipment, the Japanese share was reduced. However, this change didn't affect the training quality much, and therefore the outputs were generally appropriate.

### (2) Project Period (Project Inputs)

It took 16 months to complete the Project, slightly longer than planned (123% of the planned). As the Project had two bids, the shipment was delayed.

### (3) Project Cost (Project Inputs)

The actual cost was 808 million yen, lower than planned (809 million).

Although the project cost was lower than planned, the project period was longer than planned; therefore, efficiency of the project is fair.

## 3 Effectiveness / Impact

### (1) Quantitative Effects

The 6 target training centers including CERFIN had the following achievement in 2009—(i) 444 "up-grading courses" for employed workers, (ii) 77 "specialized training courses" as pre-service training, and (iii) 8 "professional training courses" as pre-service training in industrial sewing. The total number of courses was 529 compared to the planned target of 781. The reasons why the objective wasn't achieved are that the duration of an "up-grading course" was extended after 2007, and that two "specialized training courses" were integrated into one course. In these two courses, however, the number of trainees has increased since the year when the courses decreased (5,836 trainees to 6,184 for the "up-grading course;" 1,284 trainees to 1,451 for the "specialized training courses"), and so it can be said that the training scale has expanded. As for the "professional training course" the number of trainees has been almost stable.

### (2) Impacts (Impacts on the natural environment, Land Acquisition and Resettlement, and Unintended Positive/Negative Impacts)

Cases were reported where new technologies were applied and the factory was automated at the organizations to which the trainees belong. Furthermore, the Chamber of Commerce and the trainees' organizations are satisfied with the training contents, expressing that "the quality of the product has improved," "the productivity has increased," etc. There have also been training impacts at the individual level; The employment rate of those who completed the courses at CERFIN increased from 67% (2007) to 90% (as of May 2010). At CFMQS, the employment rate of the female trainees improved from 84% (2007) to 99% (as of May 2010).

### (3) Synergetic Effects with the Technical Cooperation Project

This Project and the technical cooperation project have generated synergetic effects as follows. The instructors retrained by the technical cooperation project have given retraining to the other instructors at the centers targeted by this Project, and monitored their performance. In addition, the curriculum and material developed at CERFIN has been utilized at other 5 centers. When the necessary equipments and machineries were selected for this Project, the experts dispatched to the Technical Cooperation Project gave useful advice which lead to the smooth training implementation.

This project has largely achieved its objectives; therefore, its effectiveness is high.

## 4 Sustainability

(1) Structural Aspects of Operation Maintenance

At the 6 centers, the number of instructors has been slightly increasing or stable in quantity, and they have been retrained. At each center, the staff is assigned for training needs assessment, follow-up of the trainees, revision of the curriculum/material, and employment assistance. Regarding the equipment procured by the Project, the instructors and storage personal are responsible for the operation and maintenance. In the area of the industrial sewing, the external technicians are in charge of equipment maintenance.

(2) Technical Aspects of Operation Maintenance

The instructors of the 6 target centers visit each other to share their knowledge and skills regarding equipment operation and maintenance. The operation manual is available to all the staff at every center. To those who didn't receive the training when the equipment was installed, the same training was repeated (12 training opportunities as of February 2010).

(3) Financial Aspects of Operation Maintenance

The budget of SECAP drastically increased in 2007 and since that year has still been slightly increasing. In 2010, the budget for the operation and maintenance of the equipment is self-evaluated as "sufficient" at the 5 centers (CEFIA, CCSFMG, CFQMS, CEFIC and CERFIL). At CERFIN, it is "not sufficient" and is now requesting additional funds to SECAP.

(4) Current Status of Operation Maintenance

The major equipment procured is inspected regularly at each center. At CFMQS, CEFIA and CCSFMG almost all the equipment is functioning without a history of breakdown. At CERFIN, CEFIC and CERFIL, some equipment is under repair, but most is functioning.

No major problems have been observed in the operation and maintenance system; therefore, sustainability of the project effect is high.





## Simplified Ex-Post Evaluation for Grant Aid Project

Evaluator, Affiliation	Keiko Asato Foundation for Advanced Studies on International Development	Duration of Evaluation Study
Project Name	The Project for Strengthening Health Service and Reference System in the Departments of Chinandega and Granada	January 2010 – December 2010

