

## Summary

<b>I. Outline of the Project</b>			
<b>Country:</b> Panama		<b>Project title:</b> Project for the Participatory Community Development and Integrated Management of the Alhajuela Lake Subwatershed	
<b>Issue/Sector:</b> Agriculture/ Forestry/ Fisheries-Forestry-Forestry /Forest Preservation		<b>Cooperation scheme:</b> Technical Cooperation	
<b>Division in charge:</b> Forestry and Nature Conservation Group, Global Environment Department,		<b>Total cost:</b> <u>370 million yen,</u>	
<b>Period of Cooperation</b>	<b>(R/D):</b> 2006/8~2011/7	<b>Partner Country's Implementing Organization:</b> National Environment Authority (ANAM)	
		<b>Supporting Organization in Japan:</b> <b>Ministry of Agriculture, Forestry and Fisheries</b>	
<b>Related Cooperation:</b>			
<b>1 Background of the Project</b>			
<p>The area of the Alhajuela Lake subwatershed, located in the east of the Panama Canal Watershed, is particularly biological and socio-economical important area. Villagers in the area have been developing economic activities through the exploitation of the natural resources. Therefore, it is necessary to introduce environment-friendly and sustainable production techniques in order to enhance their living-standard besides restoring the condition of environment in the area.</p> <p>The National Environmental Authority (hereinafter referred to as 'ANAM'), in collaboration with Japan International Cooperation Agency (hereinafter referred to as 'JICA'), implemented the Panama Canal Watershed Conservation Project (PROCCAPA), in the upper-part of the western Panama Canal Watershed from October 1, 2000 to September 30, 2005, and had successful experiences on applying participatory community development for the conservation of the natural environment.</p> <p>Both the conservation of the Panama Canal Watershed and the enhancement of living-standard of people in the area are important issues for the Panama Canal and human security. Therefore, ANAM launched the Project in August, 2006 for the period of five years under the cooperation from JICA.</p> <p>As the Project period is to be terminated in July 2011, the Terminal Evaluation Team (hereinafter referred to as 'the Team') has been formed in accordance with the JICA evaluation guidelines for the purpose of evaluating the progress and performance and providing recommendations for the further realization of the Project outputs during the project period left and realization of overall goal after terminating the project. The terminal evaluation has been undertaken by the Evaluation Team with the authorities concerned of Panama.</p>			
<b>2 Project Overview</b>			
<b>(1) Overall Goal</b>			
The environment friendly and sustainable production is practiced in middle and lower watershed of Alhajuela Lake.			
<b>(2) Project Purpose</b>			
Sustainable production techniques implemented using environment friendly and participatory methods are practiced by the established group members through extension system of ANAM.			

### (3) Outputs

- 1) Self-active groups are organized by the participatory manners with gender equality.
- 2) The group members are skilled in environment friendly production techniques.
- 3) Farmland-use plans (PUF) that contribute to the territorial ordering of the watershed and the conservation of the Chagres National Park are elaborated and in process of implementation by the members of the groups.
- 4) The forest coverage for the soil restoration in critical areas and important areas in common interest of group members and related authorities, are increased by the members of the groups.
- 5) Extension service in line with the needs of group members and the related policies is provided by extension members.
- 6) The community members are conscious of the importance of the appropriate use of natural resources and environmental conservation in the Project area.

### (4) Inputs

**Japanese side: Total** 370 million Yen

<b>Experts :</b>	8 person	<b>Equipment :</b>	7,649,000 Yen (US\$ 85,307)
<b>Panamanian Assistant :</b>	4 person	<b>Local cost :</b>	69,382,000 Yen (US\$ 808,168)
<b>Trainees received :</b>	11 person		

**Panamanian Side:**

<b>Counterpart:</b>	19 person	<b>Local cost :</b>	US\$ 249,500
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### II. Evaluation Team (Members of Evaluation Team)

Mr. ENDO Hiroaki	Team Leader	Director, Forestry and Nature Conservation Division 2, Forestry and Nature Conservation Group, Global Environment Department, JICA
Dr. SUGAWARA Suzuka	Participatory Rural Development	Senior Advisor, JICA
Mr. NAKASE Ryosuke	Cooperation Planning	Staff, Forestry and Nature Conservation Division 2, Forestry and Nature Conservation Group, Global Environment Department, JICA
Ms. HOMMA Mariko	Evaluation Analysis	Consultant, INTEM Consulting Inc.,

