

## ***Annex - H***

***Operation Guidelines for the Pilot Project***

***Monitoring Team under the JICA Study***

## **Annex H: Operation Guidelines for the Pilot Project Monitoring Team Under the JICA Study**

Pursuant to the Scope of Work (S/W) for the Study on Community-Based Integrated Watershed Management in Lacro and Comoro River Basins on the Democratic Republic of Timor-Leste, agreed upon between the Government of Timor-Leste (GOTL) represented by the Ministry of Agriculture and Fisheries (MAF) and the Japan International Cooperation Agency (JICA) represented by JICA Timor-Leste Office on August 19, 2005, and the official letter issued by the State Secretary for Agriculture and Arboriculture on the “Formation of the Pilot Project Monitoring Team under the JICA-funded Study for Community-based Integrated Watershed Management for Lacro and Comoro River Basins” on October 11, 2007, this operation guidelines is hereby issued.

### **Chapter 1 Background Information**

#### **Section 1 Scope of Work for the Study**

The Scope of Work (S/W) for the Study on Community-Based Integrated Watershed Management in Lacro and Comoro River Basins in the Democratic Republic of Timor-Leste (the Study) was agreed upon between the Government of Timor-Leste (GOTL) represented by Ministry of Agriculture and Fisheries (MAF) and Japan International Cooperation Agency (JICA) represented by JICA Timor-Leste Office on August 19, 2005.

#### **Section 2 JICA Study**

In accordance with the scope of work, the JICA Study Team (the Study Team) has been conducting its study since November 2005. The main aim of the phase 1 study is to draft a watershed management plan for the Lacro and Comoro watersheds, while the phase 2 study aims at implementing the pilot project. The general work schedule of the study is as follows:

##### Phase 1 (Nov 2005 – Dec 2007):

1st Field Work:	Nov 2005 & Feb 2006)
2nd Field Work:	Jan – Mar 2007
3rd Field Work:	Aug – Nov 2007
Home Work	Dec 2007

##### Phase 2 (Jan 2007 – Sep 2009)

4th Field Work:	Jan – Mar 2008
5th Field Work:	May 2008 – Mar 2009
6th Field Work:	May 2009 – Dec 2009

Jan – Mar 2010: Final Report Preparation

#### **Section 3 Draft Management Plan**

At the end of the 2<sup>nd</sup> Field Work, the Study Team drafted a watershed management plan for the Comoro and Lacro watersheds. The draft watershed management plan was composed of eight (8) management/supporting programs and 30 sub-programs.

#### **Section 4 Pilot Project**

The Study plans to implement several types of pilot projects in accordance with the S/W, which is a scheme to put part of the programs/sub-programs proposed in the draft watershed management plan to trial to verify the applicability of the watershed management plan to the Study Area. Towards

this end, four (4) villages in the Study Area or two (2) villages in each watershed were selected as target villages for pilot projects.

## **Section 5 Arrangements for Implementation of Pilot Projects**

An implementation program for the pilot project is to be prepared in December 2007. As specified in the S/W for the Study, the pilot project shall be jointly implemented by the MAF and the Study Team in the partnership with local NGOs. Direct expenses and costs necessary for implementation will be shouldered by the JICA Study Team, while the administration costs of pilot project monitoring team (PPMT), which is expected to be the main body in monitoring the implementation of the pilot project, will be born and arranged by MAF.

## **Chapter 2 Objectives, Coverage and Definition of Terms**

### **Section 6 Objectives**

This Operation Guidelines are aimed at providing the fundamental information of the Study, guidelines and procedures in the operations of the PPMT, and responsibilities and roles that the PPMT has to take. Its specific objectives are to:

- a) prescribe the implementation structure of the PPMT to become more responsive to pilot project activities;
- b) guide MAF in understanding the roles and responsibilities of the PPMT in the implementation of the pilot project; and
- c) assist the PPMT to fulfill its tasks and duties needed to ensure effective project management of the pilot project.

### **Section 7 Coverage of the Guidelines**

The guidelines are to be used exclusively for the pilot projects implemented under the JICA-Funded Study, titled “the Study for Community-Based Integrated Watershed Management in Laclo and Comoro River Basins”.

### **Section 8 Definition of Terms**

For the purpose of the guidelines, the following terms and phrases are defined.

- 8.1 **Baseline Survey and Determination of Pilot Projects** - refers to a set of field surveys and discussions with communities in the target villages, which consists of household interview survey (“Baseline survey”), Rapid Rural Appraisal (RRA) survey, and discussions with villagers to determine the possible/potential pilot projects at the respective target villages. The surveys are to be carried out by local NGOs from August to November 2007.
- 8.2 **Communities** - refers to the members of the target sucos/aldeias who will participate in the implementation of the pilot project.
- 8.3 **Community Organization/Group Formation** - refers to the process of binding communities or people into an organization or a group and continuously capacitating them to become a self-sufficient and self-reliant body to manage their resources in their locality or implement a community-based development project.
- 8.4 **Contractor/s** - refers to a/ local NGO/s that the JICA Study Team would contract out for the work to implement the pilot project with communities of the target sucos/aldeias.
- 8.5 **Forest Resources** – refers to the soil and all elements found on it, above and below the ground in areas covered with forests

- 8.6 **Local Staff** – refers to a local consultant/assistance hired by the JICA Study Team who co-work with the Study Team and support the PPMT while the Team is out of Timor-Leste.
- 8.7 **Monitoring/Supervision** – refers to regular activities that oversee the progress, activities, effects made by the implementation of the pilot project to ensure proper execution of the project and to achieve desired project outputs.
- 8.8 **Pilot Project** – refers to a small scale project to be implemented in the course of the Study for Community-Based Integrated Watershed Management for Laclo and Comoro River Basin, which funded by the Japan International Cooperation Agency (JICA).
- 8.9 **Pilot Project Monitoring Team**– refers to a group/team of MAF that is established under the direct supervision of the National Director of National Directorate of Coffee and Forestry (NDCF) to manage, monitor and supervise the implementation of the pilot project.
- 8.10 **Socialization/Orientation** - refers to activities that introduce and explain the background of the study, the purpose of the project, the process of project implementation to local communities in the target village so that local communities can prepare themselves for the project.
- 8.11 **Target village** - refers to a village where the pilot project will be implemented.

## **Chapter 3 Pilot Project**

### **Section 9 Objectives of the Pilot Project**

The objectives of the pilot project are to:

- a) verify whether or not the programs/sub-programs proposed in the draft watershed management plan are valid to the watersheds;
- b) clarify site specific matters to which due attention should be given in the implementation of the watershed management plan so that the watershed management plan as well as watershed management guidelines could be more effective and realistic; and
- c) help the counterparts enhance their capacity to manage, monitor, and supervise the implementation of the pilot projects by involving them in actual watershed management activities in the field.

Specifically, the pilot project aims at:

- a) organizing farmers' groups/village working groups that would specifically work for the pilot projects in the target villages;
- b) developing the capacity of the farmers' groups/village working groups to implement either natural resource management activity or agriculture-based livelihood development activity; and
- c) raising environmental awareness of rural households in the target villages including those not directly involved in the pilot projects.

### **Section 10 Target Villages for the Pilot Project**

The target villages for the pilot projects are as follows:

In Comoro watershed:

- 1) Suco Samalete (Railaco sub-district in Ermera)
- 2) Suco Tohu Meta (Laulara sub-district in Aileu)

In Laclo watershed

- 3) Suco Faturasa (Remexio sub-district in Aileu)
- 4) Suco Batara (Laclubar sub-district in Manatuto)

## Section 11 Scope of the Pilot Project

11.1 It is desirable that all the programs/sub-programs proposed in the watershed management plan be put to trial as a pilot project. However, the Study needs to focus the pilot project on some of the following themes due to time and financial constraints.

- a) Land use planning
- b) Sustainable land management
- c) Forest management and reforestation
- d) Increase of agricultural production
- e) Improvement of rural livelihoods
- f) Public awareness raising

11.2 The pilot projects that will be implemented on a village level will generally take the following steps:

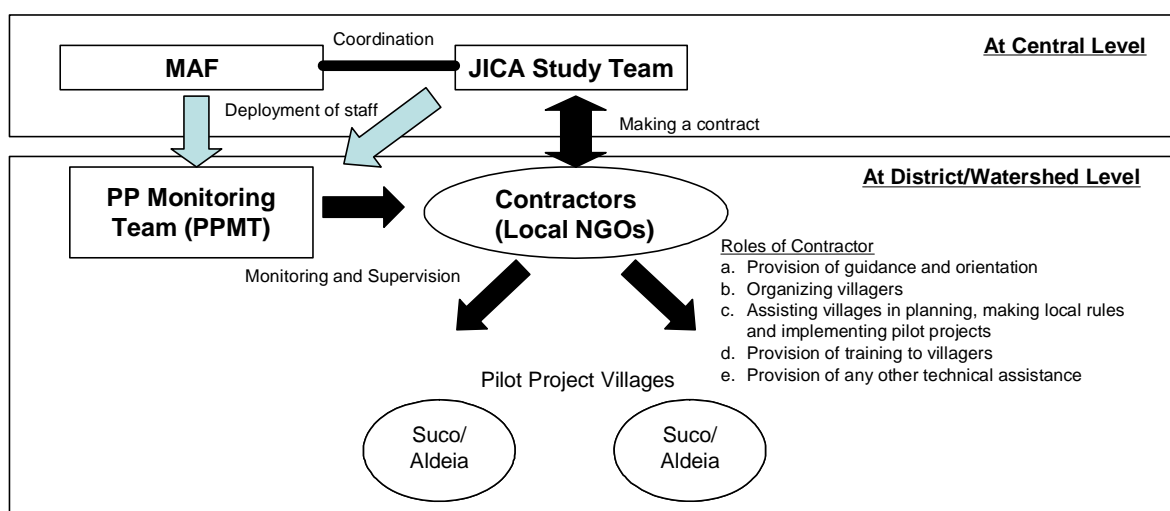
- a) Preparatory work (Socialization, Orientation, Selection of beneficiaries)
- b) Community organization/Group formation
- c) Participatory planning
- d) Training/Capacity building
- e) Implementation

11.3 The pilot projects will be implemented for about 20 months from January 2008 to September 2009. A part of the preparatory work is expected to be carried out between August and November 2007 as “Baseline survey and Determination of Pilot Projects”, which are to be contracted out to local NGOs.

## Chapter 4 Organizational Structure, Administration, Functions and Responsibilities of the PPMT

### Section 12 Overall Institutional Framework for Implementation

The overall institutional framework for implementation of the pilot project is as follows:



12.1 At field level, groups of local communities in the target villages for pilot project are to be the main implementers of the project, while a contractor (local NGO) that would be hired by the

Study Team will be responsible for implementation of the pilot project as a main supporter. The pilot project monitoring team (PPMT) together with the JICA Study Team (Local staff and Japanese members) should take the responsibility for monitoring and supervision of field implementation.

- 12.2 MAF, represented by NDCF, is responsible for overall management of the pilot project. MAF should deploy its staff to the PPMT and help the PPMT technically and administratively so that the team can deal with issues/difficulties that the field implementers might face. The Study Team is also directly involved in monitoring the progress and trouble-shooting any issues in the field.

### **Section 13 Organizational Structure of the PPMT**

The organizational structure of the Pilot Project Monitoring Team (PPMT) is composed of the following members, namely:

- a) PPMT Officer;
- b) Forest Management officer/s;
- c) Agriculture officer/s; and
- d) District Coordinators.

### **Section 14 Administrative Supervision of the PPMT**

The PPMT is to be under the direct supervision of the National Director of the National Directorate of Coffee and Forestry (NDCF). The National Director of NDCF should coordinate with the National Director of the National Directorate of Agriculture and Horticulture (NDAH) and the MAF Regional/District offices concerned in the supervision of the PPMT.

### **Section 15 Functions and Responsibilities of the PPMT**

The functions and responsibilities of the team are to:

- 15.1 Coordinate, supervise and monitor pilot project activities implemented by the contractors (local NGOs) and communities;
- 15.2 Ensure effective implementation and management of the pilot project;
- 15.3 Provide technical assistance to the contractors (local NGOs) and communities on the following subjects:
  - a) Forest management;
  - b) Reforestation;
  - c) Land conservation;
  - d) Agroforestry and upland farming practices
  - e) Crop production;
  - f) Livestock management (Animal husbandry);
  - g) Government policies; and
  - h) Other concerns that will enable local communities to enhance their capability in implementing the pilot project.
- 15.4 Closely communicate with and report to the JICA Study Team about any findings, issues, and concerns that would hamper project implementation;
- 15.5 Document the processes of the project, accomplishments and impacts made, and lessons learned from the project;

- 15.6 Prepare and submit monthly progress reports to the National Director of NDCF and the JICA Study Team; and
- 15.7 Perform other functions necessary for improving overall management of the pilot project.

#### **Section 16 Functions and Responsibilities of the PPMT Members**

- 16.1 PPMT officer is the head of the PPMT and has the responsibility to directly report to the National Director of NDCF. Any issues and findings shall be reported to him/her by other members of the team so that he/she could have prompt action to resolve such issues or seek assistance from the National Director of NDCF or JICA Study Team. PPMT officer shall closely coordinate with the JICA Study Team in monitoring the pilot project and resolving any issues in the implementation.
- 16.2 The members from NDCF and NDAH shall cover technical matters relating to the respective fields. In case they find the field implementers facing any difficulties in their responsible fields they shall assist the implementers to resolve such issues.
- 16.3 The member from the district MAF offices concerned shall function as field coordinator who will monitor the day-to-day activities undertaken by the field implementers. They shall closely coordinate with the PPMT officer as well as the other technical members.

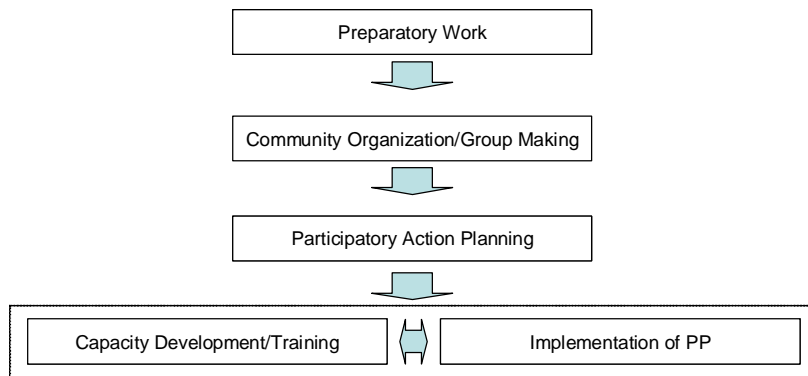
#### **Section 17 Technical Assistance from the JICA Study Team**

- 17.1 The JICA Study Team assists the PPMT in the monitoring and supervision of the implementation of the pilot project closely. The local staff of the JICA Study Team works with the PPMT and directly assists the PPMT Officer as well as other members of the PPMT in the field monitoring and report making.
- 17.2 The local staff also functions as liaison between the PPMT and the JICA Study Team while the Japanese Specialist is out of the country, so that the PPMT can share any issues or difficulties with the Japanese Specialists of the Study Team and get technical advice through the local staff of the Study Team.
- 17.3 The Japanese Specialist of the Study Team participates in the monthly and quarterly monitoring activities of the PPMT. The PPMT is to be coached in the field monitoring, conflict solution and report making by the Specialists.

### **Chapter 5 Flow of Pilot Project Implementation**

#### **Section 18 Flow of Pilot Project Implementation**

Detailed scope of work for the pilot project is to be given in the Implementation Program of the Pilot Project, which will be prepared in December 2007. In general, the following steps will be taken in the implementation of the pilot project:



## Section 19 Preparatory Stage

In the preparatory stage, the following are the major activities to be undertaken.

- a) Socialization with the target sucos/aldeia
- b) Introduction of the Study and pilot project
- b) Consultation with communities about their willingness
- c) Situation analysis in a participatory manner (using PRA/RRA tools)
- d) Conceptualization and familiarization of the pilot project

The above-mentioned preparatory works have been conducted by local NGOs as “The Baseline Survey and Determination of the Pilot Project” from August to November 2007.

## Section 20 Community Organization/Group Formation

After conceptualizing the concept and outline of the pilot project, beneficiaries of the target villagers will be organized into a group. A type or size of beneficiaries’ group to be organized varies by the type of pilot project. A pilot project that requires the participation of all members of suco or aldeia, such as “Participatory Land Use Planning Sub-program” and “Forest Management Program”, will organize a working group composed of delegates from sub-villages (Aldeias) or selected members who have a strong sense of responsibility, while those related to the programs that do not necessarily require the participation of the whole community, such as Community-Based Seed Extension Sub-program and Upland Farming Technology Promotion Program, will select beneficiaries and organize them into a beneficiaries’ group.

In either case, a series of guidance/orientation should be given to the members of the group. A simple internal rule governing the activities of the group should also be developed by the members with the assistance of the contractors (local NGOs).

## Section 21 Participatory Planning

In this stage, a group of beneficiaries or a working group will develop an action plan for the implementation of pilot project with the assistance of the contractors (local NGOs). The action plan should include, but not limited to, the following:

- a) Activities/Works;
- b) Size/Location (if applicable);
- c) Purpose of work;
- d) Responsible persons/groups;
- e) Timeframe;
- f) Necessary input/materials; and



- g) Necessary support/assistance.

The contractors (local NGOs) shall also assist local communities in identifying training courses necessary for implementing the pilot project. The contractors (local NGOs) shall come up with a training program/capacity development plan based on the list of training courses identified by local communities.

## **Section 22 Implementation of Pilot Project**

In accordance with the action plan prepared in participatory planning, NGO will implement the pilot project in coordination with the local communities. The pilot project is composed of two components, namely, i) training/capacity development of communities and ii) assistance in the implementation by communities.

### **22.1 Training/Capacity Development of Communities**

In accordance with the training program/capacity development plan, NGOs will organize training courses for members of the group. Training courses should vary by the type of pilot project. Lists of major training courses to be done for some of the possible pilot projects are given in **Appendix-1**

#### **22.1 Implementation by Communities**

A group of beneficiaries/a working group will implement the pilot project according to the action plan prepared in the participatory planning stage. The contractors (local NGOs) shall assist a group of beneficiaries / a working group in carrying out its day-to-day activities, while enhancing the capacity of members of the group. During the implementation of the pilot project, the contractors (local NGOs) shall report the progress of the work to the PPMT and the JICA Study Team in writing on monthly and quarterly bases. The contents of both reports are specified in Chapter 7.

## **Chapter 6 Monitoring Works**

### **Section 23 Progress Control**

#### **23.1 Weekly Progress Monitoring**

The PPMT shall monitor the day-to-day activities done by the field implementers. The district coordinators (the members from the district MAF offices) together with the local staff of the JICA Study Team shall visit the target village at least once a week and spend in the villages at least one (1) day to monitor the progress of the works. During his/her visit to the target village, the district coordinators shall:

- a) have a dialogue with field workers of the contractors (local NGOs) and community members to grasp the activities and accomplishments made during the last week;
- b) conduct field inspection of the major physical works, especially those which may affect the overall work schedule, such as development of demonstration plot;
- c) determine any issues/difficulties/problems that the field implementers are facing in the implementation of pilot project; and
- d) prepare a travel report in accordance with the given format (**Sample Form-1**), which should include the date, place, persons met, progress of the work (activities and accomplishments made by the implementers), findings (issues found), necessary action to be taken by the PPMT and the JICA Study Team.

#### **23.2 Monthly Progress Monitoring**

The PPMT officer together with other members of the PPMT as well as the JICA Study Team shall visit the target village once a month and spend in the villages at least one (1) day to monitor the progress and have a dialogue with the field implementers. The aims of the PPMT's monthly monitoring are to:

- a) confirm actual progress of the works in the field;
- b) determine any issues/difficulties that the field implementers are facing or may face in the implementation of the pilot project;
- c) provide necessary assistance that could contribute to the smooth operations of the pilot project; and
- d) prepare and submit a monthly monitoring report to the National Director of NDCF and the Study Team, using the given format **(Sample Form-2)**.

### **23.3 Quarterly Meeting with Local NGOs**

The PPMT together with the JICA Study Team shall have a meeting with the contractors (local NGOs) every three (3) months to discuss:

- a) progress of the works;
- b) issues and problems to be solved;
- c) recommendable actions to be taken;
- d) necessary arrangements and/or adjustment required; and
- e) recommendable work schedule acceptable to all stakeholders concerned.

### **23.4 Annual Evaluation and Action Planning**

The contractors (local NGOs) will organize an annual evaluation workshop with the beneficiaries' group in February/March 2008 to help them to evaluate their activities undertaken and formulate a revised action plan for the next year. The PPMT and the JICA Study Team should attend the annual evaluation workshop and monitor whether the pilot project will be implemented and completed within the given period of time.

## **Section 24 Quality Control**

During the monitoring activities described in the preceding section, the PPMT together with the JICA Study Team shall provide technical assistance to the field implementers to maintain the quality of the works.

## **Section 25 Coordination with Other Relevant Organizations**

The PPMT shall coordinate with the district and sub-district offices concerned when conducting the field monitoring work. In addition, the PPMT might have to coordinate with other government organizations, such as:

- a) National Directorate of Water Supply and Sanitation;
- b) National Directorate of Livestock;
- c) National Directorate of Fisheries
- d) National Directorate of Agribusiness; and
- e) Directorate of Research and Extension.

## **Chapter 7 Reporting**

### **Section 26 Documentation and Report Preparation**

#### **26.1 Weekly Monitoring Report**

The district coordinator of the PPMT with the assistance of the local staff of the Study Team shall prepare a weekly monitoring report every week using the given format (**Sample Form-1**) covering the following:

- a) Activities undertaken last week
- b) Activities planned next week
- c) Issues and concerns
- d) Necessary actions (recommendations)

The report shall be submitted to the PPMT officer and furnish it copy to the JICA Study Team before the weekend.

#### **26.2 Monthly Monitoring Report**

The PPMT with the assistance of the Study Team shall prepare a monthly monitoring report every month using a simplified format (**Sample Form-2**), which covers, but not limited to, the following:

- a) Activities planned
- b) Physical progress (Activities undertaken and major achievements)
- c) Issues/Concerns
- d) Action needed
- e) Activities scheduled in the next month
- d) Financial Status Report

The report shall be submitted to the MAF through the JICA Study Team and the National Director of NDCF not later than 10<sup>th</sup> of the following month.

#### **26.3 Quarterly Monitoring Report**

Every three months the PPMT together with the JICA Study Team shall further prepare the quarterly monitoring report to submit it to the MAF and JICA. The quarterly report shall include:

- a) Activities planned in this quarter;
- b) Methodology;
- c) Physical progress (Activities undertaken and major achievements);
- d) Issues/Concerns;
- e) Action needed;
- f) Activities scheduled in the next quarter;
- g) Financial Status Report;
- h) Training materials used; and
- i) Pictures.

#### **26.4 Annual Evaluation Report**

As a result of the annual evaluation meeting stated in Section 22 (4), the PPMT and the JICA Study Team shall prepare an annual evaluation report in the end of the year. The annual evaluation report shall include:

- a) Activities planned in this year
- b) Methodology;
- c) Physical progress (Activities undertaken and major achievements);
- d) Issues/Concerns;
- e) Action taken;
- f) Lessons learned
- g) Action plan for the next year;
- h) Financial Status Report;
- i) Training materials used; and
- j) Pictures.

### **Section 27 Record Keeping and Filing**

Any incoming and outgoing documents shall be kept in order. A systematic and simplified filing method should be adopted.