### I Project Outline

Country Name	Republic of Nicaragua	
Project Period	June 2004-November 2005	
Implementing Agency	Ministry of Health	
Project Cost	Grant Limit: 828 million yen	Actual Grant Amount: 790 million yen
Main Contractors	(Construction) Konoike Construction Co., Ltd. (Procurement) Mitsubishi Corporation	
Main Consultants	Azusa Sekkei Co., Ltd	
Basic Design	"El Estudio de Diseño Básico del Proyecto de Fortalecimiento de los Servicios de Salud y del Sistema de Referencia en los Departamentos de Chinandega y Granada en la República de Nicaragua", Japan International Cooperation Agency (JICA) and Azusa Sekkei Co., Ltd, Agosto, 2003	
Related Projects (if any)		
Project Background	Medical facilities and equipment are aging in Nicaragua as a result of low public investment during Nicaragua's civil war (1979 to 1989). Moreover, most of the buildings which house Nicaragua's primary care medical facilities have been borrowed from local governments and were not originally constructed for medical purposes. As a result, facilities have been repeatedly and inconsistently rehabilitated and extended. Under these circumstances, Nicaraguan medical facilities have not been able to properly meet the people's needs for medical services.	
Project Objective	To construct health centers and to provide medical equipment in the provinces of Chinandega and Granada, in order to strengthen the network of appropriate primary care health/medical services, and to improve the referral system between primary and secondary level medical facilities.	
Output[s] (Japanese Side)	1. To construct 5 health centers (*) and to procure medical equipment for them. 2. To procure medical equipment for the preexisting health centers (**). (*) construction for each medical faculty (such as internal medicine, pediatrics, obstetrics and gynecology, dentist, emergency treatment, laboratory examination, baby delivery, supply and sterilization, and administration faculty) and its related equipment (**) medical equipment utilized for the following faculties: internal medicine; pediatrics; obstetrics and gynecology; and laboratory examination	

### II Result of the Evaluation

Summary of the evaluation
<p>This project covered 7 health centers, including 5 new health/medical facilities (constructing and equipping) and 2 pre-existing health centers (equipping). The 5 new facilities included: the Chinandega health center in Chinandega province (hereinafter referred as ①), the Posoltega health center (②) and the El Realejo health center (③) at the province referred, and the Granada health center in the Granada province (④), the Diriomo health center at the same province (⑤). The 2 preexisting health centers included: the San Pedro health center at Chinandega province (⑥) and the Nandaimé health center at Granada province (⑦).</p> <p>The Project to construct the health facilities and to provide the regional health center with medical equipment for primary care coincided with both Nicaraguan and Japanese policies, because these facilities were originally used for other purpose such as residence and others. They have been repeatedly and inconsistently rehabilitated and extended and cannot properly respond to the needs and demands of the people. We could obtain the information of effectiveness of this project only from limited three health centers (①, ② and ③) out of 7 centers, where the number of treatment at target faculties was less than the one at the planning at the timing of target year. Whereas, at the time of ex-post evaluation, the number of baby deliveries, laboratory examinations and medical treatments were exceeding the target figures. Not only these quantitative effects, all the seven health centers reported also the qualitative improvement of their health/medical services due to this project.</p> <p>Regarding the operational status of equipment; at present, some advanced equipment (such as dental unit, vapor pressure sterilizer) at the health centers in the Chinandega province have some functional problems but the advanced equipment in Granada province are well utilized. In addition, most of the general equipment in both Chinandega and Granada provinces are, in general, well utilized.</p> <p>Regarding the facilities use, some problems exist, but no significant defects have been reported. The centers at Granada province assign the persons in charge and secure the technical level for the maintenance of facilities and equipments. On the other hand, the centers at Chinandega province still need more improvement in regards to personnel assignment for the facilities and equipment, and also information sharing in regards to maintenance. Regarding the budget, all the centers increased their entire budget since the time of planning, however, the budget specified for the maintenance of facilities and equipment is reported to be insufficient, except for the Granada health center.</p> <p>In light of the limited information stated above, this project is evaluated to be satisfactory.</p>
<Recommendation to the Ministry of Health of Nicaragua>

The health centers at the Chinandega province should raise the operation rate of the facilities and equipment by putting an appropriate person in charge and by repairing the facilities and equipment. Some centers, which are experiencing operational problems with equipment due to lack of Spanish instruction manuals, should be delivered copies and this should solve the operation problems.

<Constraints of the evaluation study>

This project covered 7 health centers in the Chinandega and Granada provinces, by constructing facilities and providing them with medical equipment. However, the information collected from the target centers, related to the effectiveness, impact and status of current operation and maintenance, was quite limited. This evaluation was done based on this restricted condition.