<b>Period of Evaluation</b>	13/2 / 2011~ 5/ 3/ 2011	<b>Type of Evaluation:</b> Terminal Evaluation
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### III. Results of Evaluation

#### 3-1 Result of Achievement

##### (1) Outputs

1. Output 1 has almost been achieved the target as planned.  
Fourteen farmers' groups have been conducting group activities with the support from extension service of the Project. Seven of them were newly formed, and others had already existed and strengthened by the Project. Women are actively involved in the group activities. Among one hundred fifty four group members in total who are reported as active participants of the group activities in the fourteen groups, seventy of them (forty five percent) are women. Women are also involved in the decision making of the groups. All the groups are fairly managed through the weekly meeting, and keep their crop production note and accounts by themselves. Nine of them have already obtained legal status. Four groups have developed their business plan and three others have made their draft version to apply for external funding for their activities.

2. Output 2 has partly been achieved as planned and is foreseen to be achieved in remaining period.  
The Project provided one-week training on environment friendly production techniques twelve times. Various skills related to environment friendly production and group management. One day seminars and workshops and periodical advices from extension were also provided. Through these various training opportunities, forty types of environment-friendly production techniques were introduced and Techniques have been integrated in accordance with the condition of each farm. So far, thirty eight types of the techniques have been used in the groups' farms and individual farms of the members.
3. Output 3 has partly been achieved as planned and is foreseen to be achieved in remaining period.  
Currently all the fourteen groups have maintained each PUF and applied to their group activities. Eighty one among one hundred thirty three (about sixty percent) members who own<sup>1</sup> individual farms have developed their own PUF. The Project has developed the outline of PUF in accordance with the related policies. The PUF developed by the Project is foreseen to be accepted as the farm management plan required for farmers in the Chagres National Park. Although the role of the extension workers is crucial in the production and usage of PUF by group members, the Project was not able to keep them adequately updated about the related policies and regulations.
4. Output 4 has been achieved as planned.  
In total 2.1 hectares in critical areas in the targeted communities was planted. The Project also enhanced members to afforest in non critical areas (1.4 hectares). Other community people not belonging to the groups are also involved in these activities in relation with the environmental education (Output 6).
5. Output 5 has almost been achieved as planned.  
The Project has developed the first version of the Extension Guideline in June 2009, which contains the implementation process of extension services in the community level. It has been under revision and is to be finalized as a second version by the end of the Project. About once a week or two weeks, groups receive the extension services. According to the monitoring conducted by the Project, about seventy six percent of the targeted beneficiaries have satisfied with the services and about seventeen percent feels fine with them. Although the Extension Guideline has been approved and distributed to the ANAM staff, discussions about how to utilize the procedures in ANAM as an organization have not been fully taken place
6. The Output 6 is almost achieved as planned.  
Environmental education was provided to the group members and the community people. Seventy five percent of the participants answered they increased the awareness of importance of environment conservation. The Project developed or collected eighty five materials for environmental education.

## **(2) Project Purpose**

The Project purpose has almost been achieved as planned.

Through various training opportunities, including extension services, forty types of environment-friendly production techniques were introduced and demonstrated in group farms. So far, thirty eight types of the techniques have been used in the groups' farms and/or individual farms of the members.

All the fourteen groups have elaborated their three to five year action plans for their group activities, which include a future vision, basic information, PUF and strategies for strengthening the group resources, network creation and training. They have been applying these plans to their group activities. Furthermore, over eighty percent of the member who own individual farms would develop their individual PUF by the end of the Project. All the

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<sup>1</sup> Many households do not have land title in reality. However the term 'own' is used for convenience of discussion.

Outputs will be achieved in remaining period.

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

#### **(1) Relevance**

The Team concluded that the Project was relevant.