## **Chapter 7 Administrative Support for the Operations of PPMT**

### **Section 28 Equipment Support**

In order to facilitate execution of PPMT activities, the PPMT shall be provided with necessary equipment and facilities listed below.

- a) Office space (1 office for the team)
- b) A set of Computer with printer (1 set each for the team)
- c) 2 units of motor bike (2 units each for the team)
- d) Generator (1 unit each for the team)

### **Section 29 Management of the Equipment**

All the equipment provided to the PPMT shall be properly booked as government properties and managed effectively to optimize their use in monitoring. If any equipment gets malfunctioned, the PPMT shall coordinate with the NDCF to secure funds necessary for repair.

### **Section 30 Budget for the PPMT Operations**

The MAF through the NDCF shall provide funds necessary for the operations of the PPMT. The PPMT officer shall prepare an annual work and financial plan and submit it to the NDCF before the directorate prepares an annual budget plan, so that the NDCF could incorporate it into the MAF's annual budget plan.

## Sample Form-1: Weekly Progress Report

Date of visit:

Members involved:

Name of Village:

Persons met:

### 1. Activities undertaken during this week

Activities	Accomplishments	Remarks

### 2. Activities planned next week

Activities	Expected Outputs	Remarks

### 3. Issues and Concerns

Findings

### 4. Necessary Actions (Recommendations to PPMT/JICA Study Team)

Activities planned

Signed by: \_\_\_\_\_

Name:

## Sample Form-2: Monthly Progress Report

Month:

Name of village:

Date of Visit:

Members involved in monitoring:

### 1. Activities undertaken during this Month

Activities	Activities undertaken during this Month	Level of Achievement	Remarks
<b>Output 1 (This will be given by a Logical Framework of the Project.)</b>			
Activity 1.1			
Activity 1.2			
Activity 1.3			
Activity 1.4			
<b>Output 2 (This will be given by a Logical Framework of the Project.)</b>			
Activity 2.1			
Activity 2.2			
Activity 2.3			
Activity 2.4			
<b>Output 3 (This will be given by a Logical Framework of the Project.)</b>			
Activity 3.1			
Activity 3.2			
Activity 3.3			
Activity 3.4			
<b>Output 4 (This will be given by a Logical Framework of the Project.)</b>			
Activity 4.1			
Activity 4.2			
Activity 4.3			
Activity 4.4			

Activities	Activities undertaken during this Month	Level of Achievement	Remarks
<b>Output 5 (This will be given by a Logical Framework of the Project.)</b>			
Activity 5.1			
Activity 5.2			
Activity 5.3			
Activity 5.4			

## 2. Any Problems and Concerns

Problems and Concerns	Recommended Measures
1	
2	
3	
4	
5	

## 3. Activities scheduled in the next month

Activities	Target level of achievement	Remarks
<b>Output 1 (This will be given by a Logical Framework of the Project.)</b>		
Activity 1.1		
Activity 1.2		
Activity 1.3		
Activity 1.4		
<b>Output 2 (This will be given by a Logical Framework of the Project.)</b>		
Activity 2.1		

<b>Activities</b>	<b>Target level of achievement</b>	<b>Remarks</b>
Activity 2.2 Activity 2.3 Activity 2.4		
<b>Output 3 (This will be given by a Logical Framework of the Project.)</b>		
Activity 3.1 Activity 3.2 Activity 3.3 Activity 3.4		
<b>Output 4 (This will be given by a Logical Framework of the Project.)</b>		
Activity 4.1 Activity 4.2 Activity 4.3 Activity 4.4		
<b>Output 5 (This will be given by a Logical Framework of the Project.)</b>		
Activity 5.1 Activity 5.2 Activity 5.3 Activity 5.4		

**Attachments:**

- a. Pictures taken during monitoring work
- b. A list of persons interviewed
- c. Weekly monitoring reports in this Month

Signature : \_\_\_\_\_

Name:



# ***Annex - I***

## ***Results of Evaluation of the Pilot Projects***

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Appendix I.3-1	Accomplishments made by the Sub-programs of the Pilot Projects
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## I.1 Objectives and Scope of the Pilot Projects

### I.1.1 Objectives of the Pilot Projects

The main objective of the pilot projects is to verify whether or not the sub-programs proposed in the draft watershed management plan are applicable to the target watersheds and also effective in watershed management through the trial implementation of the proposed sub-programs. The implementation of the pilot projects is also aimed to enhance the capacities of the relevant stakeholders, such as the PPMT members (or NDF/MAF), local NGOs, and local communities, to implement the watershed management plan in the future.

### I.1.2 Scope of the Pilot Projects

#### I.1.2.1 Timeframe

The pilot project has been implemented for about 21 months from January 2008 to September 2009.

#### I.1.2.2 Pilot Project Sucos

Four (4) sucos in the Study Area or two (2) sucos from each watershed were selected for the pilot projects in consultation with MAF.

##### Comoro watershed

- i) Suco Tohumeta, Laurala Sub-district (Aileu)
- ii) Suco Samalete, Railaco Sub-district (Ermera)

##### Laclo watershed

- iii) Suco Faturasa, Remexio Sub-district (Aileu)
- iv) Suco Batara, Laclubar Sub-district (Manatuto)

#### I.1.2.3 Types of Pilot Project

After a series of discussions with local communities in the pilot project sucos, the following nine (9) sub-programs or eight (8) different types of sub-programs were selected as the pilot projects at the respective sucos.

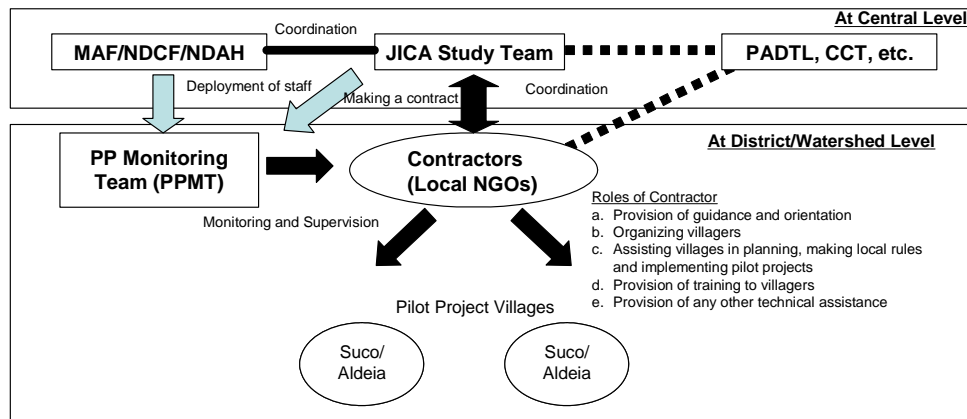
**Pilot Projects to be implemented at the Pilot Project Sucos**

<b>Target suco</b>	<b>Sub-program (SP)</b>
Samalete	Tree Plantation Promotion SP (TPP-SP)
	Coffee Plantation Rehabilitation SP (CPR-SP)
Tohumeta	Tree Plantation Promotion SP (TPP-SP)
	Home Garden SP (HG-SP)
Faturasa	Participatory Land Use Planning SP (PLUP-SP)
	Grazing Control with Protein Banks and Waste Pasture Rehabilitation SP (GCPBWPR-SP)
	Community-Based Seed Extension SP (CBSE-SP)
Batara	Sustainable Upland Farming Promotion SP (SUFP-SP)
	Income Generating / Cost Saving SP (IG/CS-SP)

In addition to the above-listed sub-programs, the Study Team has implemented Public Awareness Campaign Sub-program by itself at Suco Samalete.

#### I.1.2.4 Institutional Framework for Implementation of the Pilot Projects

The institutional framework for implementation of the pilot project is illustrated below.



**Institutional Framework for Implementation of the Pilot Projects**

The NGOs were responsible for the implementation of the nine (9) sub-programs at the pilot project villages. The organization of the beneficiaries' groups, conducts of hands-on training, day-to-day coaching, and meetings with local communities were the major works of the NGOs. The main role of NDF or PPMT was the monitoring of the pilot project activities. The following table gives the roles and responsibilities of the major stakeholders of the pilot projects.

**Roles and Responsibilities of the Stakeholders in Pilot Project Implementation**

Organizations	Roles and Responsibilities
a) MAF/NDF	Executing agency
b) Local NGOs	Implementation of the pilot project
c) Pilot Project Monitoring Team (PPMT)	Monitoring and management of the pilot project
d) Local Communities in the target villages	Beneficiaries and co-implementers
e) NDAH and other directions under MAF	Coordinating Agencies
f) JICA Study Team	Overall management and supervision of the pilot project
g) Other NGOs, PADTL, CCT, etc.	Possible supporting organizations

## I. 2 Outlines and Major Activities of the Pilot Projects

The following table gives the outlines and major activities of the sub-programs implemented as the pilot projects.

### Outlines and Major Activities of the Sub-programs

#### a. Tree Planting Promotion Sub-program @ Tohumeta

Project purpose	Major Outputs	Major Activities
The areas planted with new seedlings expand in Suco	<ol style="list-style-type: none"> <li>The capacity of participating members to produce and plant seedlings is enhanced.</li> <li>Local agreement effective in managing and protecting seedlings/trees is implemented and maintained by the village.</li> </ol>	<ul style="list-style-type: none"> <li>- Selection of core members and other participating members</li> <li>- Organization of the beneficiaries' groups</li> <li>- Exposure visit</li> <li>- Participatory planning</li> <li>- Installation of water systems and development of nurseries</li> <li>- Hands-on training on seedling production mainly for core members</li> <li>- Hands on training on tree planting</li> <li>- Assistance in planting seedling by regular members</li> <li>- Development of the village regulations and organization of Tara Bandu ceremony</li> <li>- Participatory annual evaluation and planning</li> <li>- Follow-up hands-on training</li> <li>- Monitoring survey of plantations</li> </ul>

#### b. Home Garden Sub-program @ Tohumeta

Project purpose	Major Outputs	Major Activities
Living conditions of households who participate in the sub-program is improved.	<ol style="list-style-type: none"> <li>The capacity of participating members to produce vegetables is enhanced.</li> </ol>	<ul style="list-style-type: none"> <li>- Selection of core members and other participating members</li> <li>- Organization of the beneficiaries' groups</li> <li>- Exposure visit</li> <li>- Participatory planning</li> <li>- Identification and development of the demonstration plots</li> <li>- Hands-on training on vegetable production</li> <li>- Technical and material assistance in vegetable production</li> <li>- Participatory annual evaluation and planning</li> <li>- Assistance in procurement of vegetable seeds</li> <li>- Follow-up hands-on training</li> </ul>

#### c. Tree Planting Promotion Sub-program @ Samalete

Project purpose	Major Outputs	Major Activities
The areas planted with new seedlings expand in Suco	<ol style="list-style-type: none"> <li>The capacity of participating members to produce and plant seedlings is enhanced.</li> <li>Local agreement effective in management and protection of seedlings/trees is implemented and maintained by the village.</li> </ol>	<ul style="list-style-type: none"> <li>- Selection of core members and other participating members</li> <li>- Organization of the beneficiaries' groups</li> <li>- Exposure visit</li> <li>- Participatory planning</li> <li>- Installation of water systems and development of nurseries</li> <li>- Assistance in seedling production by core members</li> <li>- Hands-on training on tree planting</li> <li>- Development of the village regulations and organization of Tara Bandu ceremony</li> <li>- Assistance in planting seedlings by regular members</li> <li>- Participatory annual evaluation and planning</li> <li>- Follow-up hands-on training</li> <li>- Monitoring survey of plantations</li> </ul>

#### d. Coffee Plantation Rehabilitation Sub-program @ Samalete

Project purpose	Major Outputs	Major Activities
The areas of rehabilitated coffee plantation expand in Suco.	<ol style="list-style-type: none"> <li>The capacities of participating members to rehabilitate aged coffee plantations and to improve productive coffee plantations are enhanced.</li> </ol>	<ul style="list-style-type: none"> <li>- Selection of core members and other participating members</li> <li>- Organization of the beneficiaries' groups</li> <li>- Exposure visit</li> <li>- Participatory planning</li> <li>- Identification and development of the demonstration plots</li> <li>- Hands-on training on improvement of coffee plantations</li> <li>- Technical and material assistance in improving coffee plantations</li> <li>- Participatory annual evaluation and planning</li> <li>- Follow-up hands-on training</li> </ul>

**e. Participatory Land Use Planning Sub-program @ Faturasa**

Project purpose	Major Outputs	Major Activities
Pilot Project Suco can manage and use natural resources within its territory in a proper manner.	<ol style="list-style-type: none"> <li>1. A future land use map and local regulations on natural resource management are developed</li> <li>2. Local regulations will be implemented with Tara Bandu.</li> </ol>	<ul style="list-style-type: none"> <li>- Selection of the members of the working group</li> <li>- Organization of the working group</li> <li>- Participatory planning</li> <li>- Meetings with the working group to prepare a future land use map and village regulations</li> <li>- Organization of Tara Bandu ceremony</li> <li>- Assistance in the implementation and monitoring of the village regulations</li> <li>- Participatory annual evaluation and planning</li> <li>- Assistance in fencing the selected grazing land to separate free-grazing animals from farmlands</li> </ul>

**f. Community-Based Seed Extension Sub-program @ Faturasa**

Project purpose	Major Outputs	Major Activities
Local communities in suco can secure seeds (improved and local) of upland staple crops for the next cropping. .	<ol style="list-style-type: none"> <li>1. The capacity of participating members to produce upland staple crops is enhanced.</li> </ol>	<ul style="list-style-type: none"> <li>- Selection of core members and other participating members</li> <li>- Organization of the beneficiaries' groups</li> <li>- Exposure visit</li> <li>- Participatory planning</li> <li>- Identification and development of the demonstration plots</li> <li>- Hands-on training on soil conservation measures and improved farming practices using the improved seeds</li> <li>- Assistance in management of the demonstration plots</li> <li>- Construction of check dams</li> <li>- Installation of corm mills and establishment of guidelines on the use of corn mill</li> <li>- Participatory annual evaluation and planning</li> <li>- Follow-up hands-on training</li> </ul>

**g. Grazing Control with Protein Bank and Waste Pasture Rehabilitation Sub-program @ Faturasa**

Project purpose	Major Outputs	Major Activities
A model of controlling Chlomoraena and reducing free animal grazing is developed in Suco	<ol style="list-style-type: none"> <li>1. The capacities of participating members to control Chlomoraena and to develop protein banks are enhance.</li> <li>2. Awareness of prevention of wildfire is enhanced among local communities.</li> </ol>	<ul style="list-style-type: none"> <li>- Selection of core members and other participating members</li> <li>- Organization of the working groups</li> <li>- Exposure visit</li> <li>- Participatory planning</li> <li>- Identification and development of the demonstration plots</li> <li>- Hands-on training on establishment of protein banks</li> <li>- Hands-on training on biological control of Chlomoraena</li> <li>- Assistance in management of the demonstration plots</li> <li>- Raising of awareness of the protection of the demonstration plots from wildfire</li> <li>- Participatory annual evaluation and planning</li> <li>- Follow-up hands-on training</li> </ul>

**h. Sustainable Upland Farming Promotion Sub-program @ Batara**

Project purpose	Major Outputs	Major Activities
A model of sustainable upland farming is developed in suco.	<ol style="list-style-type: none"> <li>1. The capacity of participating members to introduce sustainable upland farming techniques is enhanced.</li> </ol>	<ul style="list-style-type: none"> <li>- Selection of core members and other participating members</li> <li>- Organization of the beneficiaries' groups</li> <li>- Exposure visit</li> <li>- Participatory planning</li> <li>- Identification and development of the demonstration plots</li> <li>- Hands-on training on soil conservation measures</li> <li>- Assistance in management of the demonstration plots</li> <li>- Participatory annual evaluation and planning</li> <li>- Follow-up hands-on training</li> </ul>

**i. Income Generating / Cost Saving Sub-program @ Batara**

Project purpose	Major Outputs	Major Activities
The women's groups can earn cash income and save expenditures by operations of the introduced	<ol style="list-style-type: none"> <li>1. The capacity of participating women to operate the income generating / cost saving activities is enhanced.</li> <li>2. The income generating</li> </ol>	<ul style="list-style-type: none"> <li>- Selection of core members and other participating members</li> <li>- Organization of the beneficiaries' groups (women's groups)</li> <li>- Exposure visit</li> <li>- Participatory planning</li> <li>- Identification and development of the demonstration plots for vegetable farming</li> </ul>

<b>Project purpose</b>	<b>Major Outputs</b>	<b>Major Activities</b>
income generating / cost saving activities.	<p>/ cost saving activities can generate cash income for the groups.</p> <p>3. The income generating / cost saving activities can reduce cash expenditures of the members.</p>	<ul style="list-style-type: none"> <li>- Hands-on training on income generating/cost saving activities (i.e., vegetable farming, tais making, food processing, and use of sewing machine) and financial management</li> <li>- Market survey</li> <li>- Assistance in management of the introduced income generating/cost saving activities</li> <li>- Participatory annual evaluation and planning</li> <li>- Follow-up hands-on training</li> </ul>

**j. Public Awareness Campaign Sub-program**

<b>Project purpose</b>	<b>Major Outputs</b>	<b>Major Activities</b>
The awareness of sustainable natural resource management is enhanced among local communities in suco.	1. The importance of natural resource management is understood by local communities.	<ul style="list-style-type: none"> <li>- Identification of the target groups</li> <li>- Conduct of awareness survey</li> <li>- Preparation of a work plan in a participatory manner</li> <li>- Development of the PAC materials (1)</li> <li>- Organization of PAC sessions with participation of the target groups</li> <li>- Development of the PAC materials (2)</li> </ul>



## I.3 Accomplishments made by the Sub-programs

Each and every sub-program made the substantial achievements thanks to the efforts made by the NGOs as well as the members of the beneficiaries' groups of the pilot project sucos. Details of the accomplishments are given in **Attachment I.3-1**. Some highlights are outlined in the following sections.

### I.3.1 Suco Tohumeta

#### I.3.1.1 Tree Planting Promotion Sub-program

##### (1) Group Organization

Three (3) beneficiaries' groups were formed with registration of 111 members in February 2008. The number of the members was reduced to 54 after the review of the members' willingness in March 2009.

##### (2) Exposure visit

The NGO took 31 members of the groups to the nursery managed by PARDTL and MAF at Quinta Portugal in Aileu. The members deepened the understanding of the sub-program activities from the observation of the existing nursery.

##### (3) Training on Seedling Production and Seedlings Produced by the Groups

Each beneficiaries' group developed one community nursery with the assistance from the NGO in March 2008. A series of training courses on seedling production were organized at the demonstration plots in 2008. The members, particularly core members, of the groups were able to learn the techniques on seedling production, but the numbers of participants in the training courses were not necessarily high as compared to the total members of the groups.

**Training Courses on Seedling Production**

Training courses	Number of participants (Participation level)			
	Aldeia I	Aldeia II	Aldeia III	Total
Training on land preparation for nursery	22	25	13	60
Training on seedbed making	28	21	13	62
Training on roofing nursery	22	22	19	63
Training on fence making	17	13	8	38
Training on sowing seeds	4	8	6	18
Training on soil filling into poly bags	4	13	6	23
Training on watering	6	11	6	23
<b>Total</b>	<b>103</b>	<b>113</b>	<b>71</b>	<b>287</b>

Source: Halarae Foundation

Each group was responsible for the daily maintenance of seedlings in its nursery. In 2008, the groups produced 18,117 seedlings in total.

**Seedlings produced in 2008**

(Unit: Seedlings)

Seedlings	Aldeia 1 (xx HHs)	Aldeia 1 (xx HHs)	Aldeia 1 (xx HHs)	Total (111 HHs)
Caliandra	682	982	982	2,646
L19	622	603	782	2,007
Clove	1,056	2,195	1,075	4,326
Teak	781	803	780	2,364
Sandalwood	442	318	272	1,032
Mahogany	1,257	2,083	1,524	4,819
Coconut	232	184	129	545
Breadfruit <2	41	41	29	111

Seedlings	Aldeia 1 (xx HHs)	Aldeia 1 (xx HHs)	Aldeia 1 (xx HHs)	Total (111 HHs)
Rambutan <2	82	82	58	222
Total	5,195	7,291	5,631	18,117

Source: Halarae Foundation

In 2009, the groups have raised a total of 9,718 seedlings as of October 2009.

**Seedlings produced in 2009 (as of October 09)**

Seedlings	Aldeia 1 (20 HHs)	Aldeia II (17 HHs)	Aldeia III (17 HHs)	Total (54 HHs)
Longan	150	182	127	459
Clove	287	500	390	1,177
Petai	150	151	162	463
Rambutan	193	141	210	544
Mahogany	1,310	935	1,000	3,245
Teak	850	1,080	1,000	2,930
L 19	300	300	300	900
Total	3,240	3,289	3,189	9,718

(Unit: Seedlings)

Source: Halarae Foundation

(4) Training on Planting Seedlings and Seedlings planted

In addition to the training courses on seedling production, the NGO has organized six (6) hands-on training courses on tree planting so that the regular members could plant seedlings in their own plots in a proper manner.

**Training Courses on Planting Seedlings**

Training courses	Number of participants (Participation level)			
	Aldeia I	Aldeia II	Aldeia III	Total
Training on hole digging for coconut seedling	10	7	5	22
Training on sticking (measuring the plots) and hole digging	23	18	18	59
Training on filling soils into planting holes	23	23	24	70
Training on transportation and planting of seedlings	17	20	17	54
Training on weeding and mulching	9	13	6	28
Training on maintenance of demonstration plots	10	3	7	20
Total	92	84	77	253

Source: Halarae Foundation

A total of 16,646 seedlings were distributed to 111 members and planted in 138 plots in 2008/2009. As of August 2009, 15,124 seedlings or about 91 % of the planted seedlings were confirmed alive by the monitoring survey conducted by the NGO.

**Seedlings confirmed alive in the plantations developed from Nov 08 to Feb 09**

(Unit: Seedlings)

Seedlings	Aldeia1		Aldeia 2		Aldeia Ai 3	
	Seedlings planted	Seedlings alive	Seedlings planted	Seedlings alive	Seedlings planted	Seedlings alive
No. of plots	48 plots		46 plots		44 plots	
Caliandra	660	629	845	826	859	835
L19	601	584	622	611	612	591
Clove	1,045	834	2,140	1,913	1,051	881
Teak	665	649	688	635	711	701
Sandalwood	360	193	199	150	248	142
Mahogany	1,230	1,125	1,993	1,838	1,290	1,196
Coconut	192	189	175	169	129	125
Breadfruit <2	40	37	41	36	30	30
Rambutan <2	80	56	82	75	58	54
Total	4,873	4,296	6,785	6,271	4,988	4,557
Survival rate	88.2 %		92.4 %		91.4 %	

Source: JICA Study Team (2009)

**Figure I.3.1** shows the locations of the plantations developed by the members and **Table I.3.1** gives species planted and the estimated survival of the planted seedlings in the respective plantations.

(5) Development of Village Regulations and Tara Bandu Ceremony

In order to protect the planted seedlings from wildfire and stray animals, suco Tohumeta formulated the village regulations with the assistance from the NGO in November 2008. Five (5) meetings among the suco council and three consultation meetings were organized for the preparation of the village regulations.

In order to make the village regulations effective, Tara Bandu ceremony was held with the participation of more than 100 people including the representatives of MAF, sub-district administrative office, and the village leaders of the neighboring sucos on December 5, 2008. In the ceremony, the village leaders announced the village regulations as the village by-laws that anyone in the village should observe.