## 1 Relevance

### (1) Relevance to the Development Plan of Nicaragua

The "National Development Plan (Plan Nacional de Desarrollo) 2003" at the time of planning of this project, indicated that strengthening regional health/medical service system (hereinafter SILAIS) was an important issue for the health sector. In addition, the health sector policy (Plan Nacional de Desarrollo) 2003 highly prioritized the decentralization of the health/medical service, the modernization of the regional health system, the enhancement of primary care medical service and the improvement of the referral system. The current national policy, "National Human Development Plan (Plan Nacional de Desarrollo Humano) 2008-2012" emphasizes the right of all Nicaraguans to receive health/medical services in order to reach "Equity of Development and Society". In this plan, responding to the needs of the people in each region by renovating health facilities and equipment, and increasing public investment in medical infrastructure is considered a significant national policy so that the every person can enjoy quality health/medical services free of charge.

### (2) Relevance to the Development Needs of Nicaragua

Before this project, aging medical facilities and equipment were problems for Nicaragua's primary care medical system. Moreover, most of the primary care medical facilities borrowed from the local government, were not originally intended for medical purposes but were originally intended for other purposes such as private residences and therefore have been repeatedly and inconsistently rehabilitated and extended. Patients, therefore, who ought to have received health/medical services at primary care facilities, were shifted to secondary care medical facilities in order to obtain better medical service and this posed an additional burden on the secondary care regional hospitals. According to the current health policy "National Health Policy (Política Nacional de Salud)", not being able to respond to medical service requests at the primary care level is still part of their problem. In response to this problematic situation, the following issues need to be taken under consideration with care with good balance: improving primary care facilities and equipment; fostering medical professionals; and strengthening the network among the health facilities.

### (3) Relevance to Japan's ODA Policy

At the time of planning the Project, Nicaragua's Country Assistance Program for Nicaragua (2002) designated the "field of health and medical services" as a priority area to be supported and the special emphasis was laid on strengthening institutional aspects of the regional health system.

In light of the above, this project has been highly relevant with the Nicaraguan development plan, development needs, as well as Japan's ODA policy; therefore, its relevance is high.

## 2 Efficiency

### (1) Project Output

Equipment was procured as planned. Regarding the facility construction, some modification was undertaken, such as target area of refining of basic construction and the form of basic framework. This happened because the basic design was prepared based on the sample 2 site survey, but the actual site conditions differed. However, practical adjustments were made without problem and additional budget was not required.

### (2) Project Period

The Project took 17.5 months to complete compared to the 17 month planned period (103% of the planned period).

### (3) Project Cost

The actual cost was 790 million yen (93% of the plan), against the planned cost of 846 million yen. Owing to fair bidding, procurement was made within the estimated price.

In light of above, the project cost was within the plan and the project period was almost as planned; therefore the efficiency of the Project is high

## 3 Effectiveness / Impact

#### (1) Quantitative Effects

This project's aims were to increase the number of medical treatments in 2007 from 2002 levels in the following areas: faculties including internal medicine, pediatrics, obstetrics and gynecology; and the field of dentistry. We could obtain the achievement information only from 2 centers at Chinandega province (①, ③) (regarding the dentistry, 3 centers (①, ② and ③)) out of 7 health centers. Even with this limited information, the achievement result at the target year in 2007 had fallen at all faculties compared with the figures in planning year, 2002. (For internal medicine: 542→268, pediatrics: 135→44, obstetrics and gynecology: 46→31 and dentistry: 65→28). Meanwhile, the number of laboratory examinations and baby deliveries showed a drastic increase (laboratory examinations: 120→337 and baby deliveries: NA→1,162). At the time of ex-post evaluation in 2009, the achievement level these indicators are as follows; internal medicine: 542→245, pediatrics: 135→105, obstetrics and gynecology: 46→49, dentistry: 65→60, laboratory examinations: 120→541 and baby deliveries: NA→1,079. We cannot identify the reason for the drastic decreased in the number of medical treatments for internal medicine. Even with this limited information, at the present, at half faculties, the number of treatment has increased.

#### (2) Impacts

Even though a decrease in the mortality rate of pregnant and parturient women and of new-born babies was expected as an effect of this project, we currently cannot obtain statistical data on these indicators. However, in terms of other indirect effects, all the centers reported that local people are being delivered better medical service at the primary care level including: obtaining appropriate prescriptions based on exact medical examinations; undertaking laboratory examinations that were not previously available; undertaking preventive dentistry and ultrasonic diagnosis; and providing private-care examination rooms. In addition, each health center has specific procedures to refer the patient to the higher-level health/medical facilities, some actions to improve the referral system have started to be taken. Moreover, we expected that the number of patients referred from primary care facilities to secondary care medical centers would decrease as an impact of this project. Improved primary care facilities would reduce the necessity of patients being sent to secondary facilities. Regarding this indicator, we could only obtain information from the Nandaime health center. However we cannot identify the expected effect.

With the limited information obtained as above, even we could not see the effect at the time of target year in 2007, at the present (at the time of ex-post evaluation), we can see the quantitative and qualitative effects partially by this project. In light of this situation, this project has somewhat achieved its objectives, therefore its effectiveness is fair.