The Project target area is located in the Chagres National Park and the buffer zone, and recognized for its biological, hydrological and socio-economical importance in Panama. The Panamanian government focused on the protection of the area. It has been high needs for ANAM to enhance the watershed management and environmental conservation in accordance with the related policies. JICA also considers environment conservation and rural poverty reduction as important cooperation issues in Panama. The selection of the target area was relevant in terms of needs for environment conservation and watershed management, and for livelihood/production improvement of the people in the area. Approaches adopted by the Project are based on the experiences of PROCCAPA. Given different socio-economic context of the target areas the Project's application of these approaches was not sufficiently flexible.

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

The Team judges the effectiveness of the Project implementation is fairly high.

All the six Outputs have mostly been achieved through the Project activities. Based on the achievement of these Outputs, the Project purpose is to be achieved by the end of the Project period. The Project has been designed to achieve the purpose through a synergy effect of the Outputs.

Organization of Self-active groups (Output 1) enables to achieve technology transfer and application of the environment friendly production techniques (Output 2). Through environmental education (Output 6), environmental awareness has been raised among Self-active groups, and the application of the output has been stimulated. Elaboration of the PUF (Output 3) assists operation of the Self-active groups (Output 1), and stimulates project implementation of the environment friendly production techniques (Output 2). Besides, implementation and monitoring of these activities through extension service contributes to the establishment of the extension system and guidelines (Output 5). Both the Gender training and self-development training (Output 2) and extension service (Output 5) encourage participation of women and as a result having contributed to the organization of Self-active groups (Output 1). On the other hand, tree plantation activity (Output 4) is considered to be implemented smoothly because of its close relationship between the activities on Output 2 and 3, rather than being treated as an independent output.

Group approach enabled small farmers who have limited capacity to invest, to access to new equipment and techniques to ensure their livelihood better through participating in the Project.

#### **(3) Efficiency**

The Team judges that the efficiency of the Project implementation is relatively high.

Activities have been implemented as is planned to a certain extent. However, some activities have not been planned regardless of the necessity. For example, the opportunities for learning and updating knowledge about the policies and regulations were not sufficient. Activities to enhance the dissemination of the Project approaches which are to be planned related to Output 5 have not been fully conducted. Activities to secure the handover the Project activities to Chagres National Park are to be required during the Project period left.

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

Overall goal of the project are expected to be achieved through planned implementation of the exit strategy (The strategy which will be implemented continuously by ANAM even after the project) formulated by ANAM. Through implementation of project activities, following expected/unexpected spreading effects have been observed.

##### **<Expected spreading effect >**

- ♦ Impacts to the awareness of importance and necessity of environment are observed.
- ♦ The participatory approaches through organizing community groups and environment-friendly techniques introduced has been approved the effectiveness and adopted by related organizations.
- ♦ The PUF developed by the Project is foreseen to be accepted as the farm management plan required for farmers in the Chagres National Park.
- ♦ The Project has started providing support to existing organization, such as three schools in remote communities that face serious difficulty in environmental conservation.
- ♦ Relationship and mutual understanding among group members and other people are strengthened.
- ♦ There are cases of adoption of the techniques by other community people.

##### **<Unexpected spreading effect >**

- ♦ Some groups had not settled the internal conflicts caused by the land-use right among the members. The activities in the Project have resurfaced some conflicts and affected the relationship between the current members and other members.

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

The Team considers that the sustainability of the Project will be ensured by implementation of the exit strategy. Farmers' groups supported by the Project have improved their capacity to maintain the group's management and continue the group activities on their own, though some of them still need follow up support. Groups are also expected to receive supports from other organization because of the maturity of its organization. The counterparts in ANAM have already improved the skills through the Project and have high capacity to conduct the follow up of the Project activities. The follow up and dissemination activities in the Project area, including both Chagres National Park and the buffer zone could be conducted by the Chagres National Park. Currently one counterpart belongs to the Park. Institutional set up and legal frame work to secure the sustainability of the approaches and techniques has some limitations. Dissemination of them in other watersheds will be conducted during the Project period

### **3-3 Factors promoting sustainability and impact**

#### **(1) Factors concerning to Planning**

- ♦ Many techniques and approaches including group approach experimented in PROCCAPA\* were adopted with some modifications in the Project. The Panamanian side also made use of human resources and organizations strengthened through past projects such as PROCCAPA.
- ♦ Gender training and self-esteem training held at the early stage of group formation were effective to enhance women's participation and induce equal contribution from both women and men.