(6) Development of Capacities of Local Communities

The questionnaire survey conducted by the Study Team in August/September 2009 revealed that the members judged themselves to be capable of applying almost all the techniques on tree planting.

**Level of Understanding and Application of the Techniques among the Members**

Level of understanding of the techniques	Compost making	Land preparation	Nursery establish.	Soil prep and soil filling	Seed preparation	Sowing seeds in seed beds	Trans-planting
Level of understanding (1-5) <1	3.7	3.6	3.5 (n=11)	4.1	3.2	3.8	4.2
Level of application (1-3) <2	2.3	2.1	2.1	2.4	2.0	2.1	2.5
Level of application of the techniques	Watering & weeding	Designing	Hole digging	Planting of seedlings	Weeding	Shading	Conventional irrigation
Level of understanding (1-5) <1	3.7	3.1	4.2	4.1	3.6	3.0	3.2
Level of application (1-3) <2	2.2	2.0	2.5	2.5	2.1	1.8	2.0

Note: The number of samples is 20, unless specified with “n.”

<1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.

<2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.

Source: JICA Study Team (2009)

(7) Effectiveness of the Village Regulations

According to community members of suco Tohumeta, the incidence of wildfire and cases of illegal activities (e.g., illegal cutting, seal of farm products) as well as cases of violence in the village have been reduced since Tara Bandu ceremony. However, the suco council has had only two (2) monitoring meetings so far, the village leader should frequently monitor the implementation of the regulations to make the regulations more effective and sustainable.

**I.3.1.2 Home Garden Sub-program**

(1) Group Organization

Three (3) beneficiaries’ groups were formed with registration of 89 members in February 2008. The number of the members was revised to 42 after the review of the members’ willingness in March 2009.

(2) Exposure visit

The NGO took 19 members of the groups to suco Lequitura and suco Sarin in Aileu, which the USAID project supported in the production and marketing of vegetables. The members were able to observe the improved vegetable farming techniques and realized that they still needed to improve their practices in the vegetable farming.

(3) Training on Vegetable Production

Each beneficiaries' group developed one demonstration plot with the assistance from the NGO in April 2008. From April 2008 to August 2009, the NGO has organized eight (8) training courses on vegetable production at the demonstration plots. Like in the case of TPP-SP, the numbers of the participants in the training courses were not always high as shown below.

**Training Courses on Seedling Production**

Training courses	Number of participants (Participation level)			
	Aldeia I	Aldeia II	Aldeia III	Total
Compost making	9	11	11	29
Land preparation for vegetable farm, making a seedbed, and sowing vegetable seeds	17	16	18	51
Transplanting vegetable seedlings into pots	7	7	4	18
Application of compost and transplanting seedlings	5	9	9	23
Preparation of organic pesticide	3	5	9	17
Application of organic pesticide control	4	4	9	17
Harvest of vegetable and collection of seeds	8	5	8	21
Making of botanic pesticide and liquid fertilizer	11	7	11	29
Total	64	64	79	207

Source: Halarae Foundation

(4) Vegetables produced and Cash Income generated by the Members

From June 2008 to August 2009, the members have produced nine (9) types of vegetables and earned more or less US\$ 40.0/family.

**Average Production and Estimated Income from Major Vegetables from Jun 08-August 09**

**a. From June 2008 to February 2009**

Crops	No. of Members harvested	Total Production	Volume for Consumption	Volume for Sale	Average price	Sales (income)	Total Effect*
Mustard	39	34 bundles	18 bundles	16 bundles	\$0.25	\$4.0	\$8.5
Pechai	40	52 units	33 units	19 units	\$0.25	\$5.0	\$13.0
lettuce	35	30 bundles	20 bundles	10 bundles	\$0.2	\$2.0	\$6.0
Cabbage	10	48 units	46 units	2 units	\$0.5	\$1.0	\$24.0
Cowpea	54	25 bundles	10 bundles	15 bundles	\$0.25	\$3.8	\$6.3
Tomato	28	3.6 baskets	1.5 basket	2.1 baskets	\$ 8.5	\$17.8	\$30.6
Eggplant	27	3.8 baskets	2.1 basket	1.7 baskets	\$ 3.1	\$ 5.4	\$11.8

**b. From May to August 2009**

Crops	No. of Members harvested	Total Production	Volume for Consumption	Volume for Sale	Average price	Sales (income)	Total Effect*
Mustard	6	18 units	12 units	2 units	\$0.25	\$0.5	\$3.5
Pechai	22	44 bundles	10 bundles	34 bundles	\$0.25	\$2.5	\$11.0
lettuce	3	0.5 basket	0.5 basket	0.5 basket	\$5.0	\$1.0	\$2.5
Cabbage	4	14 bundles	7 bundles	7 bundles	n.a.	n.a.	n.a.
Cowpea	0	-	-	-	-	-	-
Tomato	0	-	-	-	-	-	-
Eggplant	2	38 bundles	0 bundles	38 bundles	\$0.25	\$ 9.5	\$9.5

Note: total effect = total production x average price. \$

Source: JICA Study Team (2009)

(5) Assistance in Procurement of Seeds from MAF

In order to enable the beneficiaries' groups to procure vegetable seeds by themselves even after the end of the pilot project, the NGO helped them to prepare a request letter to MAF for obtaining vegetable seed support from MAF at no cost. Although the volume of seed given by MAF was not as much as the groups requested, they were able to get five (5) types of vegetable seeds from MAF as follows.

<b>Seeds requested to MAF</b>		<b>Seeds obtained from MAF</b>	
<b>Type of vegetable</b>	<b>Volume of seeds</b>	<b>Type of vegetable</b>	<b>Volume of seeds</b>
Cabbage	0.1 kg	Green mustard	0.21 kg
Mustard	0.2 kg	Long bean	1.4 kg
Kangkung	10.0 kg	Kangkung	2.8 kg
Long beans	10.0 kg	Bitter melon	0.05 kg
Egg plant	2.0 kg	Red kangkung	3.0 kg
Tomato	0.2 kg		
Chili	0.2 kg		
Carrot	2.0 kg		
Lettuce	2.0 kg		

Source: Halarae Foundation

(6) Development of Capacities of Local Communities

According to the results of the questionnaire survey conducted by the Study Team in August/September 2009, the members judged themselves to be capable of applying all the techniques on vegetable farming.

<b>Level of understanding of the techniques</b>	<b>Compost making</b>	<b>Land preparation</b>	<b>Seedling production.</b>	<b>Transplanting of seedlings to pots</b>	<b>Transplanting of seedlings to farm</b>
Level of understanding (1-5) <1	3.5	3.3	3.4	3.8	3.9
Level of application (1-3) <2	2.0	2.4	2.1	2.1	2.3
<b>Level of application of the techniques</b>	<b>Maintenance of farm</b>	<b>Natural pesticide application</b>	<b>Liquid fertilizer application.</b>	<b>Harvesting &amp; seed collection</b>	<b>Preparation of request letter</b>
Level of understanding (1-5) <1	3.3	3.0	3.6	3.1	2.8
Level of application (1-3) <2	2.1	2.4	2.0	2.0	1.6

Note: The number of samples is 20, unless specified with "n."

<1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.

<2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.

Source: JICA Study Team (2009)

## **I.3.2 Suco Samalete**

### **I.3.2.1 Tree Planting Promotion Sub-program**

(1) Group Organization

Six (6) beneficiaries' groups were formed with registration of 228 members in February 2008. The number of the members was revised to 184 after the review of the members' willingness in March 2009.

(2) Exposure visit

The NGO took 37 members of the groups to suco Metutu which PARDTL has assisted in the development of a community nursery. The members were able to observe the role model for them and deepen the understanding of the sub-program activities.

(3) Assistance in Seedling Production and Seedlings Produced by the Groups

The NGO had assisted the beneficiaries' groups in the production of seedlings from April 2008 to August 2009.

**Support Activities done by the NGO for TPP-SP at Samalete**

Year	Type of assistance	Activities	Timing
March 08 - Feb 09	Material assistance	Provision of seeds and materials for nursery development Provision of materials for rehabilitation of watering systems	Apr-May May-Jun
	Technical assistance	Establishment of nurseries Land preparation for nurseries Preparation of seed beds Roofing of the nurseries Mixing of soils with compost and wood chips Filling of mixed soils into ploy bags Sowing of seeds in seedbeds Transplant of seedlings in seedbeds into poly bags Transplant of seedlings in poly bags into other poly bags Watering, weeding, and mulching	May-Jun May-Jul May-Jul Jun-Jul Jun-Sep Jun-Sep June-Sep June-Sep Sep-Oct Jul 08- Feb 09
March - Aug 09	Material assistance	Provision of seeds and materials for nursery development Provision of materials for rehabilitation of watering systems	Feb – Jun Mar - Apr
	Technical assistance	Fixing nurseries including land preparation for seedbeds Collection of materials for seedbed preparation Sowing seeds in seedbeds Filling of mixed soils into ploy bags Maintenance of seedlings	Apr Mar – Aug Mar – Aug Apr – Aug Apr - Sep

Source: Haralae Foundation

In 2008, a total of 59,902 seedlings was produced by the beneficiaries' groups as shown below.

**Seedlings produced in 2008**

(Unit: Seedlings)

Seedlings	Aldeia Leburema		Aldeia Eraulun		Aldeia Ai urlalan	
	Naro (30 HHs)	Lebsome (32 HHs)	Haburas (35 HHs)	Hadia (31 HHs)	Morisfoun (29 HHs)	Halibur (37 HHs)
Petai	63	60	58	58	52	75
Albizia	776	191	350	305	168	291
Lamtoro L19	292	159	229	230	162	345
Caliandra	306	359	462	205	154	294
Rambutan	34	35	19	31	26	40
Mahogany	150	85	154	143	30	140
Clove	34	319	0	0	21	0
Jack fruits	246	213	275	316	303	252
Orange	96	170	0	260	211	4
Sandalwood	109	37	32	110	263	154
Tephrosia	510	170	258	619	867	471
Grevillea	89	64	136	77	51	80
Coffee	7,669	7,935	8,315	7,317	6,737	8,635
Total	10,374	9,797	10,288	9,617	9,045	10,781

Source: Halarae Foundation

In 2009, the groups have raised 31,742 seedlings in the nurseries as of October 2009.

**Seedlings being produced in 2009**

(Unit: Seedlings)

Seedlings	Aldeia Leburema		Aldeia Eraulun		Aldeia Ai urlalan	
	Naro (32 HHs)	Lebsome (33 HHs)	Haburas (37 HHs)	Hadia (31 HHs)	Morisfoun (27 HHs)	Halibur (24 HHs)
Longan	134	140	161	193	193	138
Clove	700	366	283	430	286	305
Petai	428	304	364	339	300	238
Rambutan	211	208	316	329	210	230
Mahogany	2,185	1,674	3,023	2,107	1,631	1,355
Grivilia	42	73	87		28	5
Coffee	1,820	2,928	2,150	1,950	2,009	1,869
Total	5,520	5,693	6,384	5,348	4,657	4,140

Source: Halarae Foundation

(4) Training on Planting Seedlings and Seedlings planted

In addition to the technical assistance in seedling production, the NGO has organized eight (8) hands-on training courses on tree planting so that the regular members could plant seedlings in their own plots in a proper manner.

**Training Courses on Planting Seedlings**

Training courses	Number of participants (Participation level)			
	Leburema	Eraulun	Aiulalan	Total
Training on compost making	57	72	62	191
Training on land preparation, sticking, hole digging	55	28	48	131
Training on filling compost/top soils in puts	37	55	48	140
Training on hauling and planting seedlings	32	19	19	70
Training on weeding	20	17	17	54
Follow-up training on compost making	33	55	21	109
Training on maintenance of demonstration plots	21	29	31	81
Training on preparation of natural pesticide	29	31	19	79
Total	284	306	265	855

Source: Halarae Foundation

A total of 55,200 seedlings were planted by 190 members in 2008. The NGO surveyed 332 plots with 50,428 seedlings planted by the members. Out of 50,428 seedlings, 49,859 seedlings or 99 % of the surveyed seedlings survived as of August 2009. The results of the monitoring survey made by the NGO are given in **Table I.3.2** and **Figure I.3.2**.

**Seedlings distributed to the members in 2008**

(Unit: Seedlings)

Seedlings	Aldeia Leburema		Aldeia Eraulun		Aldeia Ai urlalan	
	Naro (30 HHs)	Lebsome (32 HHs)	Haburas (35 HHs)	Hadia (31 HHs)	Morisfoun (29 HHs)	Halibur (37 HHs)
Petai	51	0	62	58	29	60
Albizia	693	191	329	266	153	264
L19	292	159	219	250	177	345
Caliandra	270	307	467	199	152	294
Rambutan	26	30	17	28	25	26
Mahogany	116	85	124	143	30	120
Clove	32	290	0	0	11	0
Jack fruits	242	175	155	316	290	242
Orange	93	160	0	234	116	0
Sandalwood	31	28	18	86	58	4
Tephrosia	473	170	252	611	423	471
Grevillea	59	64	93	64	28	60

Seedlings	Aldeia Leburema		Aldeia Eraulun		Aldeia Ai urlalan	
	Naro (30 HHs)	Lebsome (32 HHs)	Haburas (35 HHs)	Hadia (31 HHs)	Morisfoun (29 HHs)	Halibur (37 HHs)
Coffee	7,669	7,765	8,265	6,900	5,989	7,150
Total	9,983	9,484	10,001	9,155	7,481	9,096

Source: Halarae Foundation

(5) Development of Village Regulations and Tara Bandu Ceremony

Like in the case of Tohumeta, suco Samalete developed the village regulations with the assistance from the NGO in October and November 2008. Four (4) meetings among the suco council and three (3) consultation meetings at the aldeia level were organized for the preparation of the village regulations. Tara Bandu ceremony was organized on November 25, 2008 with the participation of Minister of MAF, Director of National Directorate of Coffee and Industrial Crops, Officer-in-charge (OIC) of National Directorate of Forestry, Sub-district Administrator of Railaco, Resident Representative of JICA TL Office, and the representatives of the neighboring villages. In the ceremony, the village leader announced that the village would implement the regulations as the by-laws of the village and anyone who live in or enter the village must obey the regulations.

(6) Development of Capacities of Local Communities

The members of the groups considered that they understood all the techniques and could apply them except designing of the plantation by themselves.

**Level of Understanding and Application of the Techniques among the Members**

Level of understanding of the techniques	Compost making	Land preparation	Nursery establish.	Soil prep and soil filling	Seed preparation	Sowing seeds in seed beds	Trans-planting
Level of understanding (1-5) <1	4.0	3.8	3.9	4.2	3.4 (n=19)	3.9	4.2
Level of application (1-3) <2	2.5	2.2	2.4	2.6	2.2	2.1	2.2
Level of application of the techniques	Watering & weeding	Designing	Hole digging	Planting of seedlings	Weeding	Shading	Conventional irrigation
Level of understanding (1-5) <1	4.3	3.3	4.1	4.2	4.1	4.2	4.1
Level of application (1-3) <2	2.8	1.8	2.9	2.7	2.6	2.2 (n=19)	2.25

Note: The number of samples is 20, unless specified with "n."

<1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.

<2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.

Source: JICA Study Team (2009)

(7) Effectiveness of the Village Regulations

The incidence of wildfire and cases of illegal activities (e.g., illegal cutting, sale of farm products) as well as violence have been drastically reduced in the village since Tara Bandu ceremony. Nevertheless, there have been only two (2) monitoring meetings organized by the suco council so far. The leaders should be more responsible for the implementation of the village regulations.

**3.2.2 Coffee Plantation Rehabilitation Sub-program**

(1) Group Organization



The same beneficiaries' groups organized for TPP-SP worked for CPR-SP.

(2) Exposure visit

The same suco, suco Metutu, used for the exposure visit for TPP-SP was used for CPR-SP since the suco had also assistance from PARDTL in rehabilitation of aged coffee plantations. The members who visited the suco, 37 members of them, were able to gain a picture of the techniques to be introduced by the sub-program.

(3) Hands-on Training on Improvement of Coffee Plantations

A total of 11 hands-on training courses on the techniques to improve the productivity of existing coffee plantations has been organized from April 2008 to August 2009. The level of members' participation in the training courses ranged from 30 to 50 % of the total members on average.

Training courses	Number of participants (Participation level)			
	Leburema	Eraulun	Aiulalan	Total
Compost making (part of training for TPP-SP)	57	72	63	192
Identification of demonstration plots	37	43	25	105
Rejuvenation of aged coffee plantation (1)	38	45	27	110
Rejuvenation of aged coffee plantation (2)	31	28	20	79
Pruning of young coffee trees (1)	28	33	17	78
Pruning of young coffee trees (2)	37	42	26	105
Seed selection	26	33	22	81
Preparation of natural pesticide*	29	31	26	86
Application of natural pesticide*	32	25	28	85
Pruning of productive coffee trees	20	23	15	58
Planting new seedlings*	32	19	19	70
<b>Total</b>	<b>367</b>	<b>394</b>	<b>288</b>	<b>1,049</b>

Note\*: The trainings were conducted both for TPP-SP and CPR-SP.

Source: Halarae Foundation

In general, the members seem to have doubted the effectiveness of the techniques introduced by the sub-program, particularly those relating to rejuvenation of aged coffee and pruning of young or productive trees. However, many of them are presently appreciating the effectiveness of rejuvenation and pruning techniques as they see the coffee trees in the demo plot flowering.

(4) Development of Capacities of Local Communities

The members of the groups analyzed themselves that they well understood all the techniques introduced and would be able to fully to partially apply them in their own farms.

Level of understanding of the techniques	Compost making	Rejuvenation	Pruning of coffee trees	Planting of coffee seedlings
Level of understanding (1-5) <1	3.9	3.9	4.1 (n=17)	4.0
Level of application (1-3) <2	2.3	2.1	2.1	2.7
Level of application of the techniques	Maintenance of plantation	Harvesting of coffee cherries	Processing of coffee cherries	Seed selection
Level of understanding (1-5) <1	4.1	4.1 (n=17)	3.7	4.1
Level of application (1-3) <2	2.5	2.0	2.1	2.2

Note: The number of samples is 18, unless specified with "n."

<1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.

<2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.

Source: JICA Study Team (2009)

(5) Application of the Techniques

Although the members judged themselves to be capable to apply the techniques, only two members rejuvenated aged coffee trees and one member replicated pruning techniques in his/her own farm as of August 2009. In fact, almost all the members are still in a wait-and-see attitude. However, many of them seem to have been realizing the effect of the rejuvenation and pruning as they see the results of the demonstration plots.

### I.3.3. Suco Faturasa

#### I.3.3.1 Participatory Land Use Planning Sub-program

(1) Group Organization

A working group composed of 15 members, who were Chef de Suco, Chef de Aldeia, Representatives of women’s group, Youth leaders, Lia Nain (Traditional leader) and large land owners, was formed by the sub-program.

(2) Meetings and Discussions for the Formulation of the Village Regulations

In 2008, five (5) meetings among the working groups and four (4) consultation meetings with local communities in aldeias were organized to prepare the village regulations as well as the future land use map of the village. In 2009, a two-day meeting was organized to revise the future land use map and village regulations. The topics discussed and the numbers of the participants in the meetings are summarized below.

**Meetings/Workshops organized for PLUP-SP**

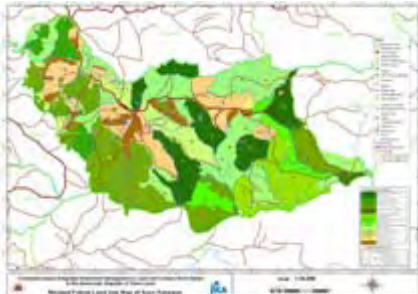
Workshops / Meetings	Date of meeting	No. of participants
Workshop on present land use mapping	March 3-5, 2008	-
Workshop on future land use options	June 17-19, 2008	13
Workshop on future land use mapping and outlines of village regulations	July 3-4, and 10 2008	13
Workshop on the draft village regulations	July 10, 2009	13
Meetings with communities members for socialization of the draft village regulations at each aldeia	July 16 at Fakulao	55
	July 17 at Remehei	65
	July 19 at Kaitaso	56
	July 20 at Bereliso	68
Workshop on revision of present and future land use maps	May 22 & 25, 2009	19 and 25

Source: USC Canada

(3) Future Land Use Map and Village Regulations

The village regulations and the future land use map developed by the working group are outlined below.

**Outlines of the Village Regulations of Suco Faturasa**

Chapter	Outlines
Future land use	<ul style="list-style-type: none"> <li>a. Reserved Ai ru / Ai bubur forest</li> <li>b. Regeneration Ai bubur and mixed forest</li> <li>c. Reserved Sandalwood forest</li> <li>d. Coffee plantation</li> <li>e. Grassland</li> <li>f. Grazing land</li> <li>g. Permanent farm</li> <li>h. Protected springs</li> </ul> 
Activities banned	<ul style="list-style-type: none"> <li>a. Cutting Ai-ru / Ai-bubur trees not for domestic purposes (e.g., building a house) but for selling or without permission from local leaders, traditional leaders and land owners;</li> </ul>

Chapter	Outlines	
	b. Cutting sandalwood for selling or without permission from local leaders, traditional leaders and land owners; c. Cutting other trees, such as Ai-hali, Ai-saria, and Ai-nitas; d. Entering other people's coffee plantation without permission from the owner; e. Collecting honey without permission from the owner; f. Cutting a host tree for honey or tua without permission from the owner; g. Burning the areas except Grassland and Permanent Farm in the village; h. Causing damage to crops in other people's farms by grazing an/ animal/s freely i. Disturbing the area around the spring (up to 500 m above and 100 m below the spring and 100 m to both sides.) by farming, cutting trees, burning, building a house, and grazing animals; j. Making the spring dirty or doing any activities causing damage to the spring; k. Hunt wildlife without permission from local leaders; l. Catching fishes in the river using electrical devices or poisonous chemicals; m. Harvest nara grasses without permission from the owner; and n. Harvest bamboo without permission from the owner.	
Guidelines in the use of resources	<b>Resources</b>	<b>Guidelines for Use and Management</b>
	Ai-ru	a. Do not cut branches of Ai-ru b. Replant Ai-ru seedlings or other species after cutting
	Ai-bubur	a. Do not cut trees during the flowering season from January – March b. Do not cut Ai-bubur trees with or near a honeycomb
	Bamboo	a. Cut only mature / old bamboo
	Coffee	a. Plant and grow coffee trees with proper techniques b. Pick only red cherries when harvesting
	Honey	a. Collect honey only from March to May and from September to October b. Avoid killing bees when collecting honey c. Pay due attention and be careful not to cause damage to bees as well as other natural resources when using fire or smoke
	Farmland	a. Do not cut trees or farm in the area at slopes of over 55% b. Plant trees or fruit trees in the area at slopes of over 55% c. Plant fruit, coffee, or other perennial crops in the area at slopes from 40 - 55% d. Apply soil conservation measures when farming the area at slopes from 15 - 40% e. Pay due attention and be careful not to burn other natural resources in when burning the farm by making firebreaks in and around the farm
	Livestock (Animals)	a. Put and raise animals in a fenced area b. Inform an owner when seeing his/her animals entering other people's farm
Fines and penalties	<b>Type of crime</b>	<b>Fines imposed</b>
	<u><b>Severe (Heavy) crime</b></u> <ul style="list-style-type: none"> <li>• Robbery, stealing , illegal logging</li> <li>• Sexual harassment</li> <li>• Injuring or murdering someone</li> <li>• Threatening someone with any weapons or sharp objects</li> <li>• Destroying / damaging public and private properties, such as, vehicle, school building, home, etc.</li> <li>• Burning or doing any activities that cause severe damage to forests, houses or farms</li> </ul> <u><b>Light crime</b></u> <ul style="list-style-type: none"> <li>• Stealing (small items, fruits, small animals, and other less valuable things/goods)</li> <li>• Any crimes or illegal activities that are not categorized as Serious Crime</li> </ul>	<ul style="list-style-type: none"> <li>• Compensation for the damage to a victim</li> <li>• Materials (rice, tua, cigarette, betel nut) / animals (cattle, pig, goat) as same as those used in Tara Bandu</li> <li>• US\$ 50 fine (paid to the committee)</li> <li>• In case the violator can not comply with the fines described above, he or she must be handed over to the police.</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Compensation for the damage to a victim</li> <li>• One head of big pig, one bag of rice, 10 lit of tua, one carton of cigarette, and betel nut</li> <li>• US\$ 25 fine (paid to the committee)</li> <li>• In case the violator can not comply with the fines described above, he or she must engage in three-month community service.</li> </ul>

Source: Revised Village Regulations of Faturasa (2009)

#### (4) Tara Bandu Ceremony

In order to make the village regulations effective and announce them to the public, Tara Bandu ceremony was organized with the participation of i) Representatives from MAF, Ministry of Environment, and NDF, ii) Representatives from Aileu District and Remexio Sub-district, iii) Priest from church in Remexio, iv) Representative from PNTL of Remexio, v) village leaders of the neighboring villages, and vi) JICA Study Team on July 28, 2009.