### 4 Sustainability

#### (1) Structural Aspects of Operation Maintenance

Regarding the facilities, among the 5 newly constructed health centers, in the Chinandega province, only one (②) out of three health centers (①, ②, ③) assigns a person to be in charge of facility maintenance, and in the Granada province, both centers (④, ⑤) do assign a person. At the center mentioned in Chinandega (②), partial facility inspection is done when the technical group comes from Managua, whereas at the two centers in Granada, the administration section takes care of its daily inspection.

As for equipment maintenance, at the time of planning it was understood that internal staff could not technically afford to take care of it, and it was expected that technical support would be available from SILAIS or other secondary care hospitals (such as Spanish Hospital and Japan-Nicaragua Friendship Hospital). At the present, in Chinandega province, except Chinandega health center, all the health centers (②, ③, ⑥) receive technical support from either Spain Hospital or SILAIS. Also at Granada province, except Granada health center, all the health centers (⑤, ⑦) get technical support from either the Center for Medical Equipment Maintenance (CEMED) or the Japan-Nicaragua Friendship Hospital. Regarding the equipment, two types of equipment, the general equipment and advance equipment were included. As for the general equipment, at all the 7 health centers, the daily inspection and clean-up is done by the medical staff or the administrative staff. For advanced equipment, while two centers in Granada (④, ⑤) assign a specific person for that purpose, at Chinandega province, only one center (②) assigns a designated person. All the 5 centers that obtain facility and equipment maintenance support from SILAIS or other secondary care hospitals (②, ③, ⑤, ⑥, ⑦) expressed that they are generally satisfied with the service they receive. 4 out of 7 health centers (two at Chinandega province (③, ⑥), and two at Granada province (④, ⑦) assign a person to be in charge of the stock management of spare parts.

#### (2) Technical Aspects of Operation Maintenance

All medical staff at each health center (including doctors, nurses, pharmacists and laboratory engineers) who use medical equipment on a daily bases, are required to have an academic degree in order to start working. When any new staff begins to work, in the three centers in Granada province (④, ⑤, ⑦), initial training of between 3 to 7 days is conducted, including instruction on how to use the medical equipment. On the other hand, the centers in Chinandega province do not carry out, such an initial training programs. However, we cannot identify any serious problem related to the usage of medical equipment at any health center. (It is reported that two centers (②, ③) in Chinandega has encountered some problems, one of which is caused by the lack of instruction manuals in Spanish)

#### (3) Financial Aspects of Operation Maintenance

At the 5 health centers which provided budgetary information, all the centers have increased their budgets as compared to their budgets at the time of the project's planning. However, all the centers, except the Granada health center, replied that they face a budget shortage to purchase consumables and spare parts, and to repair the equipment. The budget does not seem sufficient to maintain the facilities and equipment.

#### (4) Current Status of Operation Maintenance

Regarding the facilities operation (such as treatment room, drainage, ventilation, electric installation, air conditioner and others), Chinandega health center and Posoltega health center reported that they had some malfunctioning of a drainage pipe, a leak and problem with a door-fitting. Although these problems were found upon defect inspection and were repaired at that time, they are still reported as problems. Overall, even considering these problems, essentially serious problems (such as the inability to use facilities)

have been reported.

As for the operation status of equipment, we can collect information of roughly 60% of all equipment. In the Chinandega province, the advanced equipment (dental unit and vapor pressure sterilization) have malfunctions. At 2 centers (②, ③), dental units are not functioning and at one center (①), both pieces of equipment are not in use. Meanwhile, at 4 centers, more than 70% of all general equipment is being used in this province. On the other hand, in the Granada province, the advanced equipment at 2 centers (④, ⑤) are functioning well, and at all 3 centers, in general, more than 80% of general equipment is being used in good condition.

On the procurement of spare parts, the necessary consumables and spare parts are difficult for the all the centers, other than the Granada health center, to obtain at the time of their request due to budget constraints or the unavailability at the local market. Agents related to 3 centers in Granada (④, ⑤, ⑦) are functioning well, but the agents around 3 centers in Chinandega (①, ③, ⑥) are not operating, and it is difficult to get spare parts.

As for the transfer to the new health center, the Granada health center took time to move into the new facility. They completed their transfer in February 2007 (this project completed in November 2005). Before they moved to the new center, they assigned a person in charge to safely administer the facilities and equipment and keep checking their condition. Owing to this monitoring, when they moved to the new center, they did not find any problems in the facility and equipment, and were able to keep on using both the advanced and the general equipment and both are still in good condition.

In light of the above, some problems have been observed in the structural and financial aspects of the implementing agency, therefore, sustainability of the project effects is fair.