\* Through building mutual reliability between the administration and the local residents, PROCCAPA (2000-2005) enabled to establish two major achievements. Firstly, the project established the environment friendly production techniques that contribute to better watershed management such as methodology to organize farmers through

participation, agroforestry, contour farming and rice cropping. Then the techniques were transferred to extension members. The community members have been proactively and continuously engaged in the production activities that contribute to better watershed management.

## **(2) Factors concerning to the Implementation Process**

- ♦ Provision of economic incentives for the members, including business plan secures the sustainability of group activity.

### **3-4 Factors inhibiting sustainability and impact**

#### **(1) Factors concerning to Planning**

- ♦ Approaches adopted by the Project are based on the experiences of PROCCAPA. Given different socio-economic context of the target areas application of these approaches was not sufficiently flexible.
- ♦ Output 4 could have been integrated in Output 2 and 3 in order to implement the Project more systematically.
- ♦ There are several donors and organization working in the same community as the Project support. Duplication of the assistance activities by various donors prevented smooth operation of this project.

#### **(2) Factors concerning to the Implementation Process**

- ♦ There wasn't sufficient attention paid to regular checking, analysis and compilation of collected information on group activities and feedback to the implementation process.
- ♦ Heavy rain in dry season in December 2010 damaged the facilities and group farms of some groups

### **3-5 Conclusion**

The Team concludes that the Project purpose is to be achieved by the end of the Project. The Outputs have almost been achieved and some activities left will be completed in the remaining period. The Project succeeded in formation of groups. The group organization became a basis for small farmers to acquire and experiment new environment friendly techniques for sustainable farming, which is pre-requisite for watershed management. The Project also raised their awareness of environment conservation. Through the Project also provided support to develop PUF for group/individual farms. Assistance in production of PUF by the Project is valuable contribution for ANAM to promote the approval process of farm land-use by farmers, which is essential for better watershed management, including Chagres National Park. The extension guideline and the experienced counterparts through the Project are assets for ANAM to continue and disseminate the extension service in the target area and beyond. For ensuring sustainability and expanding the outcomes and approaches of the Project, strategic approaches need to be developed. The strategy will also produce the expected achievement of the Overall Goal.

### **3-6 Activities to be recommended during and after the Project period**

The Team recommends the following.

#### **(1) Expansion of extension service in the Project area**

<During the Project period>

The Project should

- ♦ Collect and provide information to the formed groups about possible funding sources and extension service providers for sustaining their members' activities.

- ◆ Develop monitoring plan based on the analysis of the group in terms their organizational maturity, and carry out monitoring according to the plan.
- ◆ Ensure the completion of the development of individual PUF of the group members.

<During and post-project period>

The Project and ANAM should

- ◆ Develop and implement a strategy to increase the number of members in the existing groups and of beneficiaries outside the formed groups.

## (2) Dissemination of extension procedures

<During the Project period>

The Project should

- ◆ Draw lessons learned by categorizing and analyzing experiences of fourteen groups. Categorization could be made by location of community, main means of livelihood, property rights, and history and characteristic of organization. Lessons could be incorporated into the Extension Guideline in the part of annex.
- ◆ Invite a wide range of audience including MIDA, ACP and other relevant agencies working in the region to the dissemination workshops/seminars for the Extension Guideline in order to share the information and strengthen the network for the future collaboration.
- ◆ Share the lessons learned from the Project in the final seminar with relevant agencies.
- ◆ Invite relevant organizations, such as MIDA, Natura Foundation, ACP, etc, for monitoring activities to enhance the future collaboration, particularly for effective utilization of PUF.

<During the Project period>

ANAM should

Review and approve the Extension Guideline prepared by the Project by April to enable the dissemination seminar to be held before the end of the Project.

<During and post-project period>

ANAM should

- ◆ Make effort for widely using the Extension Guideline at the training center of ANAM.
- ◆ Try to institutionalize the implementation of the Extension Guideline.
- ◆ Share the progress of dissemination of the extension procedure in CICH meeting at least once a year.