#### (5) Implementation and Monitoring of the Regulations

The working groups had organized five (5) monthly monitoring meetings after the ceremony with the assistance of the NGO to monitor the implementation of the regulations and discuss the issues to be handled at the suco level.

**Monthly Monitoring Meetings for Implementation of Village Regulations**

Monthly Monitoring Meetings	Date	Number of participants
Monthly monitoring meeting in September	September 24	12 participants
Monthly monitoring meeting in October	October 31	16 participants
Monthly monitoring meeting in November	December 2	14 participants
Monthly monitoring meeting in December	January 21	21 participants
Monthly monitoring meeting in January	February 26	14 participants

Source: USC Canada

Major topics that the participants have discussed in the meetings are: i) issues on crop damage caused by animals being freely grazed, ii) illegal activities committed by villagers in the neighboring sucos, iii) disputes among community members over land, and iv) other domestic issues. Through a series of discussions, the suco leaders have deepened their understanding of the village regulations and developed their capacity to cope with the issues in the village.

(6) Set-up of Fence to separate the Designated Grazing Land

One of the issues that local communities have faced was to control stray animals in the village. In order to reduce crop damage caused by animals, the working group demarcated the grazing areas from permanent agricultural land in future land use mapping. Although the future land use map clearly allocated several grazing areas in the village, there was no clear separation or segregation made on the ground. In response to the strong request from local communities for realization of the future land use map, the NGO assisted local communities in the establishment of about 2.8 km fence on the boundary between the areas designed as grazing land and permanent farm.

(7) Development of Capacity of Local Communities

The working group or the village leaders likely understand the village regulations well. In fact, they have used the regulations to solve disputes taking place in the village so far. The results of the interview survey conducted by the JICA Study Team also support this tendency.

**Level of Understanding and Application of the Techniques among the Members**

Level of understanding of the techniques	Rules on NRM	Guidelines for land use	Future land use map	Monitoring system	Roles & responsibilities of the committee
Level of understanding (1-5) <1	4.0	4.0	4.0	4.0	4.0
Level of application (1-3) <2	3.0	3.0	3.0	3.0	3.0

Note:

<1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.

<2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.

Source: JICA Study Team (2009)

(8) Effectiveness of the Regulations

No forest fire has taken place since Tara Bandu ceremony on July 28, 2008. Likewise, there has been no illegal cutting or illegal harvest of forest and other natural resources committed by communities in the village so far, though there have been several cases caused by local

people from the neighboring villages. There have been also several cases of crop damage caused by free grazing animals.

### I.3.3.2 Community-Based Seed Extension Sub-program

#### (1) Group Organization

Two beneficiaries' groups were organized in two aldeias, aldeia Bereliso and aldeia Kaitaso, of suco Faturasa. The group of aldeia Bereliso consists of 44 members, while the other group selected 40 members from communities in Kaitaso.

#### (2) Exposure visit

The NGO took 15 members of the groups to Quinta Portugal in Aileu on February 14 and 15, 2008 to observe the test plots of improved seeds. Through the exposure visit, the members deepened their interest in and understanding of the sub-program activities.

#### (3) Training on the Techniques on Improved Farming Practices

In order for the members to learn to grow upland crops in a productive way, the NGO conducted a total of 12 training courses between March 2008 and August 2009.

**Training on Improved Farming Practices with Improved Seeds**

Training courses	Bereliso	Kaitaso	Total
Training on land preparation	40	25	65
Training on compost making	44	44	88
Training on soil conservation	49	31	80
Training on compost application	22	35	57
Training on sowing seeds and planting	44	22	66
Training on preparation for liquid fertilizer	40	20	60
Training on farm maintenance	48	20	68
Training on planting seedlings	48	25	73
Training on application of liquid fertilizer	37	15	52
Training on harvest and post harvest	40	38	78
Follow-up training on compost making	37	39	49
Follow-up training on soil conservation	39	38	50
<b>Total</b>	<b>488</b>	<b>298</b>	<b>786</b>

Source: USC Canada

The members of GCPBWPR-SP of the same aldeia also participated in the above-listed training sessions and vice-versa; the numbers of the participants were sometimes more than the total members of the groups.

#### (4) Introduction of Improved Seeds

The NGO procured the improved seeds of corn, peanut and sweet potato from MAF/Seed of Life. The NGO also procured the local seeds of corn, soybean, red bean, cassava, and sweet potato at the same time. Both types of seeds were planted in the demonstration plots and also distributed to all the members of the groups.

#### (5) Production of Upland Crops

The members produced six (6) upland crops in the demonstration plots as well as the individual farms using improved and local seeds given by the NGO. The NGO also provided technical assistance to the members in managing the respective farms. The following tables shows the average productivity of the upland crops under the three cases: i) crop production under the conventional practices (production of local seeds under the shifting cultivation practices); ii) crop production in the demonstration plots (production of improved and local

varieties under the improved farming practices); and iii) crop production in the individual plots (production of improved and local varieties probably under the conventional farming practices).

### 1) Crop Production under the conventional practices

Crops	Local seeds with conventional practice				
	Sample No.	Ave. volume of seed (kg)	Ave. Production (kg)	Yield/ Seed Volume (kg)	Average Vol. secured for next year (kg)
Corn	3	26.7	325	12.2	27.5
Peanuts	2	5	35	7.0	5
Cassava	Not yet harvested				
Red bean	3	1	N.A *	N.A *	2
Sweet Poteto	N.A *	N.A *	N.A *	N.A *	N.A *

Note\*:Data not available

Source: JICA Study Team (2009)

### 2) Crop Production of local and improved varieties in the demonstration plots under the improved practices<1

Crop	Local					Improved				
	Sam ple No.	Ave. volume of seed (kg)	Ave.Pro duction (kg)	Yield/ Seed Volume (kg)	Ave. Vol. secured for next year (kg)	Sam ple No.	Ave. volume of seed (kg)	Ave.Pro duction (kg)	Yield/ Seed Volume (kg)	Ave. Vol. secured for next year (kg)
Corn	2	5	362.5	72.5	112.5	2	5	400	80.0	87.5
Peanuts	2	15	412.5	27.5	62.5	2	10	391.5	39.2	41.5
Cassava	2	Not yet harvested				-	-	-	-	-
Soy bean	2	4.5	157.5	35.0	27.5	-	-	-	-	-
Red bean	2	6.5	232.5	35.8	25	-	-	-	-	-
Sweet Potato	2	7.5 bunches	Damaged			2	7.5 bunches	Damaged		

Source: JICA Study Team (2009)

Note: Improved practices meas the farming practices introducing line planting, application of compost, and application of liquid fertilizer.

### 3) Crop Production of local and improved varieties in the individual plots

Crop	Local					Improved				
	Sam ple No.	Ave. volume of seed (kg)	Ave.Pr oductio n (kg)	Yield/ Seed Volume (kg/ kg or cutting)	Average Vol. secured for next year (kg)	Sam ple No.	Ave. volume of seed (kg)	Ave.Pr oductio n (kg)	Yield/ Seed Volume (kg)	Average Vol. secured for next year (kg)
Corn	17	12.4	419	33.8	46	6	5.1	278.3	54.6	15
Peanuts	16	6.5	100.6	15.5	42.7	9	1.55	23.88	15.4	6.6
Cassava	8	Not yet harvested				-	-	-	-	-
Soybean	11	3.5	45.9	13.1	8.6	-	-	-	-	-
Red bean	12	3.5	176.7	49.8	10.73	-	-	-	-	-
Sweet Potato	10	325	796	2.4	508.3	-	-	-	-	-

Source: JICA Study Team (2009)

As shown in the tables above, all the crops grown under the improved farming practices in the demonstration plots showed good results, while the yields of improved seeds of corn and peanut are higher than those of their local seeds in both demonstration and individual plots. The results revealed that using the improved varieties along with the introduction of the improved farming practices could bring about the higher returns that would allow local communities to secure enough seeds for future cropping.

(6) Operations of corn mills

Two units of corn mills were installed in Berliso and Fakulao. They have been operated and managed by the selected members of communities in the village. To operate corn mills in a proper and transparent manner, the communities developed the rules and guidelines on corn mill operations, which stipulate 1) composition of the management body of corn mill, 2) roles and functions of the management body, 3) regular operating hours of the mill, 4) milling fees, and 5) use of earnings from the operations. As of September 2009, both units had worked well and generated USD14 from the operations.

(7) Development of Capacities of Local Communities

The members judged that they would not have difficulty in the application of the improved farming techniques except farm management as shown below.

**Level of Understanding and Application of the Techniques among the Members**

Level of understanding of the techniques	Compost making	Making and use of A-frame	Application of soil conservation measures	Land preparation including design of plot	Selection of seeds
Level of understanding (1-5) <1	4.0	3.8	3.9	4.2	3.4 (n=19)
Level of application (1-3) <2	2.5	2.2	2.4	2.6	2.2
Level of application of the techniques	Line sowing	Farm management	Harvest and post-harvest	Storage of seeds	
Level of understanding (1-5) <1	4.3	3.3	4.1	4.2	
Level of application (1-3) <2	2.8	1.8	2.9	2.7	

Note: The number of samples is 20, unless specified with “n.”

<1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.

<2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.

Source: JICA Study Team (2009)

**1.3.3.3 Grazing Control with Protein Banks and Waste Pasture Rehabilitation Sub-program**

(1) Group Organization

Four (4) working groups were organized at a rate of one group per aldeia. Each group has five (5) members except in aldeia Kaitaso. The working group of aldeia Kaitaso consists of nine (9) members.

(2) Exposure visit

The NGO took eight (8) members of the groups to Suco Dare and Suco Tibar on February 22, 2008. The members observed fodder crop plantations in the former and the multiplication field insectaries of MAF in the latter. The exposure visit was likely effective in deepening their interest in and understanding of the sub-program.

(3) Training on the Techniques on Improved Farming Practices

In order for the members to learn to develop protein banks and control Chlomoraena by using parasitic fly larvae, the NGO has conducted a total of 10 training courses between March 2008 and August 2009.

#### Training on Improved Farming Practices with Improved Seeds

Training courses	Bereliso	Kaitaso	Bereliso	Kaitaso	Total
Compost making	6	7	5	6	24
Identification of demonstration plots for protein bank and biological control against Chlomoraena	6	5	5	8	24
Making temporary fences	6	7	5	6	24
Land preparation with terrace making	15	7	7	14	43
Seed preparation of fodder trees and crops	5	8	5	6	24
Maintenance of the demonstration plots for protein banks	6	7	5	5	23
Planting fodder trees and crops	10	3	6	10	29
Collection of larvae and application of bunches of Chlomoraena to the demo-plot	10	6	5	12	33
Follow-up training on compost making	5	5	5	8	23
Follow-up training on terrace making	5	5	5	8	23
Total	74	60	53	83	270

Source: USC Canada

Since securing animal feeds in the dry season was one of the critical issues in the village, the members' expectation were apparently high and therefore their participation level have been kept high.

#### (4) Awareness Raising of the Techniques of the Sub-program

The NGO also carried out the following activities to enhance the awareness of the techniques.

- Provision of technical guidance on both techniques
- Distribution of information dissemination materials (i.e., posters and brochures) of the biological control method to local communities in the village
- Set-up of sign boards to protect the demonstration plots for the biological control of Chlomoraena from burning

#### (5) Development of Capacities of Local Communities

Like the other sub-programs, the members judged that they could replicate all the techniques that they had gone through the training courses as shown below.

#### Level of Understanding and Application of the Techniques among the Members

Level of understanding of the techniques	Compost making	Making and use of A-frame	Application of soil conservation measures	Planting of fodder trees/grasses	Biological chromoralena control
Level of understanding (1-5) <1	4.6	4.6	4.4	4.2	3.6
Level of application (1-3) <2	2.8	2.8	3.0	3.0	2.6

Note:

<1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.

<2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.

Source: JICA Study Team (2009)

### I.3.4 Suco Batara

#### I.3.4.1 Sustainable Upland Farming Promotion Sub-program

##### (1) Group Organization



Four (4) beneficiaries' groups were organized for four (4) aldeias in Batara. Each aldeia organized one group with participation of 30 members. Hence, a total of 120 members participated in the sub-prpgram.

(2) Exposure visit

Forty (40) members visited suco Manelima in Laclubar on February 15, 2008 with the assistance from the NGO. The members observed the existing farms with the soil conservation measures and talked to farmers who applied the same techniques to their own farms. This experience deepened their interest in the upland farming techniques. In fact, some members introduced the soil conservation measures they observed in Manelima after the visit.

(3) Training on the Techniques on Improved Farming Practices

A total of 13 training courses have been organized with the total participation of 1,467 members from March 2008 to August 2009.

**Training on Improved Farming Practices with Improved Seeds**

Training courses	Are-Ain	Fatuha	Werulun	Balulin	Total
How to make and use A-frame	30	30	30	30	120
Making bench terraces and contour composting systems	28	32	19	31	110
Land preparation (making bench terrace and contour compost systems)	20	30	25	30	105
Planting annual crops	32	36	34	37	139
Weeding, planting pineapple, fodder trees and peanuts, and digging hole	25	32	29	30	116
Planting potato, talo and preparation of materials for temporary fences	28	29	26	30	113
Pest management	25	30	25	28	108
Second weeding, planting seedlings such as orange and mahogany and harvesting red beans	30	30	30	30	120
Harvesting and post harvesting	17	30	30	30	107
Compost making	29	29	26	30	114
Follow-up training on soil conservation	24	26	24	28	102
Follow-up training on how to make and use A-frame	26	29	24	27	106
Follow-up training on terrace making	27	28	23	29	107
Total	341	391	345	390	1,467

Source: USC Canada

(4) Production of Upland Crops

Each group developed one demonstration plot with the soil conservation measures (i.e., bench terrace and contour composting measures) and planted five (5) types of upland crops. The NGO also distributed seeds of the same crops to the individual members to encourage them to introduce the sustainable upland farming techniques in their own farms.

The following table gives the production and productivity of the crops planted in the demonstration plots.

Crops	Fatuha		Wer-ulun		Are-ain		Balulin	
	Product	Yield**	Product	Yield**	Product	Yield**	Product	Yield**
Corn (bench terrace)	50 kg	39 kg	50 kg	44 kg	75 kg	68 kg	50 kg	29 kg
Corn (contour compost)	100 kg	66 kg	100 kg	87 kg	30 kg	23 kg	90 kg	57 kg
Soybean (bench terrace)	40 kg	33 kg	-	-	64 kg	52 kg	-	-
Soybean (contour compost)	80 kg	45 kg	75 kg	66 kg	80 kg	68 kg	75 kg	45 kg
Red bean (bench terrace)	-	-	-	-	26 kg	7 kg	-	-

Crops	Fatuha		Wer-ulun		Are-ain		Balulin	
	Product	Yield**	Product	Yield**	Product	Yield**	Product	Yield**
Red bean (contour compost)	50 kg	25 kg	50 kg	35 kg	40 kg	28 kg	25 kg	5 kg
Sweet potato (bench terrace)	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	30 kg	1.5kg/bunch
Sweet potato (contour compost)	N.A.*	N.A.*	30 kg	1.5kg/bunch	40 kg	2.0kg/bunch	15 kg	1.5kg/bunch
Peanut (bench terrace)	18 kg	10 kg	N.A.*	N.A.*	75 kg	40 kg	15 kg	7 kg
Peanut (contour compost)	100 kg	60 kg	50 kg	35 kg	15 kg	3 kg	20 kg	15 kg

Note: \* Data was not available.

\*\* Yield is the productivity against the volume of seeds used.

In the demonstration plot, the crop yields in contour composting parcels are higher than those in bench terracing parcels. This tendency may be caused by the difference in soil fertility between the parcels. The sub-surface soils were often mixed with the surface soils when bench terraces were made. In addition, the parcels of contour composting are located in the bottom of slope and therefore their surface soils are likely more fertile.

#### (5) Development of Capacities of Local Communities

The members considered that they understood the techniques introduced by the sub-program. They also judged themselves to be able apply the techniques in their own farms as shown below.

##### Level of Understanding and Application of the Techniques among the Members

Level of understanding of the techniques	Compost making	Use of A-frame	bench terracing	contour composting	Land preparation
Level of understanding (1-5) <1	4.3	4.4	4.4 (n=23)	4.4	4.1
Level of application (1-3) <2	2.3 (n=23)	2.5	2.4 (n=23)	2.4	2.1 (n=23)
Level of application of the techniques	Selection of seeds	Mono-cropping in line	Farm management	Harvest and post harvest	Storage of seeds
Level of understanding (1-5) <1	4.8	4.4	4.3	4.3	4.3
Level of application (1-3) <2	2.8	2.4	2.4	2.4	2.4

Note: The number of samples is 24, unless specified with "n."

<1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.

<2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.

Source: JICA Study Team (2009)

According to the NGO, 12 members have developed bench terraces and another 32 members have also introduced the contour composting method in their own farms as of September 2009.

#### I.3.4.2 Income Generating / Cost Saving Sub-program

##### (1) Group Organization

Each aldeia selected ten (10) women for the sub-program. Four (4) women's groups with participation of 40 women were organized for the sub-program in February 2008.

##### (2) Exposure visit

The NGO took 25 members to suco Manelima in Laclubar on February 15, 2008. The members observed the income generating activities, namely handicraft making (weaving) and

vegetable gardening, being implemented by communities in Manelima. Through the exposure visit, the members deepened the understanding of the sub-program activities.

(3) Training on the Techniques on Improved Farming Practices

A total of 13 training courses have been organized with the total participation of 664 members from March 2008 to August 2009.

**Training on Improved Farming Practices with Improved Seeds**

Training courses	Are-Ain	Fatuha	Werulun	Balulin	Total
Training on compost making	10	10	10	10	40
Training on land preparation	10	10	10	10	40
Training on seed selection and seedbed making	12	12	10	11	45
Training on transplanting seedlings using pots	N.A.	N.A.	N.A.	N.A.	34
Training on planting	10	11	10	11	42
Training on business/financial management	N.A.	N.A.	N.A.	N.A.	41
Training on use of sewing machine	10	10	10	10	40
Training on food processing	10	10	10	10	40
Training on tais making	12	12	10	11	45
Follow-up training on compost making	11	17	15	9	52
Follow-up training on use of sewing machine	47	42	42	42	173
Training on land preparation with compost application	10	8	12	8	38
Follow-up training on financial management	7	10	9	8	34
Total	-	-	-	-	664

Source: USC Canada

(4) Market Survey

Between October 27 and 29, 2008, six (6) members of the groups with the NGO and JICA Study Team conducted the interview survey to the following market outlets to grasp the marketability of some of the major resources in the village.

- Middlemen at bazaar at Laclubar
- Church / Sub-district Administrative Office
- Supermarket in Dili
- Tais market in Dili
- School at Laclubar

(5) Production / Products from Income Generating Activities

The women's groups produced more than eight (8) types of vegetables at the demonstration plots with the assistance from the NGO.

**Vegetables produced in the Demonstration Plots for Vegetable Farming**

Vegetable produced	Aldeia				
	Areain	Balurin	Werulun	Fatuha	Total
Green Mustard (bunch)	40	35	NA	45	120
Mustard (bunch)	422	498	260	343	1,523
Lettuce/Green salad (unit)	300	80	NA	8	388
Broccoli (units)	NA	NA	208	NA	208
Pechai (pechai)	NA	14	NA	NA	12
Cowpeas	NA	NA	30 bundles	0.5 sacks	NA
Red beans	35 cups	NA	NA	20 bundles	NA
Cabbage	15	10	NA	NA	25
Others*1	NA	Tomato 1 bucket	Bitter melon 6 bundles	Water spinach 4 bundles	NA

Note\*1: Others are chilli, tomato, bitter gourd, egg plant, onion, garlic and soy bean

Source: USC Canada

In addition to vegetables, the groups also produced tais, clothes, and processed foods applying the techniques that they have learned through the training courses.

**Other Products produced in the Sub-program**

IG activities	Areain	Balurin	Werlulun	Fatuha	Total
Tais making					
Small tais	3 pcs	4 pcs	4 pcs	3 pcs	14 pcs
Clothes					
- Table cloths	2 pcs	1 pc	1 pc	2 pcs	6 pcs
- Shirt (repair)	2 pcs	1 pc	1 pc	2 pcs	6 pcs
- Shirt (new)	2 pcs	1 pc	1 pc	2 pcs	6 pcs
- Trouser (repair)	2	1 pc	1 pc	2 pcs	6 pcs
Processed foods					
- Banana chips	45 pcs	50 pcs	65 pcs	45 pcs	205 pcs
- Cassava chips	25 packs	45 packs	60 packs	25 packs	155 packs
- Sweet potato chips	30 packs	40 packs	35 packs	25 packs	130 packs
- Fried peanut with egg	30 packs	30 packs	40 packs	30 packs	130 packs

Source: USC Canada

(6) Development of Capacities of Local Communities

As a result of the training courses, the members considered that they understood the techniques except “natural pesticide application” in vegetable farming, “designing of letters and motifs” in Tais making, “making of fried peanut with eggs and fried mach potato” in food processing, and “measuring and cutting cloths” and “fixing of sewing machine” in the use of sewing machine.

**Level of Understanding and Application of the Techniques among the Members**

**a. Vegetable Farming**

Level of understanding and application of the techniques	Compost making	Land preparation	Seedling production	Transplanting	Maintenance of farm	Natural pesticide application	Harvesting and Seed collection
Level of understanding (1-5) <1	4.8	4.8	4.8	4.5	4.5	1.3	4.9
Level of application (1-3) <2	2.9	3.0	2.9	2.9	2.9	1.1	3.0

**b. Tais Making**

Level of understanding and application of the techniques	Making weaving tools	Spinning	Color coordination	Rolling	Designing of letters	Designing of motifs	Material setting
Level of understanding (1-5) <1	2.9	4.6	4.5	4.6	2.5	3.8	4.1
Level of application (1-3) <2	2.5	2.9	2.9	2.9	1.9	2.6	2.6

**c. Food Processing**

Level of understanding and application of the techniques	Cassava chips	Steam cassava	Taro chips	Sweet potato chips	Banana chips	Fried peanut with eggs	Fried mash potato
Level of understanding (1-5) <1	4.1	4.4	4.6	4.6	4.6	3.3	2.6
Level of application (1-3) <2	2.6	2.5	2.6	2.6	2.7	1.7	1.4

**d. Use of Sewing Machine**

Level of understanding and application of the techniques	Threading	Initial seesawing	Measuring and cutting	Sewing	Fixing sewing machine
Level of understanding (1-5) <1	4.8	4.6	3.9	4.3	3.9
Level of application (1-3) <2	3.0	2.9	2.5	2.5	2.3

Note:

<1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.

<2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.

Source: JICA Study Team (2009)

(7) Impacts on Income Generation and Cost Saving

As of October 2009, the women's groups have earned cash income of US\$ 87~163 from the sales of the products produced by the groups from April 2008 to August 2009.

**Cash Income generated by the Women's Groups**

IG activities	Areain	Balurin	Werlulun	Fatuha	Total
Vegetables farming	129	111	50	62	343
Tais making	8	12	10	8	38
Clothes making/repairing	15	12	8	15	50
Food processing	11	15	19	11	56
Total	163	150	87	96	487

Source: JICA Study Team (2008)(2009)

At the same time, it was reported by the members that the products produced by the sub-program saved their daily expenditures. The following table gives the volume of vegetables used for consumption.

**Vegetables used for Consumption**

Vegetable produced	Areain	Balurin	Werlulun	Fatuha	Total
Green Mustard (bunch)	NA	5	NA	5	10
Mustard (bunch)	22	208	100	105	435
Lettuce (units)	150	NA	NA	NA	150
Broccoli (units)	NA	NA	200	NA	200
Others	NA	NA	NA	NA	NA

Source: JICA Study Team (2009)

Note: NA: Data not available

(8) Use and Management of the Group Funds

As described above, the women's groups have earned US\$ 87~163 per group as of October 2009. The groups decided not to merely share the earnings among the members, but to wisely use the money in a sustainable manner. In the concrete, they have used the earnings for operations of micro credit schemes and grocery shops (so-called kiosk) in aldeias. Such spin-off activities contributed to stabilizing the household economy.

In addition, each group has kept an account book for the income generating activities to manage their fund in a proper and transparent manner.

### I.3.5 Public Awareness Campaign Sub-program

The Study Team together with the counterparts from NDF and the district MAF offices concerned has implemented PAC-SP from July 2008 to December 2009. The major activities as well as accomplishments are outlined below.

(1) Selection of the target groups

A total of 63 children, 20 from grade III and 43 from grade IV, of primary school and 30 adults in suco Samalete were selected as the target group for PAC-SP.

(2) Awareness Survey

With an aim to grasp the current awareness level of the target group, the Study Team interviewed 33 children and 21 adults among the target group in July 2008.

(3) Development of the PAC Materials (1)

Determined main topic/theme to be handled by PAC-SP based on the results of the awareness survey, the Study Team developed a picture book with a focus on the protection of forest and water resources as a main material for public awareness raising activities.



(4) Awareness Raising Activities

Aiming to promote awareness of forest degradation issues and encourage the target group, especially adult members, to reexamine their daily activities, the following awareness raising activities were organized from June 2008 to August 2009.

**Awareness Raising Activities conducted under PAC-SP**

Number of participants at workshops			
Workshops organized	Children	Adults	Total
Presentation of picture card show and drawing session	63	-	63
Presentation of drawings	55	22	77
Dialogue between the village council and children	63	59	122
Presentation of children's drawings in Tara Bandu ceremony	63	46	109
Recapturing of the Tara Bandu ceremony	63	46	109
<b>Total</b>	<b>307</b>	<b>173</b>	<b>480</b>

Source: JICA Study Team

(5) Development of the PAC Materials (2)

To share the future visions of children among local communities in suco Samalete, the Study Team prepared a calendar for 2010 using the drawings made by children in the drawing session. The calendars were distributed to all the households in Samalete through the district MAF office of Ermera in December 2009.



(6) Promotion of Public Awareness of Forest Protection

In order to gauge the awareness level among the target group after the sub-program activities, the Study Team interviewed the participants about their visions of the village and the necessary action to be taken to achieve their visions. Both children and adult members envisaged that more trees would be planted and water supply in the village would be stabilized by tree planting and forest protection.

**Visions of the Target Group about the Village Future**

Question/Topic	Children		Adults	
	Answers (% of respondents)	Reason	Answers (% of respondents)	Reason
Condition of forest area after 10 years	- More trees and plants (100%)	- Can plant trees from now on. - Already have nurseries for planting trees - NGO/JICA supported the adults to prepare nurseries and plant trees. - Protection of environment is important.	- More trees and plants (100%)	- Can plant trees in bare land. - Can protect trees. - Should stop burning land.
Condition of water in the spring after 10 years	- More water in the springs (83%) - No change (17%)	- Water can be conserved by planting trees - More villagers will use water due to population increase in the village.	- More water in the springs (100%)	- Water can be conserved by planting and protecting trees around the spring, and stopping firing lands.

Source: JICA Study Team

As compared with the results of awareness survey conducted in the beginning of the sub-program, the children had more positive image of the future conditions of forest and water resources in the village. At the same time, the sub-program gave adult members the opportunities to reconsider the future of the village for their future generations.

## I.4 Evaluation of the Sub-programs

The sub-programs are evaluated in accordance with DAC's five evaluation criteria, namely i) relevance, ii) effectiveness, iii) efficiency, iv) impact, and v) sustainability. Details of the results of evaluation are presented in **Appendix I-4-1**. In the course of evaluation, the implementation processes of the sub-programs were also reviewed as compiled in **Appendix I-4-1**. The following sub-sections give some highlights of the results.

### I.4.1 Suco Tohumeta

#### I.4.1.1 Tree Planting Promotion Sub-program

##### (1) Relevance (mainly from the point of view of local community)

The sub-program is considered relevant to the needs of local communities, though it may not directly meet them. Many members of the sub-program envisioned that the sub-program could contribute to the stabilization of water flow in natural springs and the expansion of the potential areas for coffee production in the village.

##### (2) Effectiveness

It is judged that the sub-program was able to achieve its objective, which is to expand the forest cover in the village through the capacity development of local communities, on a certain level. A series of hands-on training on both seedling production and tree planting and introduction of the village regulations with the traditional ceremony (Tara Bandu ceremony) were effective in enhancing the capacity of local communities to expand and maintain the forest cover in the village.

It is however true that the participation in the whole process of seedling production for about eight (8) to nine (9) months is not necessarily easy for all community members to fulfill. Hence, due consideration should be paid in the examination of eligibility of local communities for membership, or the activities relating to seedling production may need to be considered as optional since those activities are not always acceptable to every village.

##### (3) Efficiency

The efficiency of the sub-program was evaluated in the following points: timing, cost efficiency, and effectiveness of the activities.

**Efficiency of TPP-SP @ Tohumeta**

Items	Descriptions
Timing	- Delay in the installation of water systems caused the delay in seedling production in 2008. There was also a period when the number of staff was not sufficient to cover three aldeias. Other activities except the installation of water systems were carried out as originally planned.
Cost	- The expenditures used for training activities were half as much as originally planned, since some training courses were integrated due to limited participation. - The expenditures used for nursery operations became three times as much as planned as the NGO had to shoulder all the consumptions for the members participating in the nursery operations.
Effectiveness	- Hands-on training courses were considered effective in enhancement of knowledge and skills of the members. However, limited participation of the members in the training courses halved the effectiveness of training. - Limited participation also causes some loss of seedlings in the nurseries. - One of the constraints on the improvement of members' participation was the weak leadership of the village leaders.



	- Given those difficulties, especially in seedling production, the Study Team judges that the nursery operations have not been necessarily implemented efficiently.
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Source: JICA Study Team

(4) Impact

The following positive and negative impacts have been found so far.

**Impact made by TPP-SP @ Tohumeta**

<b>Impact</b>	<b>Descriptions</b>
Positive	- Implementation of the village regulations with revival of Tada Bandu ceremony reduced the incidence of wildfire and cases of illegal activities as well as violence in the village.
Negative	- The members who have participated in the project activities may have lost the opportunities to earn cash income from other government projects.

Source: JICA Study Team

(5) Sustainability

Some of the members, mainly core members, of the beneficiaries' groups are willing to continue producing seedlings even after the pilot project. However, they need support in procurement of materials, such as poly bags and seeds, for them to continue the activities. Furthermore, the Study Team judges that it would be difficult for the groups to implement the sub-program at the same scale with what it is at present even when they could have the assistance from MAF, since many members of the groups have preferred to work for other projects for earning cash income.

**I.4.1.2 Home Garden Sub-program**

(1) Relevance (mainly from the point of view of local community)

Vegetable production will contribute to the diversification of agricultural crops in the village and the stabilization/improvement of household income. Improvement of livelihoods of local communities is consistent with the needs of local communities as well as the purpose of the draft watershed management plan. The sub-program is also expected to contribute to the empowerment of women in the village, since vegetable production is one of the women's tasks in general.

(2) Effectiveness

As compared with the sub-program objective, namely, to improve the living conditions of local communities through diversification and increase of vegetable production in their own vegetable farms, the achievements of the sub-program were not on a full scale. Although the sub-program helped about 50 members of the groups earn more or less US\$ 40 per members on average, another 50 members of the groups were not benefited by the sub-program at all since they did not participate in the training courses.

Furthermore, many of the participating members also did not often take part in the training courses as expected. The number of the members who acquired techniques/skills introduced by the sub-program might be limited.

(3) Efficiency

The efficiency of the sub-program was evaluated as follows.

### Efficiency of HG-SP @ Tohumeta

Items	Descriptions
Timing	- Inputs were made as scheduled, but there was a period when the number of staff was not sufficient to cover three aldeias.
Cost	- The expenditures for training activities were beyond the amount originally planned. The NGO needed to repeat the same training courses since the participants in one session were limited.
Effectiveness	- Hands-on training courses were considered effective in enhancement of knowledge and skills of the members. However, the limited participation of the members in the training courses halved the effectiveness of training. - Limited participation affected the efficiency of the sub-program. Although the expenditures for the hands-on training courses were more than the amount originally planned, only half of the members of the groups likely learned the techniques on vegetable farming.

Source: JICA Study Team

The possible reasons why many members have not often participated in the training courses are that:

- They were used to being given farm inputs from the government as a part of agricultural extension services; and/or
- They thought that they had already acquired the skills and techniques necessary for vegetable production since they had produced vegetables before the pilot project.

#### (4) Impact

The following positive and negative impacts have been confirmed.

#### Impact made by TPP-SP @ Tohumeta

Impact	Descriptions
Positive	- On average, the members who received vegetable seeds were able to earn about US\$ 40 per member and consume vegetables equivalent to US\$ 40/family/year by outcomes from the sub-program.
Negative	- The members who have participated in the project activities may have lost the opportunities to earn cash income from other government projects.

Source: JICA Study Team

#### (5) Sustainability

The members who had gone through the hands-on training courses were likely able to develop their capacity to produce vegetables in both dry and rainy seasons, although they may still need to enhance their knowledge especially on natural pesticide and liquid fertilizer application.

The JICA Study Team expects that the members will continue the vegetable farming in their own farms even without any external support since many of them had grown vegetables by themselves even before the pilot project. However, the types of vegetables and volume of products might not be as same as what they produced in the pilot project.

## I.4.2 Suco Samalete

### I.4.2.1 Tree Planting Promotion Sub-program

#### (1) Relevance (mainly from the point of view of local community)

Ensuring the domestic water supply in the dry season and enhancing cash income from coffee plantations are the major concerns of local communities in suco Samalete. Therefore, they expected that the sub-program contributed to the stabilization of water supply and expansion

of the potential areas for coffee plantation.

(2) Effectiveness

Like in the case of Tohumeta, the JICA Study Team judges the sub-program to achieve its objective, which aims to enable local communities to produce and plant seedlings in the village, on a certain level considering the fact that the beneficiaries' groups produced 59,902 and planted 55,200 seedlings in 2008. In fact, it was confirmed that a series of hands-on training courses on both seedling production and tree planting and introduction of the village regulations with the traditional ceremony (Tara Bandu ceremony) were effective in enhancing the capacity of local communities to expand and maintain the forest cover in the village.

Considering the limited participation of the members in the nursery operations, the Study Team comes to the same conclusion as the former sub-section drew. The activities relating to seedling production may not necessarily be acceptable to all sucos, and therefore they should be regarded as an option that a village can choose.

(3) Efficiency

The efficiency of the sub-program was evaluated in terms of timing, cost efficiency, and effectiveness of the activities.

**Efficiency of TPP-SP @ Samalete**

Items	Descriptions
Timing	- Delay in the installation of water systems caused the delay in seedling production in 2008. There was also a period when the number of staff was not sufficient to cover six (6) groups. Other activities except the installation of water systems were carried out as originally planned.
Cost	- The expenditures used for training activities increased by about 50 %. The NGO needed to repeat the same training courses since the participants in one session were limited.
Effectiveness	- Hands-on training courses were considered effective in enhancing knowledge and skills of the members. However, the number of the members who acquired the skills is not as high as those registered in the groups. - Limited participation also causes some loss of seedlings in the nurseries. - Given those difficulties, especially in seedling production, the Study Team judges that the nursery operations have not been necessarily implemented efficiently.

Source: JICA Study Team

(4) Impact

The following positive and negative impacts have emerged so far.

**Impact made by TPP-SP @ Samalete**

Impact	Descriptions
Positive	- Working as a group and periodical meetings among the members made the solidarity of the group strong. Such solidarity contributed to the reduction of disputes/conflicts among the members - Implementation of the village regulations with revival of Tada Bandu ceremony reduced the incidence of wildfire, and cases of illegal activities as well as violence in the village.
Negative	- The members who have participated in the project activities may have lost the opportunities to earn cash income from other government projects.

Source: JICA Study Team

(5) Sustainability

Core members as well as other members who have gone through the hands-on training courses and daily nursery operations are considered technically capable of continuing the sub-program activities, although they still need the assistance from MAF in the procurement of poly bags and seeds. The members are also willing to keep producing seedlings even after the pilot project. It is therefore judged that they would continue the sub-program activities as long as they could have the material support from MAF.

#### 1.4.2.2 Coffee Plantation Rehabilitation Sub-program

(1) Relevance (mainly from the point of view of local community)

Coffee is the main source of income in Samalete. However, many existing coffee trees in the village are over-aged and under poor management as well, and therefore, the productivity of coffee in the area is estimated to be as low as less than 0.1 ton/ha. Consequently, the improvement of productivity of the existing coffee trees/plantation is one of the main concerns of local communities in the village.

(2) Effectiveness

The members of the beneficiaries' groups seem to have understood the techniques (rejuvenation and pruning) to improve the productivity of the existing coffee plantations. However, only three (3) members have applied them in their own farms so far. Many members hesitated to cut coffee trees for fear of losing their sources of income. According to the NGO, the members have felt interest in the application of the techniques after seeding the results in the demonstration plots recently. There should have been more years to see visible outcomes from the sub-program emerge in the village.

(3) Efficiency

Likely in the case of the other sub-programs, the efficiency of the sub-program was evaluated in the following points: timing, cost efficiency, and effectiveness of the activities.

**Efficiency of CPR-SP @ Samalete**

Items	Descriptions
Timing	- Inputs were made as scheduled, but there was a period when the number of staff was not sufficient to cover three aldeias.
Cost	- The expenditures for training activities and field staff were beyond the amount originally planned. The NGO needed to repeat the same training courses since the participants in one session were limited.
Effectiveness	- Hands-on training courses were considered effective in enhancement of knowledge and skills of the members. However, limited participation of the members in the training courses reduced the effectiveness of the training courses.

Source: JICA Study Team

(4) Impact

The following table gives the positive and negative impacts found in the village.

**Impact made by CPR-SP @ Samalete**

Impact	Descriptions
Positive	- Working as a group and periodical meeting among the members made the solidarity of the group strong. Such solidarity contributed to the reduction of disputes/conflicts among the members - The members have acquired the new knowledge and skills that can improve the productivity of their coffee plantations.
Negative	- The members who have participated in the project activities may have lost the

	opportunities to earn cash income from other government projects.
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Source: JICA Study Team

(5) Sustainability

Some members have likely acquired the techniques of rejuvenation and pruning through the hands-on training courses; it would not be much difficult for them to apply such techniques in their own plantations from a technical point of view. However, many of them can not afford to take a risk of losing the opportunities to generate income by cutting either trunks or branches of the existing coffee trees. It is expected that the application of such techniques would be expanded gradually at a slower pace as they observe the coffee trees in the demonstration plots bear coffee cherries.

The members might be able to tap the technical assistance from the district MAF office of Ermera as the government plans to support coffee farmers in the improvement of aged coffee plantations.

**I.4.3 Suco Faturasa**

I.4.3.1 Participatory Land Use Planning Sub-program

(1) Relevance (mainly from the point of view of local community)

Sustainable natural resource management along with reduction of forest fire can directly contribute to ensuring the livelihoods of local communities since communities in the village are still significantly dependent on natural resources for their livelihoods. In particular, frequent forest fires causing severe damage to forests as well as farmlands was one of the major concerns in the village. The sub-program is highly consistent with the needs of local communities in Faturasa.

(2) Effectiveness

The incidence of forest fire and the number of cases of illegal activities have been drastically reduced since the village regulations were officially announced in Tara Bandu ceremony. Although the village still seems to need the assistance from the NGO in the implementation of the village regulations, the sub-program revealed that the sub-program activities were quite effective in developing the capacities of the village leaders and reducing the human activities causing the forest and land degradation.

(3) Efficiency

The efficiency of the sub-program was evaluated in terms of timing, cost efficiency, and effectiveness of the activities.

**Efficiency of PLUP-SP @ Faturasa**

Items	Descriptions
Timing	- Monthly monitoring meetings were not always organized every month due to busyness of the NGO. Aside from the monthly meetings, the inputs were made as originally scheduled.
Cost	- The expenditures for all the activities except those for the meetings/workshops were made as originally planned.
Effectiveness	- Workshops/meetings organized for the formulation of the village regulations, preparation of future land use map and monitoring of the implementation of the regulations were effective in developing the capacities of the village leaders to

	<p>govern the village.</p> <ul style="list-style-type: none"> <li>- A large scale investment was made for fence making to separate the designated grazing land from permanent farms. Such investment was necessary for the sub-program to realize the future land use map in a short period of time, but it is also true that such scale of investment might not be rational from the viewpoint of applicability.</li> </ul>
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Source: JICA Study Team

(4) Impact

The following positive and negative impacts have been found so far.

**Impact made by PLUP-SP @ Faturasa**

<b>Impact</b>	<b>Descriptions</b>
Positive	<ul style="list-style-type: none"> <li>- The sub-program improved the governing ability of the village leaders and made other community members serious about observing the regulations, and eventually resulted in improving the peace and order situation of the village and protecting the individual assets from illegal capture.</li> <li>- Present and future land use mapping helped the village leaders to realize the present and possible future conditions of forests in the village and improved a sense of ownership of natural resources in their locality.</li> <li>- The neighboring villages are willing to develop their future land use maps and village regulations to protect and manage natural resources in their villages.</li> </ul>
Negative	<ul style="list-style-type: none"> <li>- There were some disputes over land use between the land owners and tenants who have traditionally used the lands for a long time since the regulations did not mention the vested tenure right.</li> </ul>

Source: JICA Study Team

(5) Sustainability

The village leaders are considered capable of solving issues in the village by themselves in accordance with the village regulations, though they still need the assistance to implement the regulations properly. The NGO, USC-CTL, was committed to supporting the village in the implementation of the regulations for the next five (5) years; the village is expected to be able to develop its capacity to govern the village well using the village regulations.

1.4.3.2 Community-Based Seed Extension Sub-program

(1) Relevance (mainly from the point of view of local community)

Low productivity of upland staple crops is one of the major concerns in the village. It has forced local communities to live on a subsistence level and made them vulnerable to environmental changes. The aim of the sub-program, which is to increase and stabilize the productivity of the major upland crops through introduction of the improved seeds, is in line with communities' needs.

(2) Effectiveness

The yields of crops produced by the members in the last rainy season were significantly higher than those produced by non-members. In addition, the yields of the improved seeds were higher than those of the local seeds. The members likely accepted the improved seeds as well as techniques introduced by the sub-program. Hence, the JICA Study Team judges the sub-program to have developed a model to improve the productivity of upland staple crops with small inputs.

(3) Efficiency

The efficiency of the sub-program was evaluated in the following three (3) points: timing, cost efficiency, and effectiveness of the activities.

**Efficiency of CBSE-SP @ Faturasa**

Items	Descriptions
Timing	- Procurement of seeds was delayed and some training courses were conducted behind the schedule. But there was no significant influence on the overall schedule.
Cost	- The expenditures for training and seeds were higher than the amount originally planned because the members of GCPBWPR-SP also treated as part of the members of the sub-program.
Effectiveness	- A series of hands-on training courses were considered effective in enhancing the knowledge and skills of the members.

Source: JICA Study Team

(4) Impact

The following positive and negative impacts have been found so far.

**Impact made by CBSE-SP @ Faturasa**

Impact	Descriptions
Positive	- The members were able to obtain enough harvests of upland crops for self consumption and next cropping as well. - The members also learned to apply the soil conservation measures as well as the improved farming techniques, such as line sowing, application of compost, and application of liquid fertilizer.
Negative	- The members may have lost the opportunities to engage in other economic activities by securing their time for the sub-program.

Source: JICA Study Team

(5) Sustainability

The NGO was committed to continuing its assistance to the village even after the pilot project. Therefore, it is expected that the beneficiaries' group would receive similar support in the next cropping season. Another round of the hands-on training courses will help the members to acquire the skills firmly and to secure the improved seeds for next cropping for them as well as other community members.

**1.4.3.3 Grazing Control with Protein Bank and Waste Pasture Rehabilitation Sub-program**

(1) Relevance (mainly from the point of view of local community)

Animal diseases caused by the lack of edible grasses or herding places due to the expansion of chlomoraena are one of the major concerns in the village. The lack of herding places is also one of the causes of the extensive free grazing in the village, which has often caused the crop damage in farmland and forest degradation in forest. Hence the aims of the sub-program, development of fodder crops/trees plantation (so-called protein bank) and control of chlomoraena by a biological way, have high consistency with the necessity of the village as well as watershed management.

(2) Effectiveness

Looking back on the results of the sub-program, it is difficult to say that the sub-program achieved its objective, which is to develop a model for reducing animal grazing by reducing the areas covered with chlomoraena and producing animal fodder crops/trees. Time allocated for the pilot project might be too short for the sub-program to show its results. The sub-program should have covered at least two (2) dry seasons so that the members could see the actual development in the demonstration plots.

Nevertheless, given the fact that biological chlomoraena control usually takes five (5) years or more to show its visible results, the Study Team also judges that the introduction of this technique should be reconsidered since it may not be always accepted by local communities.

(3) Efficiency

The efficiency of the sub-program was evaluated as follows.

**Efficiency of GCPBWPR-SP @ Faturasa**

Items	Descriptions
Timing	- Some training courses were conducted behind the schedule due to the delays in starting the rainy season.
Cost	- The expenditure for training was beyond the budgets originally allocated to the activity as some members of CBSE-SP joined the activities of GCPBWPR-SP. - The NGO distributed the planting materials of fodder crops/trees to the members as well as those who joined the activities, though a activity was not planned in the original plan.
Effectiveness	- A series of hands-on training courses were considered effective in enhancing the knowledge and skills of the members. - However, the fodder crops/trees plantations were not fully developed in the demonstration plots, maybe because there was a long dry span after planting and the quality of planting materials was not necessarily good.