## (3) Farmland-use Plan (PUF)

<During the Project period>

ANAM should

- ◆ Give respond as soon as possible to existing application for farm land use in Chagres National Park.
- ◆ Establish general procedures for approving applications for land use in Chagres National Park.
- ◆ Establish as soon as possible legal mechanism for unifying PUF produced by the Project with 'management plan' which is the official document required for applying for land-use in the Chagres National Park.

<During and post-project period>

ANAM should

- ◆ Provide technical assistance in developing the Plan to farmers without PUF in the Chagres National Park and those belonging to the groups established by the Project in the buffer zone
- ◆ Continue to collaborate with other institutions, such as MIDA and NGOs to promote elaboration of PUF as an

effective tool for watershed management in the buffer zone.

- ◆ Continue and strengthen coordination with ACP for PIEA to be extended into the Chagres National Park.

(4) Mechanism of extension of ANAM

<During the Project>

ANAM should

- ◆ Clarify the responsibility of the extension services in the buffer zone between the regional office and the Chagres National Park.
- ◆ Make arrangement for the Chagres National Park Management Office to have access to equipments and materials provided by the Project including vehicle and boats for extension and monitoring activities.
- ◆ Have transfer period of the tasks and taken by the Project to the Chagres National Park Management Office during the Project period.
- ◆ Allocate additional personnel (ideally from the Project counterparts) to the Chagres National Park Management Office for its taking over the Project.

<During and post-project period>

ANAM should

- ◆ Assign personnel for the dissemination of the extension procedures developed by the Project beyond the Project area. (Ideally those who are assigned to the Project as counterparts and/or employed by the Project as its assistants).

(5) Feedback of the Project experience into policy and plans

<During and post-project period>

ANAM should

- ◆ Make greater effort to promote integration of the Project experiences in the formation and modification of watershed management policies and plans of other institutions, particularly ACP.

(6) Development and implementation of 'exit strategy'

<During and post-project period>

Considering the recommendations presented above, ANAM should develop an 'exit strategy' which specifies concrete steps to take over and follow up the Project, ensuring sustainability and diffusion of its outcomes.

**3-7 Lessons Learned**

(1) Project design

- ◆ For future projects, careful consideration in selection of target populations and strategies in designing the project is necessary.
- ◆ When the implementing entity shares the extension responsibilities, the project should mobilize other organizations with extension activities through agreements to work together from the beginning.
- ◆ A component or approach to link up activities at micro and mezzo levels with macro level policies and institutions should be incorporated in the design of future project.



## (2) Project Approach

- ◆ It was effective to have many counterparts who took part in the previous project. It can be concluded that to employ counterparts from previous project will be effective in general. Future projects should make best use of assets built on in past similar projects.
- ◆ When applying an approach developed by a project carried out in the past, a future project should pay special attention to difference in socio-economic situation and make necessary alteration in the approach to suit to the context of a new project area.
- ◆ It is important for a future project to comprehend patterns of collective actions of local people and to determine most appropriate approach(es) to fit them.
- ◆ Future activities should pay attention to how to integrate bottom-up approach and top-down approach through adequate legal and policy frameworks.

## (3) Monitoring and Evaluation

- ◆ Collection and utilization of baseline data for analysis: The Project has regularly monitored progress of activities in each group. However, in order to grasp its impact, the Project should have collected baseline data on income/consumption level of group members at individual and household levels. Future projects should ensure that baseline data collection is integrated in their activities so that project can analyze changes in socio-economic situation before, during and after project intervention.

## (4) Group activities

- ◆ It is essential that all group members have clear and common understanding of regulations to follow when they join or leave groups.
- ◆ Experience sharing through field visits enhances members' motivation and understanding for projects.
- ◆ Gender training and self-esteem training held at the early stage of group formation were effective to enhance women's participation and induce equal contribution from both women and men.
- ◆ Provision of economic incentives for the members, including business plan secures the sustainability of group activity.

## (5) Others

- ◆ For conducting training, appropriateness of timing and duration should be well considered.

Cooperation between the social development and technical department in the Project, which was recommended in the mid-term review was found to be effective.