Source: JICA Study Team

(4) Impact

The following positive and negative impacts have been found in the village.

**Impact made by GCPBWPR -SP @ Faturasa**

Impact	Descriptions
Positive	- There has been no wildfire caused by carelessness in burning farms. - The members planted fodder crops/trees on the boundaries of their own farms.
Negative	- The demonstration plots for the biological control of chlomoraena become habitats for rodents as they are fully covered with chlororaena.

Source: JICA Study Team

(5) Sustainability

According to the results of the questionnaire survey done by the Study Team in August 2009, the members were willing to continue the sub-program activities though the appreciation of the biological control measure was rather lower than that of the protein bank. As described above, the NGO was committed to continuing the support to the village even after the pilot project. The working groups are expected to continue the activities and to establish the fodder crops/trees plantations, which can be used as a seed bank for other community members. In addition, the biological control measure might be accepted when they see a certain visible change in the demonstration plots while having the assistance from the NGO.

#### **I.4.4 Suco Batara**

##### **I.4.4.1 Sustainable Upland Farming Promotion Sub-program**

(1) Relevance (mainly from the point of view of local community)

Farming in slope land without application of soil conservation measures is the common practice in suco Batara. Local communities need to shift their farms to maintain the soil fertility due to the constant surface soil loss from sloping farms. Shifting cultivation is too laborious for them and also keeps them on a subsistence level. Hence, the improvement and



stabilisation of agricultural production by the introduction of the sustainable upland farming techniques, such as bench terracing and contour composting techniques, is in line with the needs of local communities.

(2) Effectiveness

The objective of the sub-program is to expand the areas/farms with the soil conservation measures through developing a model of the sustainable upland farming techniques and enhancing the capacities of the members to apply the techniques in their own farms. Given the fact that 12 bench terrace farms and 32 contour composting farms were developed by the members in addition to the demonstration plots, the Study Team judges the sub-program to have achieved its objective at a certain level in the given period of time.

However there is a need to introduce a scheme where the members could co-work for each other in the application of the soil conservation measures in addition to the extension of the sub-program period. The soil conservation measures, particularly bench terracing, require considerable labor and it is quite difficult for one household to apply such techniques in his/her farm.

To do so, using the traditional collective working system (halosan in Tetun or gotong yorong in Indonesian) should be considered. Small grouping of the members based on the existing working system and work scheduling of the small groups might encourage them to help each other.

(3) Efficiency

The efficiency of the sub-program was evaluated in terms of timing, cost efficiency, and effectiveness of the activities.

**Efficiency of SUFP-SP @ Batara**

Items	Descriptions
Timing	- Some training courses were conducted behind the schedule due to the delays in procurement of materials. Nevertheless the sub-program as a whole was implemented as scheduled.
Cost	- The expenditure for seeds and seedlings was higher than originally planned as the NGO needed to procure additional species, such as clove, rambutan and other fruit species, which were not listed in the original plan, in response to the request from the members.
Effectiveness	- A series of hands-on training courses were considered effective in enhancing the knowledge and skills of the members. - If there was a scheme to facilitate the collaborative work among the members in the application of the soil conservation measures in their own farms, more members might have replicated the sustainable upland farming techniques in their farms.

Source: JICA Study Team

(4) Impact

The following positive and negative impacts have been found so far.

**Impact made by SUFP -SP @ Faturasa**

<b>Impact</b>	<b>Descriptions</b>
Positive	<ul style="list-style-type: none"><li>- There are members who introduced the soil conservation measures intending to change their farming practices from shifting cultivation to fixed farming.</li><li>- Non members or other community members who have not participated in the sub-program also tried to apply the techniques following what they had observed in the demonstration plots.</li></ul>
Negative	<ul style="list-style-type: none"><li>- The members may have lost the opportunities to engage in other income generating activities.</li></ul>

Source: JICA Study Team

(5) Sustainability

Technically speaking, the groups are considered capable of using A-frame and applying the contour composting practice on a certain level. It is however judged that they need to have more practices to literally acquire all the techniques introduced by the sub-program.

In order for the members to expand and continue the activities, the beneficiaries' groups should be reorganized into small groups so that they could help each other in the application of the soil conservation measures in the respective farms.

Like in the case of suco Faturasa, the NGO plans to continue the support to the village even after the pilot project. The beneficiaries' groups are expected to have the same assistance from the NGO and be able to develop their capacities as well as a working system in the village.

1.4.4.2 Income Generating / Cost Saving Sub-program

(1) Relevance (mainly from the point of view of local community)

Increase and stabilization of cash income is the most concerned topic for local communities in the village. Hence, the techniques and skills that could expand the opportunities to earn additional cash income highly match the needs of the communities.

In fact, the techniques introduced by the sub-program are closely related to the daily needs of women in the village. The hands-on training courses provided by the sub-program are considered effective in empowering the members (women) and improving their daily tasks.

(2) Effectiveness

The main objective of the sub-program is to enhance the capacity of the members to introduce and develop some livelihoods development activities to earn cash income and/or save expenditures. As described in Sub-section 3.4.2, the women's groups have earned US\$ 87~163 from their activities, not to mention the cost saving effects. Although there is still a need to provide technical and managerial support to the women's groups to ensure that they can continue the sub-program activities and manage the earnings in a proper manner, the Study Team judges that the sub-program achieved its main objective.

(3) Efficiency

The efficiency of the sub-program was evaluated in the following three (3) points: timing, cost efficiency, and effectiveness of the activities.

#### Efficiency of IG/CS-SP @ Batara

Items	Descriptions
Timing	- Some of the training courses were delayed due to the busyness of the members as well as resource persons. However, such delays did not influence the overall sub-program implementation.
Cost	- The expense for training on maintenance of vegetable farms was beyond the original budget, as the duration of the training course needed to be extended.
Effectiveness	- The training courses for the use of sewing machine, tais making, and food processing, should have been divided into two to three batches so that all the participants could practice the techniques or use the facilities in the courses. - The training courses should be designed based on the number of trainers as well as equipment/facilities available for training.

Source: JICA Study Team

#### (4) Impact

The following positive and negative impacts have been found so far.

#### Impact made by IG/CS -SP @ Batara

Impact	Descriptions
Positive	- The women's groups started the operations of grocery stores (kiosk) and micro credit schemes using the earnings from the sub-program activities. These activities have helped them to stabilize the household economy and secure their assets, since they can either borrow money from the micro credit scheme or purchase groceries at kiosk on credit in case of emergency. - The members had taken only watercress and cassava leaves before, however, they can eat a variety of vegetables from the demonstration plots three times a day at present. - Non members or other community members who have not participated in the sub-program also started vegetable farming following the techniques demonstrated by the sub-program.
Negative	- The volume of water distributed to the demonstration plot in Werlulun has become scarce as vegetable farms have expanded in the village recently.

Source: JICA Study Team

#### (5) Sustainability

Almost all the members are apparently able to acquire the vegetable farming techniques except natural pesticide application, while some of the members likely have difficulties in tais making and sewing machine operations. Technically speaking, the groups are considered capable of applying the techniques that they have learned through the hands-on training courses at a certain level. But they still need further assistance in financial management of the group funds and operations of the micro credit schemes and grocery stores.

Since the NGO plans to stay in the village even after the pilot project, the women's groups could develop their capacity to keep running the livelihood improvement activities in a proper and transparent manner.

### I.4.5 Public Awareness Campaign Sub-program

#### (1) Relevance

Without changing the ideas and practices on the use of natural resources in local communities, it would be quite difficult to realize the sustainable forest and natural resource management in the target watersheds. It is therefore quite important to raise the awareness of forest and watershed environment in hilly and mountainous communities through information dissemination activities. In fact, the main aim of the pilot project is to identify the effective means to get the messages across to local communities.

## (2) Effectiveness

Since the duration of the pilot project was too short to cause a behavioral change among the target group, the sub-program did not bring about any visible changes on the ground. However, many adults as well as children who took part in the sub-program responded that the sub-program activities gave them good opportunities to consider the future of the village and examine their daily activities. It is judged that the sub-program was effective in making them conscious about forest and environment of the village.

## (3) Efficiency

In the pilot project, the following PAC methods were put to trial.

- Reading picture card show/picture book to children
- Drawing session after PAC session
- Dialogue between children and adults
- Combination with Tara Bandu ceremony
- Distribution of PAC material (Calendar with children's drawings)

The effectiveness of the above-listed activities was confirmed in the course of the implementation of the pilot project. However, the following aspects should be reconsidered or reexamined to make them more efficient.

- a. Since every suco currently has a set of DVD player and monitor with a solar battery panel, the PAC material can be converted into an electrical form. By doing this, the PAC material can be easily duplicated at cheaper cost and one PAC session can cover more people at once.
- b. Distribution of calendar with drawings made by children would be effective in reminding adults of the children's visions. However, it may be financially difficult to conduct this activity in many villages in consideration of its incurred cost.
- c. Some of the activities listed above can be merged. For instance, the drawing session can be conducted after the reading session.

## (4) Impact

Through the implementation of PAC-SP, the following positive and negative impacts were confirmed in Samalete.

**Impact made by PAC -SP @ Samalete**

<b>Impact</b>	<b>Descriptions</b>
Positive	<ul style="list-style-type: none"><li>- Teachers of primary school in Samalete became more conscious about forest and environment. They are willing to continue using the picture card show in their classes not only in Samalete but also in other sucos.</li><li>- The children's drawings/visions were shared among communities in Samalete by presenting them at Tara Bandu ceremony and distributing the calendar to all the households in the village.</li><li>- Children seem to have not cut trees along the road.</li></ul>
Negative	<ul style="list-style-type: none"><li>- The involvement of children in the PAC sessions may have interrupted the school curricula.</li></ul>

Source: JICA Study Team

## (5) Sustainability

At present, there is no clear plan to conduct the same activities in the Ministry of Education as well as Ministry of Agriculture and Fisheries. As teachers in Samalete are willing to continue the

activities in Samalete and the neighboring sucos, the picture books may be used by them in the future. However, the government should allocate a certain budget to their activities so as to make them sustainable.

In terms of the sustainability of the effectiveness of the activities, both children and adults who participated in the sub-program expressed their willingness to gain more information about forest and environment. If the environmental information can be disseminated to them through proper media periodically, they could be more conscious about forest and watershed environment.

## **I.5 Lessons Learned and Good Practices**

The results and processes of the pilot projects could give a number of useful suggestions and recommendations for the future watershed management activities not only in the target watershed but also other river basins. The following are the main lessons learned and good practices found through the implementation of the pilot projects.

### **I.5.1 Lessons Learned**

#### **(1) Size of the group**

The size of a beneficiaries' group should be on a manageable level. If the organized beneficiaries' group is as large as the level of aldeia, it might be difficult to keep the members' participation high. Based on the experiences of the pilot projects, more or less 30 members in a group may be the maximum number for the group to maintain its solidarity among the members.

In case a target village requires a sub-program to cover all the villagers in the village, the sub-program should be implemented in a phased manner. Since it is not advisable to benefit only the selected number of communities in a village in the context of Timor-Leste<sup>1</sup>, the sub-program should be flexible about the extension of the project period.

#### **(2) Sub-program time frame**

In any sub-programs taking a community-based approach, long-term assistance is necessary for development of capacity of local communities. It is quite difficult for local communities to learn the skills that they have never practiced and to become self-reliant in a short period of time. Any sub-programs where the hands-on training is the main intervention should have a sufficient time schedule to conduct the same training courses to the same beneficiaries' groups at least twice.

In addition, building a trust-based relationship with communities is essential in the implementation of a community-based project. Unless local communities have confidence in an implementer as a real partner for improving their living conditions, they would never listen to and merely consider any organization, either an NGO or MAF, as a source of materials or funds. In general, it is quite difficult to develop such a relationship in a short period of time.

#### **(3) Avoidance of envy among the members**

Sub-programs under the agriculture and forestry-based programs employ an FFS approach, where regular members work together at a demonstration plot which belongs to a core member. Regular members would often feel that such arrangement is partial to a core member and they must work for development of a core member's plot. This tendency was observed in the sub-programs at Tohumeta and Samalete and influenced the participation of the regular members. An implementer (MAF or NGO) should clearly explain the objectives of a demonstration plot to all community members and discuss with them how to treat the products generated by the sub-program, so that they do not have any negative feelings after establishment of a demonstration plot.

#### **(4) Utilization of the existing collective working system**

In reference to the above issue, there should be a scheme to enable the members to help each other and work in a collective manner in the respective farms, so that many members can replicate the techniques in their own farms/plots. To this end, the existing collective working group (so-called "Harosan" system) in the village should be utilized.

In the sub-programs that require a certain amount of labor, such as TPP-SP, CBSE-SP, and SUIP-SP, should create sub-groups/small groups in the beneficiaries' group based on the existing collective working group. Each small group should come up with a work schedule to develop the

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<sup>1</sup> Such an arrangement may create internal conflicts between the communities benefited by a sub-program and those who are not benefited.

respective farms/plots. In order for the sub-groups to apply the techniques properly, the implementer shall supervise their works and provide technical assistance whenever needs arise.

(5) Delivery of information

One of the causes of the low participation of members in the sub-programs was insufficient or belated information dissemination. In the sub-programs at Tohumeta and Samalete, the NGO used to deliver the information of the sub-programs through the group leaders or core members, but the information had not necessarily been delivered to all regular members of the beneficiaries' groups.

In order to facilitate the information dissemination, it is again advisable to sub-divide the beneficiaries' group into several sub-groups or small groups. Each group should assign a focal person/leader of the small group who is responsible for information sharing among the small group members. Since a small group is organized by the members who live close to each other, the information dissemination is expected to be smoother.

(6) Utilization of PLUP-SP

In the course of the discussions under Participatory Land Use Planning Sub-program at suco Faturasa, local communities identified the needs of the village to realize its future land use map as well as village regulations. In other words, they were able to identify the sub-programs needed to be introduced in the village, such as TPP-SP for regenerating forest, SUFP-SP for permanent farm and GCPBWPR-SP in free grazing land, to name a few. Consequently, it is recommended that PLUP-SP shall be implemented ahead of any land-related management sub-programs (e.g., TPP-SP, CBSE-SP, SUFP-SP, etc.).

(7) Integrated Implementation of Sub-programs

Integrated implementation of the sub-programs in the pilot projects was effective in tackling rather complicated issues in the village. In Samalete, the combination of TPP-SP and CPR-SP was more logical to increase coffee production by the expansion of new coffee plantations simultaneously with rehabilitation of aged coffee plantations. On the other hand, the issues on free animal grazing and wildfire were tackled by the introduction of PLUP-SP, CBSE-SP, and GCPBWPR-SP in Faturasa. Since the issues that local communities have faced are complicated or interrelated, several sub-programs shall be implemented in the same village in a holistic manner. The following are some of the potential combinations of the sub-programs.

- PLUP-SP, TPP-SP, and SUFP-SP
- PLUP-SP, TPP-SP, and CRP-SP
- PLUP-SP, TPP-SP, CGPBWPR-SP, and CBSE-SP
- PLUP-SP, SUFP-SP, and CBSE-SP

(8) Consideration of the capacity of the village

When plural sub-programs are to be implemented in the same village simultaneously, the capacity of local communities should be carefully assessed prior to the implementation of the sub-programs. In the concrete, the labor balance of the village should be assessed in due consideration of their farming activities and traditional ceremonies in the village as well. Based on the experience in the pilot project, it would be difficult for one village to implement more than three (3) sub-programs at once.

(9) Support from the village leaders

Support from the village leaders of suco is indispensable for smooth operations of the sub-program. For instance, the local leaders in Batara and Samalete had often made their effort to inspire the members to participate in the sub-program activities, while those in Tohumeta did not paid much attention to the fulfillment of their responsibilities during the pilot project. In case the leadership of the village leaders is weak like Tohumeta, it might not be easy to keep the members being active in the sub-program.

(10) Considerations to tetun illiterates and women

Due consideration should be given to the members who can not comprehend Tetun in hands-on training. There should be at least an interpreter allocated in training so that participants could understand the explanation of a trainer. The farmer-to-farmer training approach, where a trained member becomes a trainer for other members, should also be considered if a sub-program is implemented in a phased manner. This approach may be more effective in terms of cost-effectiveness.

At the same time, due consideration should be given to women members. Making food for the participants in training courses are their additional burden and such arrangement reduced their opportunities to take part in the training courses. A work sharing arrangement should be made among the members.

### **I.5.2 Good Practices**

(1) Deployment of Field Staff

Deployment of field staffs is essential in the establishment of a trust relationship with communities. Both NGOs, Halarae Foundation and UCS-CTL, have deployed field staffs in the implementation of the pilot projects; the communities recognized the NGOs as the organizations that were always with them.

(2) Exposure Visit prior to Field Implementation (Introduction of Role Models)

In general, communities are quite passive and sometime afraid of change. In particular, they tend to hesitate to take part in activities that they can not sense direct benefit from. It would not be easy for a sub-program to introduce new techniques, which will bring a change or additional burdens to them, in the beginning.

The study tours or exposure visits conducted prior to the implementation of the pilot projects helped the members to have a clear picture/image of the outcomes from the respective sub-programs. In particular, it was quite effective in motivating the members of Batara to participate in the sub-programs. After the exposure visit to Manelima, the members in Batara seemed to be keen to learn new techniques from the sub-programs.

(3) Effectiveness of Hands-on Training

A series of the hands-on training courses provided by the sub-programs helped the members to learn and gain the knowledge and skills introduced by the sub-programs. It was quite effective in developing the capacities of local communities.

(4) Effectiveness of Participatory Panning

Making a work plan and evaluating their own performance in a participatory manner helped the members foster a sense of ownership of the sub-program and deepen their understanding of the sub-program activities.

(5) Coordination with Other Agencies

The coordination with other agencies/organizations, such as PARDTL and church, in the sub-program implementation contributed to development of networks or linkages which the communities could make use of in the future. In addition, the involvement of the local governments (the sub-district or district administrative offices) in PLUP-SP was effective in making the village leaders responsible for their regulations.

Furthermore, the coordination with the extensionists (extension workers) and forest guards, who were recently hired by MAF, are also important for the members to receive the assistance from MAF since they are the field extension arms of the government at present.



### I.5.3 Critical Issues for Each Sub-program

In addition to lessons learned and good practices mentioned above, the following critical issues were identified through the implementation of the respective sub-programs.

**Critical Issues related to the Respective Sub-programs**

Subprogram	Critical Issues
TPP-SP	<ul style="list-style-type: none"> <li>a. to assess the applicability of seedling production activities to a target village (Seedling production may not be necessarily acceptable to a village due to its heavy burden during the nursery operations.)</li> <li>b. to consider sufficient time for development of a nursery and installation / rehabilitation of a watering system prior to seedling production (collection of seeds, land preparation for seedbeds, sowing seeds, and preparation of poly bags)</li> <li>c. to take into account of the seasonal availability of tree seeds in making a work plan</li> <li>d. to make communities understand how hard they shall work (e.g., building a nursery, filling soils into poly bags, and daily maintenance of seedlings) as much as possible in the process of making a work plan</li> <li>e. to determine the number of seedlings based on the members' capacities of planting seedlings</li> <li>f. to include the revival of Tara Bandu with development of village regulations in the sub-program so that seedlings planted could be protected from any negligent activities</li> </ul>
HG-SP	<ul style="list-style-type: none"> <li>a. to be targeted mainly on women in communities since management of vegetable farms is one of the women's tasks</li> <li>b. to be implemented on a small scale in the beginning with proper selection of members, rather than involving all communities</li> <li>c. to design a cropping system with due consideration of crop suitability for season as well as the site conditions</li> <li>d. to periodically monitor the production of vegetables with beneficiaries so that they could grasp the produce from the farm</li> </ul>
CRP-SP	<ul style="list-style-type: none"> <li>a. to coordinate with external organizations that have long experience in coffee production, such as PARDTL, CCT, and MAF</li> <li>b. to implement in combination with TPP-SP</li> </ul>
PLUP-SP	<ul style="list-style-type: none"> <li>a. to involve traditional leaders, representative of church (Katakista), large-scale land owners, and principal of school in the village in the discussions</li> <li>b. to measure the locations of some landmarks such as water sources, specific forests, etc., to validate the accuracy of a land use map made by communities</li> <li>c. to let the council of suco present village regulations and future land use plan to other community members in consultation meetings, so that the council could digest the village regulations and future land use plan</li> <li>d. to monitor the effectiveness of the regulations every month after Tara Bandu ceremony</li> <li>e. to disseminate the information of the village regulations to the neighboring villages after the revival of Tara Bandu, so that the village could protect their natural resources from exploitation by the neighboring villages</li> </ul>
GCPBWPR-SP	<ul style="list-style-type: none"> <li>a. to start with a small group of people since the production of fodder crops/trees as well as control of chlomoranea is not high priority in communities in general.</li> </ul>
CBSE-SP	<ul style="list-style-type: none"> <li>a. to develop a demonstration plot based on the prevailing farming techniques so as to demonstrate the effectiveness of improved seeds clearly</li> <li>b. to introduce soil conservation measures in addition to new varieties of seeds since most of the farms in the village are on sloping lands</li> <li>c. to give due consideration to the amendment/improvement of soil conditions to ensure a reasonable output from the activities</li> </ul>
SUFP-SP	<ul style="list-style-type: none"> <li>a. not to fix the width of terrace but height in making terraces, or terraces made will be at high risk of collapse</li> <li>b. to give due consideration to the amendment/improvement of soil conditions to ensure a reasonable output from the activities</li> <li>c. to secure sufficient time for making compost before planting annual crops in the plot</li> <li>d. to allocate sufficient time for hands-on training on counter delineation and soil conservation measures so that communities can learn such techniques.</li> </ul>
IG/CS-SP	<ul style="list-style-type: none"> <li>a. to conduct training on financial management just after women's groups receive earnings</li> <li>b. to assist women's groups in keeping an account book and managing their budget on a weekly or daily basis</li> <li>c. to conduct follow-up training on use of sewing machine, tais making and food processing especially for young members</li> </ul>
PAC-SP	<ul style="list-style-type: none"> <li>a. to use visual materials for PAC sessions as many rural people have limited capacity to read</li> <li>b. to emphasize verbal communication in disseminating information to communities</li> </ul>

## ***Tables and Figures***

Table I.3-1 Species planted and the estimated survival of the planted seedlings in the respective plantations under TPP-SP in Suco Tohumeta

Group: Aldeia I

Plot No.	Name of members	Date of monitoring	GPS data		No of Seedlings																																											
			00° - 00' - 00'		Caliandra				L-19				Clove				Teak				Sandalwood				Mahogany				Coconut				Breadfruits tree				Rambutan				Total							
			Lat(S)	Lon(E)	alive	dead	Sub-Total No. of Planted	Survival Rate	alive	dead	Sub-Total No. of Planted	Survival Rate	alive	dead	Sub-Total No. of Planted	Survival Rate	alive	dead	Sub-Total No. of Planted	Survival Rate	alive	dead	Sub-Total No. of Planted	Survival Rate	alive	dead	Sub-Total No. of Planted	Survival Rate	alive	dead	Sub-Total No. of Planted	Survival Rate	alive	dead	Sub-Total No. of Planted	Survival Rate	alive	dead	Sub-Total No. of Planted	Survival Rate								
1	Domingos Guterres	13-May-09	08-38-14.3	125-32-43.0	22	0	22	100.0%	19	0	19	100.0%	22	3	25	88.0%	0	0	0	0	10	0	10	100.0%	0	0	0	0	4	0	4	100.0%	1	0	1	100.0%	1	1	2	50.0%	79	4	83	95.2%				
2	Domingos Guterres	13-May-09	08-38-12.6	125-32-41.2	0	0	0	-	0	0	0	-	0	0	0	-	19	0	19	100.0%	0	0	0	-	12	5	17	70.6%	0	0	0	-	0	0	0	-	0	0	0	-	31	5	36	86.1%				
3	Alfredo Bareto	25-Mar-09	08-38-01.7	125-32-41.3	17	0	17	100.0%	15	0	15	100.0%	22	3	25	88.0%	19	0	19	100.0%	15	0	15	100.0%	28	2	30	93.3%	8	0	8	100.0%	1	0	1	100.0%	2	0	2	100.0%	127	5	132	96.2%				
4	Joao Fatima Tilman	N.A.	08-37-41.1	125-32-42.7	17	0	17	100.0%	15	0	15	100.0%	14	11	25	56.0%	19	0	19	100.0%	10	0	10	100.0%	30	0	30	100.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	112	11	123	91.1%				
5	Fernando da Conceicao	N.A.	08-37-40.0	125-32-43.1	17	0	17	100.0%	15	0	15	100.0%	28	2	30	93.3%	19	0	19	100.0%	8	2	10	80.0%	27	3	30	90.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	121	7	128	94.5%				
6	Domingos S. Goncalves	N.A.	08-37-21.1	125-32-37.2	17	0	17	100.0%	15	0	15	100.0%	25	0	25	100.0%	19	0	19	100.0%	10	0	10	100.0%	28	2	30	93.3%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	121	2	123	98.4%				
7	Agusto Matos	25-Mar-09	08-38-07.4	125-32-40.0	17	0	17	100.0%	25	0	25	100.0%	19	6	25	76.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	6	67	91.0%		
8	Agusto Matos	25-Mar-09	08-38-07.0	125-32-40.7	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	4	55	92.7%			
9	Agusto Matos	25-Mar-09	08-38-07.2	125-32-40.7	0	0	0	-	0	0	0	-	0	0	0	-	19	0	19	100.0%	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19	100.0%
10	Alfredo Maia	10-Jun-09	08-38-03.6	125-32-42.1	17	0	17	100.0%	15	0	15	100.0%	14	1	15	93.3%	0	0	0	0	9	6	15	60.0%	10	0	10	100.0%	9	0	9	100.0%	1	0	1	100.0%	2	0	2	100.0%	77	7	84	91.7%				
11	Alfredo Maia	10-Jun-09	08-37-38.3	125-32-45.5	0	0	0	-	0	0	0	-	0	0	0	-	17	2	19	89.5%	0	0	0	-	19	1	20	95.0%	0	0	0	-	0	0	0	-	0	0	0	-	36	3	39	92.3%				
12	Manuel Maia	10-Jun-09	08-37-37.3	125-32-43.9	17	0	17	100.0%	15	0	15	100.0%	25	0	25	100.0%	19	0	19	100.0%	2	8	10	20.0%	30	0	30	100.0%	4	0	4	100.0%	0	1	1	0.0%	2	0	2	100.0%	114	9	123	92.7%				
13	Joanina Tilman Soares	10-Jun-09	08-38-01.6	125-32-43.9	17	0	17	100.0%	15	0	15	100.0%	25	0	25	100.0%	0	0	0	0	5	5	10	50.0%	0	0	0	0	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	69	5	74	93.2%				
14	Marcus Tilman	10-Jun-09	08-38-05.6	125-32-44.9	27	0	27	100.0%	26	0	26	100.0%	15	10	25	60.0%	19	0	19	100.0%	10	0	10	100.0%	30	0	30	100.0%	8	0	8	100.0%	1	0	1	100.0%	0	2	2	0.0%	136	12	148	91.9%				
15	Manuel Marques Soares	10-Jun-09	08-38-04.6	125-32-38.4	17	0	17	100.0%	15	0	15	100.0%	13	12	25	52.0%	19	0	19	100.0%	0	10	10	0.0%	29	1	30	96.7%	2	1	3	66.7%	1	0	1	100.0%	2	0	2	100.0%	98	24	122	80.3%				
16	Alcino Marques da Costa	12-Jun-09	08-37-55.0	125-32-29.3	17	0	17	100.0%	15	0	15	100.0%	25	0	25	100.0%	17	2	19	89.5%	0	10	10	0.0%	29	1	30	96.7%	3	0	3	100.0%	1	0	1	100.0%	1	1	2	50.0%	108	14	122	88.5%				
17	Domingos Gomes	12-Jun-09	08-37-50.1	125-32-37.5	6	0	6	100.0%	10	0	10	100.0%	21	4	25	84.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73	5	78	93.6%		
18	Jose Fernandes Araujo	12-Jun-09	08-37-49.7	125-32-37.4	17	0	17	100.0%	21	0	21	100.0%	17	8	25	68.0%	19	0	19	100.0%	5	5	10	50.0%	45	5	50	90.0%	3	0	3	100.0%	1	0	1	100.0%	1	1	2	50.0%	129	19	148	87.2%				
19	Lorenzo M. Santos	8-Jul-09	08-38-05.4	125-32-36.7	10	7	17	58.8%	13	2	15	86.7%	17	8	25	68.0%	19	0	19	100.0%	4	6	10	40.0%	20	10	30	66.7%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	90	33	123	73.2%				
20	Berehotu	8-Jul-09	08-38-15.1	125-32-50.5	15	2	17	88.2%	14	1	15	93.3%	21	4	25	84.0%	19	0	19	100.0%	4	6	10	40.0%	30	0	30	100.0%	4	0	4	100.0%	0	1	1	0.0%	1	1	2	50.0%	108	15	123	87.8%				
21	Alcino Lopes	8-Jul-09	08-38-12.4	125-32-39.6	0	0	0	-	0	0	0	-	25	0	25	100.0%	0	0	0	0	6	4	10	60.0%	28	2	30	93.3%	4	0	4	100.0%	1	0	1	100.0%	1	1	2	50.0%	65	7	72	90.3%				
22	Alberto Lopes	8-Jul-09	08-38-10.0	125-32-38.9	17	0	17	100.0%	15	0	15	100.0%	20	5	25	80.0%	18	1	19	94.7%	5	5	10	50.0%	30	0	30	100.0%	4	0	4	100.0%	1	0	1	100.0%	1	1	2	50.0%	111	12	123	90.2%				
23	Jose Pinto	15-Jul-09	08-38-17.1	125-32-41.9	16	1	17	94.1%	15	0	15	100.0%	21	4	25	84.0%	19	0	19	100.0%	3	7	10	30.0%	21	9	30	70.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	102	21	123	82.9%				
24	Estevo Babo Noronha	15-Jul-09	08-38-17.4	125-32-32.1	12	5	17	70.6%	15	0	15	100.0%	20	5	25	80.0%	19	0	19	100.0%	6	4	10	60.0%	28	2	30	93.3%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	107	16	123	87.0%				
25	Antonio Guterres	15-Jul-09	08-38-17.9	125-32-35.2	17	0	17	100.0%	13	2	15	86.7%	15	10	25	60.0%	17	2	19	89.5%	4	6	10	40.0%	28	2	30	93.3%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	101	22	123	82.1%				
26	Afonso Lemos	15-Jul-09	08-38-13.8	125-32-43.4	9	0	9	100.0%	0	0	0	-	21	4	25	84.0%	0	0	0	0	0	0	0	-	28	2	30	93.3%	4	0	4	100.0%	1	0	1	100.0%	1	1	2	50.0%	64	7	71	90.1%				
27	Guilherme dos Santos	15-Jul-09	08-38-06.3	125-32-50.7	17	0	17	100.0%	15	0	15	100.0%	21	9	30	70.0%	19	0	19	100.0%	4	6	10	40.0%	21	9	30	70.0%	4	0	4	100.0%	1	0	1	100.0%	1	1	2	50.0%	103	25	128	80.5%				
28	Joana Martins	15-Jul-09	08-38-04.7	125-32-39.2	15	2	17	88.2%	12	3	15	80.0%	19	6	25	76.0%	19	0	19	100.0%	2	8	10	20.0%	22	8	30	73.3%	4	0	4	100.0%	0	1	1	0.0%	0	2	2	0.0%	93	30	123	75.6%				
29	Armando M. de Carvalho	15-Jul-09	08-37-55.9	125-32-42.8	15	2	17	88.2%	14	1	15	93.3%	12	13	25	48.0%	17	2	19	89.5%	5	5	10	50.0%	28	2	30	93.3%	3	1	4	75.0%	1	0	1	100.0%	2	0	2	100.0%	97	26	123	78.9%				
30	Alberto A. Soares	15-Jul-09	08-38-00.7	125-32-39.2	10	0	10	100.0%	6	0	6	100.0%	21	4	25	84.0%	0	0	0	0	0	0	0	-	0	0	0	0	4	0	4	100.0%	1	0	1													

Table I.3-1 Species planted and the estimated survival of the planted seedlings in the respective plantations under TPP-SP in Suco Tohumeta

Group: Aldeia II

Plot No.	Name of members	Date of monitoring	GPS data		No of Seedlings																														Total									
			00° - 00' - 00"		Caliandra		L-19		Clove		Teak		Sandalwood		Mahogany		Coconut		Breadfruits tree		Rambutan		alive	dead	Total No.of Planted	Survival Rate																		
			Lat(S)	Lon(E)	alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead					Sub-Total No.of Planted	Survival Rate	alive	dead	Sub-Total No.of Planted	Survival Rate												
1	Mario da Cruz	13-May-09	08-38-10.8	125-32-53.7	24	0	24	100.0%	15	0	15	100.0%	47	3	50	94.0%	19	0	19	100.0%	8	2	10	80.0%	43	7	50	86.0%	2	2	4	50.0%	1	0	1	100.0%	2	0	2	100.0%	161	14	175	92.0%
2	Simao Henrique	4-Feb-09	08-38-07.4	125-32-20.9	30	0	30	100.0%	10	0	10	100.0%	50	0	50	100.0%	19	0	19	100.0%	0	0	0	-	53	2	55	96.4%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	169	2	171	98.8%
3	Abilio Gomes	6-May-09	08-38-08.4	125-33-08.7	33	0	33	100.0%	21	0	21	100.0%	47	6	53	88.7%	19	0	19	100.0%	2	5	7	28.6%	49	2	51	96.1%	8	0	8	100.0%	1	0	1	100.0%	0	2	2	0.0%	180	15	195	92.3%
4	Domingos Lobato, Januario	20-Feb-09	08-38-27.3	125-32-58.3	40	0	40	100.0%	10	0	10	100.0%	40	0	40	100.0%	38	0	38	100.0%	15	2	17	88.2%	140	3	143	97.9%	2	0	2	100.0%	0	0	0	-	0	0	0	-	285	5	290	98.3%
5	Domingos Lobato	20-Feb-09	08-38-16.1	125-33-13.2	26	0	26	100.0%	22	0	22	100.0%	44	0	44	100.0%	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	1	0	1	100.0%	2	0	2	100.0%	95	0	95	100.0%
6	Domingos Lobato	20-Feb-09	08-38-15.1	125-33-12.7	22	0	22	100.0%	17	0	17	100.0%	69	0	69	100.0%	0	0	0	-	0	0	0	-	0	0	0	-	5	0	5	100.0%	2	0	2	100.0%	4	0	4	100.0%	119	0	119	100.0%
7	Clementino marques and Do	16-Apr-09	08-38-09.5	125-33-01.1	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	96	4	100	96.0%	0	0	0	-	0	0	0	-	0	0	0	-	96	4	100	96.0%
8	Clementino marques and Do	16-Apr-09	08-38-12.0	125-33-02.7	37	3	40	92.5%	17	2	19	89.5%	80	10	90	88.9%	0	0	0	-	5	2	7	71.4%	0	0	0	-	8	0	8	100.0%	2	0	2	100.0%	4	0	4	100.0%	153	17	170	90.0%
9	Clementino marques and Do	16-Apr-09	08-38-12	125-33-03.9	0	0	0	-	0	0	0	-	0	0	0	-	38	0	38	100.0%	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	38	0	38	100.0%
10	Duarte de Fatima Henrique	12-Mar-09	08-38-13.5	125-33-05.7	0	0	0	-	0	0	0	-	0	0	0	-	19	0	19	100.0%	6	0	6	100.0%	42	8	50	84.0%	0	0	0	-	0	0	0	-	0	0	0	-	67	8	75	89.3%
11	Duarte de Fatima Henrique	12-Mar-09	08-38-15.2	125-33-05.7	10	0	10	100.0%	20	0	20	100.0%	46	4	50	92.0%	0	0	0	-	0	0	0	-	0	0	0	-	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	83	4	87	95.4%
12	Domingos Marques	2-Apr-09	08-38-13.0	125-33-14.7	0	0	0	-	0	0	0	-	0	0	0	-	19	0	19	100.0%	0	0	0	-	53	0	53	100.0%	0	0	0	-	0	0	0	-	0	0	0	-	72	0	72	100.0%
13	Domingos Marques	2-Apr-09	08-38-14.2	125-33-16.6	9	0	9	100.0%	26	0	26	100.0%	70	0	70	100.0%	0	0	0	-	7	0	7	100.0%	0	0	0	-	9	1	10	90.0%	1	0	1	100.0%	2	0	2	100.0%	124	1	125	99.2%
14	Juliao Castro	2-Apr-09	08-38-16.9	125-33-14.5	0	0	0	-	0	0	0	-	0	0	0	-	23	0	23	100.0%	0	0	0	-	48	2	50	96.0%	0	0	0	-	0	0	0	-	0	0	0	-	71	2	73	97.3%
15	Juliao Castro	2-Apr-09	08-38-17.8	125-33-14.9	24	0	24	100.0%	15	0	15	100.0%	70	0	70	100.0%	0	0	0	-	3	1	4	75.0%	0	0	0	-	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	119	1	120	99.2%
16	Bernadino Leo Mali	12-Mar-09	08-38-17.1	125-33-02.6	20	0	20	100.0%	20	0	20	100.0%	48	7	55	87.3%	19	0	19	100.0%	3	1	4	75.0%	50	0	50	100.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	167	8	175	95.4%
17	Oscar Aleixo	N.A.	08-38-17.3	125-32-59.2	7	0	7	100.0%	15	0	15	100.0%	50	0	50	100.0%	19	0	19	100.0%	4	0	4	100.0%	45	5	50	90.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	147	5	152	96.7%
18	Antonio Alberto Carlos	10-Mar-09	08-38-11.6	125-33-09.7	16	0	16	100.0%	0	0	0	-	50	0	50	100.0%	21	0	21	100.0%	5	2	7	71.4%	49	1	50	98.0%	8	0	8	100.0%	2	0	2	100.0%	152	3	155	98.1%				
19	Mario de Jesus do Rosario	10-Mar-09	08-38-10.9	125-33-13.2	24	0	24	100.0%	15	0	15	100.0%	48	2	50	96.0%	19	0	19	100.0%	6	1	7	85.7%	41	9	50	82.0%	7	1	8	87.5%	1	0	1	100.0%	2	0	2	100.0%	163	13	176	92.6%
20	Francisco do Rosario	10-Mar-09	08-38-09.4	125-33-13.2	24	0	24	100.0%	15	0	15	100.0%	47	3	50	94.0%	6	0	6	100.0%	3	1	4	75.0%	45	5	50	90.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	147	9	156	94.2%
21	Domingos dos Santos	3-Jul-09	08-38-23.0	125-33-13.2	25	0	25	100.0%	9	0	9	100.0%	15	5	20	75.0%	0	0	0	-	7	0	7	100.0%	50	0	50	100.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	113	5	118	95.8%
22	Antonio de Jesus	3-Jul-09	08-38-22.1	125-33-18.2	18	0	18	100.0%	15	0	15	100.0%	47	8	55	85.5%	15	4	19	78.9%	2	2	4	50.0%	50	0	50	100.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	154	14	168	91.7%
23	Eugenia dos Santos	3-Jul-09	08-38-09.5	125-33-13.3	2	0	2	100.0%	12	0	12	100.0%	51	5	56	91.1%	19	0	19	100.0%	3	4	7	42.9%	50	0	50	100.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	144	9	153	94.1%
24	Marito de Fatima	8-Jul-09	08-38-20.3	125-33-20.0	25	0	25	100.0%	0	0	0	-	42	8	50	84.0%	0	0	0	-	0	0	0	-	0	0	0	-	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	74	8	82	90.2%
25	Marcelino de Jesus Ximenes	8-Jul-09	08-38-25.5	125-33-17.8	40	0	40	100.0%	20	0	20	100.0%	38	12	50	76.0%	0	0	0	-	0	0	0	-	0	0	0	-	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	105	12	117	89.7%
26	Mariano Lopes	3-Jul-09	08-38-17.0	125-33-04.7	0	0	0	-	19	0	19	100.0%	45	5	50	90.0%	13	6	19	68.4%	1	3	4	25.0%	41	9	50	82.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	126	23	149	84.6%
27	Jerenimo Barreto	3-Jul-09	08-38-19.1	125-33-04.2	20	0	20	100.0%	10	0	10	100.0%	36	9	45	80.0%	16	3	19	84.2%	0	4	4	0.0%	15	5	20	75.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	104	21	125	83.2%
28	Armando Barros Soares	3-Jul-09	08-38-16.5	125-33-07.8	15	0	15	100.0%	15	0	15	100.0%	43	7	50	86.0%	17	2	19	89.5%	2	0	2	100.0%	47	3	50	94.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	146	12	158	92.4%
29	Jasinto da Costa	8-Jul-09	08-38-26.3	125-32-17.8	0	0	0	-	0	0	0	-	30	11	41	73.2%	11	8	19	57.9%	0	0	0	-	45	5	50	90.0%	3	1	4	75.0%	0	1	1	0.0%	1	1	2	50.0%	90	27	117	76.9%
30	Helena dos Santos	22-Jul-09	08-38-20.2	125-33-08.5	24	0	24	100.0%	15	0	15	100.0%	45	5	50	90.0%	19	0	19	100.0%	5	2	7	71.4%	48	2	50	96.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	163	9	172	94.8%
31	Joao Aleixo Borges	22-Jul-09	08-38-17.3	125-33-04.9	0	0	0	-	15	0	15	100.0%	42	8	50	84.0%	28	1	29	96.6%	4	0	4	100.0%	60	5	65	92.3%	4	0	4	100.0%	1	0	1	100.0%	1	1	2	50.0%	155	15	170	91.2%
32	Pascoal do Rego	15-May-09	08-38-18.7	125-32-55.5	0	0	0	-	15	0	15	100.0%	54	12	66	81.8%	16	4	20	80.0%	2	5	7	28.6%	37	13	50	74.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	131	34	165	79.4%
33	Jose Pereira	15-May-09	08-38-21.0	125-33-09.7	0	0	0	-	0	0	0	-	0	0	0	-	17	2	19	89.5%	0	0	0	-	33	17	50	66.0%	0	0	0	-	0	0	0	-	0	0	0	-	50	19	69	72.5%
34	Jose Pereira	15-May-09	08-38-24.2	125-33-11.4	24	0	24	100.0%	15	0	15	100.0%	38	12	50	76.0%	0	0	0	-	5	2	7	71.4%	0	0	0	-	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	89	14	103	86.4%
35	Francisco Mesquita	N.A.	08-38-12.1	125-33-04.6	0	0	0	-	0	0	0	-	0	0	0	-	19	0	19	100.0%	0	0	0	-	102	0	102	100.0%	0	0	0	-	0	0										

**Table I.3-1 Species planted and the estimated survival of the planted seedlings in the respective plantations under TPP-SP in Suco Tohumeta**

Group: Aldeia III

Plot No.	Name of members	Date of monitoring	GPS data 00° - 00' - 00"		No of Seedlings																																							
			Lat(S)	Lon(E)	Caliandra				L-19				Clove				Teak				Sandalwood				Mahogany				Coconut				Breadfruits tree				Rambutan				Total			
					alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead	Sub-Total No.of Planted	Survival Rate	alive	dead	Total No.of Planted	Survival Rate				
1	Antonio Castro de Jesus	1-May-09	08-38-11.3	125-32-37.6	32	2	34	94.1%	25	2	27	92.6%	31	4	35	88.6%	0	0	0	-	6	4	10	60.0%	0	0	0	-	2	2	4	50.0%	1	0	1	100.0%	2	0	2	100.0%	99	14	113	87.6%
2	Antonio Castro de Jesus	1-May-09	08-38-12.9	125-32-36.8	0	0	0	-	0	0	0	-	0	0	0	-	45	0	45	100.0%	0	0	0	-	94	6	100	94.0%	0	0	0	-	0	0	0	-	0	0	0	-	139	6	145	95.9%
3	Julio de Jesus	13-May-09	08-38-07.5	125-32-20.9	68	0	68	100.0%	54	0	54	100.0%	13	12	25	52.0%	0	0	0	-	4	5	9	44.4%	0	0	0	-	10	0	10	100.0%	2	0	2	100.0%	2	0	2	100.0%	153	17	170	90.0%
4	Julio de Jesus	13-May-09	08-38-06.8	125-32-19.4	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	4	0	4	100.0%	50	0	50	100.0%	0	0	0	-	0	0	0	-	0	0	0	-	50	0	50	100.0%
5	Julio de Jesus	13-May-09	08-38-09.3	125-32-21.6	0	0	0	-	0	0	0	-	0	0	0	-	54	0	54	100.0%	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	54	0	54	100.0%
6	Angelina Pereira	13-May-09	08-38-05.1	125-32-29.1	34	0	34	100.0%	27	0	27	100.0%	22	3	25	88.0%	27	0	27	100.0%	7	0	7	100.0%	45	5	50	90.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	169	8	177	95.5%
7	Rafael Humberto	13-May-09	08-38-04.4	125-32-24.0	40	0	40	100.0%	18	0	18	100.0%	22	3	25	88.0%	27	0	27	100.0%	14	0	14	100.0%	47	3	50	94.0%	2	2	4	50.0%	1	0	1	100.0%	2	0	2	100.0%	173	8	181	95.6%
8	Andre Tolo	13-May-09	08-38-16.1	125-32-21.7	61	0	61	100.0%	36	0	36	100.0%	27	3	30	90.0%	22	0	22	100.0%	2	6	8	25.0%	38	0	38	100.0%	8	0	8	100.0%	1	0	1	100.0%	2	0	2	100.0%	197	9	206	95.6%
9	Clemetino de Fatima	13-May-09	N.A.	N.A.	0	0	0	-	0	0	0	-	0	0	0	-	27	0	27	100.0%	7	0	7	100.0%	48	2	50	96.0%	0	0	0	-	0	0	0	-	0	0	0	-	82	2	84	97.6%
10	Clemetino de Fatima	13-May-09	N.A.	N.A.	19	0	19	100.0%	19	0	19	100.0%	19	6	25	76.0%	0	0	0	-	0	0	0	-	0	0	0	-	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	64	6	70	91.4%
11	Carolina da Cruz	3-Apr-09	08-38-06.3	125-32-21.7	0	0	0	-	0	0	0	-	0	0	0	-	27	0	27	100.0%	0	0	0	-	49	1	50	98.0%	4	0	4	100.0%	0	0	0	-	0	0	0	-	80	1	81	98.8%
12	Carolina da Cruz	3-Apr-09	08-39-05.0	125-32-21.6	54	0	54	100.0%	26	1	27	96.3%	23	2	25	92.0%	0	0	0	-	6	0	6	100.0%	0	0	0	-	0	0	0	-	1	0	1	100.0%	2	0	2	100.0%	112	3	115	97.4%
13	Abrao Tilman	3-Apr-09	08-38-07.1	125-32-30.9	0	0	0	-	0	0	0	-	0	0	0	-	27	0	27	100.0%	0	0	0	-	45	5	50	90.0%	0	0	0	-	0	0	0	-	0	0	0	-	72	5	77	93.5%
14	Abrao Tilman	3-Apr-09	08-38-07.7	125-32-32.0	34	0	34	100.0%	25	2	27	92.6%	23	2	25	92.0%	0	0	0	-	6	2	8	75.0%	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	88	6	94	93.6%
15	Abrao Tilman	3-Apr-09	08-38-03.7	125-32-33.3	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	10	0	10	100.0%	1	0	1	100.0%	2	0	2	100.0%	13	0	13	100.0%
16	Marcos Pinto Carvalho	19-Mar-09	08-38-09.3	125-32-23.5	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	46	4	50	92.0%	0	0	0	-	0	0	0	-	0	0	0	-	46	4	50	92.0%
17	Marcos Pinto Carvalho	19-Mar-09	08-38-08.5	125-32-23.7	0	0	0	-	0	0	0	-	0	0	0	-	27	0	27	100.0%	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	27	0	27	100.0%
18	Marcos Pinto Carvalho	19-Mar-09	08-38-07.9	125-32-25.3	37	0	37	100.0%	17	1	18	94.4%	21	4	25	84.0%	0	0	0	-	7	1	8	87.5%	0	0	0	-	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	89	6	95	93.7%
19	Nuno Abrantes	19-Mar-09	08-38-07.2	125-32-27.6	30	4	34	88.2%	21	6	27	77.8%	35	10	45	77.8%	27	0	27	100.0%	6	2	8	75.0%	47	3	50	94.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	173	25	198	87.4%
20	Jose Lemos	25-Mar-09	08-37-57.9	125-32-39.3	65	0	65	100.0%	65	0	65	100.0%	21	4	25	84.0%	0	0	0	-	0	0	0	-	0	0	0	-	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	158	4	162	97.5%
21	Jose Lemos	25-Mar-09	N.A.	N.A.	0	0	0	-	0	0	0	-	0	0	0	-	27	0	27	100.0%	6	0	6	100.0%	47	3	50	94.0%	0	0	0	-	0	0	0	-	0	0	0	-	80	3	83	96.4%
22	Esperanca Castro de Jesus	12-Jun-09	08-37-44.2	125-32-39.4	20	0	20	100.0%	18	0	18	100.0%	25	0	25	100.0%	0	0	0	-	3	2	5	60.0%	50	0	50	100.0%	3	0	3	100.0%	1	0	1	100.0%	2	0	2	100.0%	122	2	124	98.4%
23	Rosa dos Santos	12-Jun-09	08-37-57.5	125-32-27.0	0	0	0	-	0	0	0	-	17	8	25	68.0%	0	0	0	-	5	10	15	33.3%	25	5	30	83.3%	3	0	3	100.0%	1	0	1	100.0%	2	0	2	100.0%	53	23	76	69.7%
24	Domingos Alves	12-Jun-09	08-37-50.6	125-32-27.2	10	0	10	100.0%	10	0	10	100.0%	5	5	10	50.0%	27	0	27	100.0%	0	7	7	0.0%	48	2	50	96.0%	4	0	4	100.0%	1	0	1	100.0%	1	1	2	50.0%	106	15	121	87.6%
25	Domingos Lemos	12-Jun-09	08-37-47.6	125-32-34.9	18	0	18	100.0%	18	0	18	100.0%	42	0	42	100.0%	0	0	0	-	0	10	10	0.0%	10	0	10	100.0%	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	95	10	105	90.5%
26	Simao dos Santos	12-Jun-09	08-37-45.9	125-32-38.7	35	0	35	100.0%	20	0	20	100.0%	28	0	28	100.0%	27	0	27	100.0%	7	3	10	70.0%	50	0	50	100.0%	8	0	8	100.0%	1	0	1	100.0%	2	0	2	100.0%	178	3	181	98.3%
27	Armando Lobo	12-Jun-09	08-37-48.0	125-32-33.0	35	0	35	100.0%	22	0	22	100.0%	40	0	40	100.0%	27	0	27	100.0%	0	4	4	0.0%	49	1	50	98.0%	3	0	3	100.0%	1	0	1	100.0%	1	1	2	50.0%	178	6	184	96.7%
28	Moises da Conceicao	12-Jun-09	08-37-47.4	125-32-33.0	23	1	24	95.8%	30	0	30	100.0%	25	0	25	100.0%	26	1	27	96.3%	0	4	4	0.0%	50	0	50	100.0%	3	0	3	100.0%	1	0	1	100.0%	1	1	2	50.0%	159	7	166	95.8%
29	Domingas Sarmento	24-Jun-09	08-38-18.2	125-32-54.5	10	1	11	90.9%	0	0	0	-	60	15	75	80.0%	20	0	20	100.0%	8	10	18	44.4%	0	0	0	-	3	0	3	100.0%	1	0	1	100.0%	2	0	2	100.0%	104	26	130	80.0%
30	Joao Fernandes	24-Jun-09	08-37-58.6	125-32-40.0	26	4	30	86.7%	19	1	20	95.0%	20	5	25	80.0%	0	0	0	-	0	0	0	-	0	0	0	-	3	0	3	100.0%	1	0	1	100.0%	2	0	2	100.0%	71	10	81	87.7%
31	Joao Fernandes	24-Jun-09	08-37-16.2	125-32-34.5	0	0	0	-	0	0	0	-	0	0	0	-	25	2	27	92.6%	4	4	8	50.0%	40	10	50	80.0%	0	0	0	-	0	0	0	-	0	0	0	-	69	16	85	81.2%
32	Fernando Soares	24-Jun-09	08-37-33.2	125-32-20.4	25	0	25	100.0%	6	0	6	100.0%	25	5	30	83.3%	0	0	0	-	5	5	10	50.0%	0	0	0	-	4	0	4	100.0%	1	0	1	100.0%	2	0	2	100.0%	68	10	78	87.2%
33	Fernando Soares	24-Jun-09	08-37-34.3	125-32-22.1	0	0	0	-	0	0	0	-	0	0	0	-	27	0	27	100.0%	0	0	0	-	47	3	50	94.0%	0	0	0	-	0	0	0	-	0	0	0	-	74	3	77	96.1%
34	Fernando Lemos	24-Jun-09	08-37-21.1	125-32-18.3	41	3	44	93.2%	26	1	27	96.3%	20	5	25	80.0%	27	0	27	100.0%	2	5	7	28.6%	41	9	50	82.0%	3	0	3	100.0%	1	0	1	100.0%	2	0	2	100.0%	163	23	186	87.6%
35	Antonio Cardozo de Jesus	15-May-09	08-38-26.7	125-32-50.2	20	0	20	100.0%	20	0	20	100.0%	57	18	75	76.0%	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	97	18	115	84.3%
36	Antonio Cardozo de Jesus	15-May-09	08-38-26.6	125-32-54.1	0	0	0	-	0	0</																																		





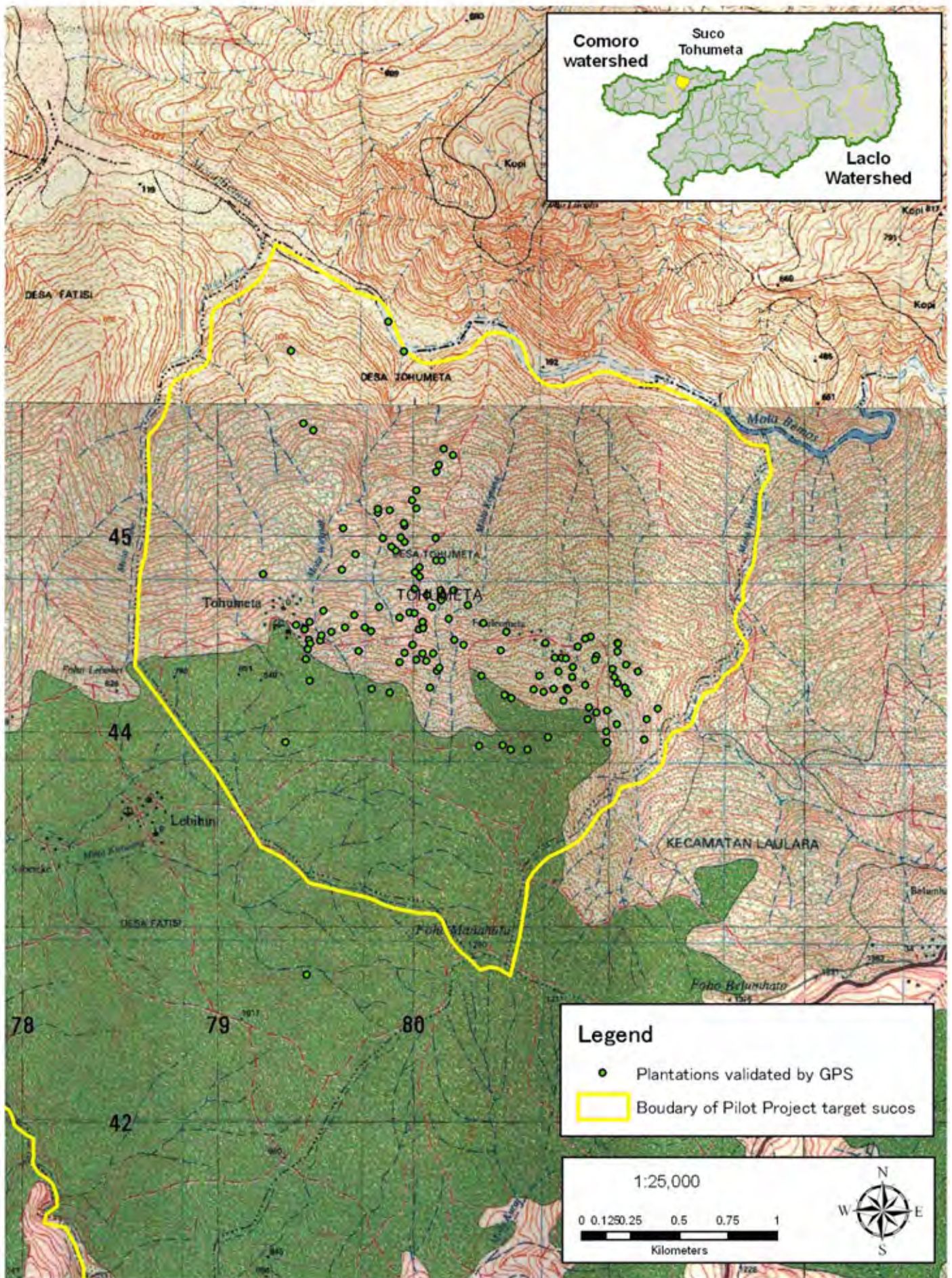








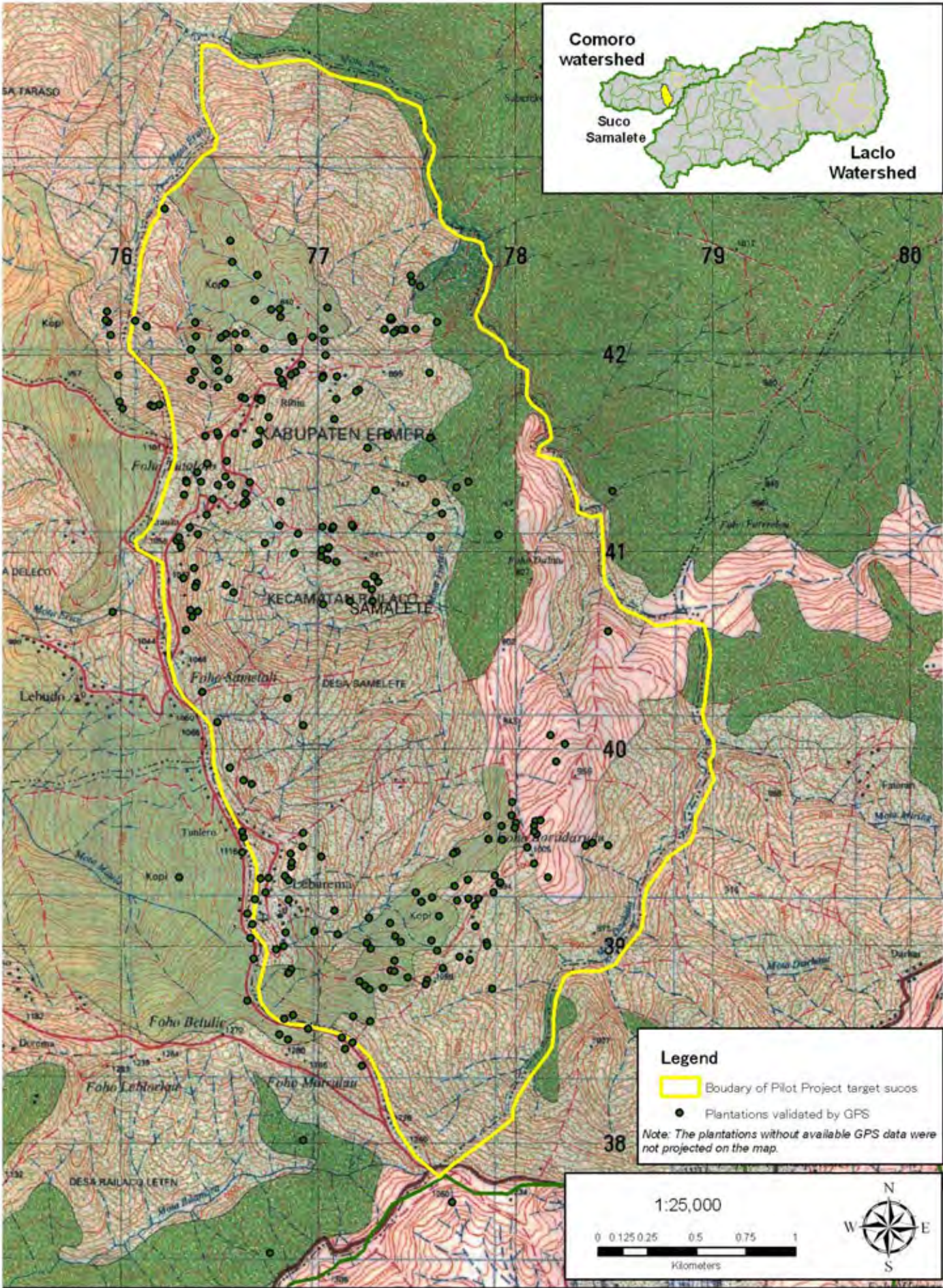




Community-based Integrated Watershed Management in Lacro and Comoro River Basins  
in the Democratic Republic of Timor-Leste



**Figure 3-1** Locations of the Plantations under TPP-SP in Suco Tohumeta



Community-based Integrated Watershed Management in Lacleo and Comoro River Basins  
in the Democratic Republic of Timor-Leste



**Figure 3-2 Locations of the Plantations under TPP-SP in Suco Samalete**

***Appendix I-3-1***  
***Accomplishments made by the***  
***Sub-programs of the Pilot Projects***

**Table 1-1-1 Accomplishments of TPP-SP at Tohumeta (Outputs generated by the Activities)**

Major Activities	Indicators	Accomplishments																																																						
1. Organization of the working group	Organized groups No of members of the groups	- Three (3) beneficiaries' groups were formed with registration of 111 members in April 2008. The groups selected the group leaders, co-leaders and core members among the members and developed the group regulations defining the roles and responsibilities of the group leader, core members and regular members of the group. - The group membership was revised in March 2009 in consideration of existence of inactive members in the groups. The number of the members was 54 members for three (3) groups after reviewing the members' willingness.																																																						
2. Formulation of Work plan	1) Work plans 2) Workshops organized	- The NGO organized the planning workshop on February 21, 2008 with participation of 25 members from three (3) groups. A work plan on the sub-program from March 2008 to August 2009 was prepared as a result of the workshop.																																																						
3. Study Tour to Quinta Portugal in Aileu (Nursery of PARDTL)	No. of participants	- The NGO took a total of 31 members to the nursery managed by PARDTL and MAF at Quinta Portugal in Aileu to observe the existing nursery so that they could deepen the understanding of the sub-program activities.																																																						
4. Installation of water system	No. of water systems	- Three (3) units of water systems or one water system each for the group were installed by the NGO in the beginning of the sub-program.																																																						
5. Development of nurseries	No. of nurseries Size of nurseries	- Likewise, a total of three (3) community nurseries were developed or one community nursery was developed for each group. The size of the nursery was larger than it was originally planned. The locations of the nurseries were decided based on the availability of water source.																																																						
6. Hands on training on seedling production	No. of training courses No. of participants in the training courses (Participation level)	- Under the sub-program, two (2) packages of training courses, namely, training courses on seedling production and those on tree planting, were organized so that the beneficiaries' groups could learn and acquire the techniques necessary for planting trees by themselves. The following table gives the training courses conducted for techniques related to seedling production.  <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="5" style="text-align: center;"><b>Training Courses organized between April 2008 and August 2009 for Techniques on Seedling Production</b></th> </tr> <tr> <th rowspan="2">Training courses</th> <th colspan="4">Number of participants (Participation level)</th> </tr> <tr> <th>Aldeia I</th> <th>Aldeia II</th> <th>Aldeia III</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Training on land preparation for nursery</td> <td>22</td> <td>25</td> <td>13</td> <td>60</td> </tr> <tr> <td>Training on seedbed making</td> <td>28</td> <td>21</td> <td>13</td> <td>62</td> </tr> <tr> <td>Training on roofing nursery</td> <td>22</td> <td>22</td> <td>19</td> <td>63</td> </tr> <tr> <td>Training on fence making</td> <td>17</td> <td>13</td> <td>8</td> <td>38</td> </tr> <tr> <td>Training on sowing seeds</td> <td>4</td> <td>8</td> <td>6</td> <td>18</td> </tr> <tr> <td>Training on soil filling into poly bags</td> <td>4</td> <td>13</td> <td>6</td> <td>23</td> </tr> <tr> <td>Training on watering</td> <td>6</td> <td>11</td> <td>6</td> <td>23</td> </tr> <tr> <td><b>Total</b></td> <td><b>103</b></td> <td><b>113</b></td> <td><b>71</b></td> <td><b>287</b></td> </tr> </tbody> </table>	<b>Training Courses organized between April 2008 and August 2009 for Techniques on Seedling Production</b>					Training courses	Number of participants (Participation level)				Aldeia I	Aldeia II	Aldeia III	Total	Training on land preparation for nursery	22	25	13	60	Training on seedbed making	28	21	13	62	Training on roofing nursery	22	22	19	63	Training on fence making	17	13	8	38	Training on sowing seeds	4	8	6	18	Training on soil filling into poly bags	4	13	6	23	Training on watering	6	11	6	23	<b>Total</b>	<b>103</b>	<b>113</b>	<b>71</b>	<b>287</b>
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Source: Halarae Foundation

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		<p>- At the same time, the NGO provided the following material and technical assistance to the beneficiaries' groups so that they could produce seedlings in their community nurseries.</p> <p style="text-align: center;"><b>Support Activities done by the NGO for TPP-SP at Tohumeta in 2008</b></p> <table border="1"> <thead> <tr> <th>Period</th> <th>Type of assistance</th> <th>Activities</th> <th>Timing</th> </tr> </thead> <tbody> <tr> <td>Apr 08 – Feb 09</td> <td>Material assistance</td> <td>Provision of seeds and materials for seedling production Provision of materials for installation of watering systems</td> <td>April-May 08 April 08</td> </tr> <tr> <td></td> <td>Technical assistance</td> <td>Establishment of nurseries Land preparation for nurseries Preparation of seed beds Roofing of the nurseries Mixing of soils with compost and wood chips Filling of mixed soils into poly bags Sowing of seeds in seedbeds Transplant of seedlings into poly bags Planting of seeds into poly bags Watering, weeding, and maintenance of nurseries</td> <td>April 08 May 08 May-June 08 June 08 June-August 08 June-August 08 June-July 08 June-September 08 August-September 08 July-December 08</td> </tr> <tr> <td>Mar 09 – Aug 09</td> <td>Material assistance</td> <td>Provision of seeds and materials for seedling production</td> <td>Mar 09</td> </tr> <tr> <td></td> <td>Technical assistance</td> <td>Fixing of nurseries Collection of local materials for compost making Sowing seeds Filling of mixed soils into poly bags Transportation of seedlings Maintenance of seedling</td> <td>Mar – Apr 09 Mar- Apr 09 Mar – Apr 09 Apr – As of Sep 09 Apr – As of Sep 09 May – As of Sep 09</td> </tr> </tbody> </table> <p>The beneficiaries' groups produced 18,117 seedlings in 2008, while a total of 9,718 seedlings are being raised in the nurseries (as of October 2009). The total number of seedlings produced became lower as the number of group members was reduced.</p> <p style="text-align: center;"><b>Seedlings produced in 2008</b></p> <p style="text-align: right;">(Unit: Seedlings)</p> <table border="1"> <thead> <tr> <th>Seedlings</th> <th>Aldeia I (41 HHs)</th> <th>Aldeia II (41 HHs)</th> <th>Aldeia III (29 HHs)</th> <th>Total (111 HHs)</th> </tr> </thead> <tbody> <tr> <td>Caliandra</td> <td>682</td> <td>982</td> <td>982</td> <td>2,646</td> </tr> <tr> <td>L19</td> <td>622</td> <td>603</td> <td>782</td> <td>2,007</td> </tr> <tr> <td>Clove</td> <td>1,056</td> <td>2,195</td> <td>1,075</td> <td>4,326</td> </tr> <tr> <td>Teak</td> <td>781</td> <td>803</td> <td>780</td> <td>2,364</td> </tr> <tr> <td>Sandalwood</td> <td>442</td> <td>318</td> <td>272</td> <td>1,032</td> </tr> <tr> <td>Mahogany</td> <td>1,257</td> <td>2,083</td> <td>1,524</td> <td>4,819</td> </tr> <tr> <td>Coconut</td> <td>232</td> <td>184</td> <td>129</td> <td>545</td> </tr> <tr> <td>Breadfruit &lt;2</td> <td>41</td> <td>41</td> <td>29</td> <td>111</td> </tr> <tr> <td>Rambutan &lt;2</td> <td>82</td> <td>82</td> <td>58</td> <td>222</td> </tr> </tbody> </table>	Period	Type of assistance	Activities	Timing	Apr 08 – Feb 09	Material assistance	Provision of seeds and materials for seedling production Provision of materials for installation of watering systems	April-May 08 April 08		Technical assistance	Establishment of nurseries Land preparation for nurseries Preparation of seed beds Roofing of the nurseries Mixing of soils with compost and wood chips Filling of mixed soils into poly bags Sowing of seeds in seedbeds Transplant of seedlings into poly bags Planting of seeds into poly bags Watering, weeding, and maintenance of nurseries	April 08 May 08 May-June 08 June 08 June-August 08 June-August 08 June-July 08 June-September 08 August-September 08 July-December 08	Mar 09 – Aug 09	Material assistance	Provision of seeds and materials for seedling production	Mar 09		Technical assistance	Fixing of nurseries Collection of local materials for compost making Sowing seeds Filling of mixed soils into poly bags Transportation of seedlings Maintenance of seedling	Mar – Apr 09 Mar- Apr 09 Mar – Apr 09 Apr – As of Sep 09 Apr – As of Sep 09 May – As of Sep 09	Seedlings	Aldeia I (41 HHs)	Aldeia II (41 HHs)	Aldeia III (29 HHs)	Total (111 HHs)	Caliandra	682	982	982	2,646	L19	622	603	782	2,007	Clove	1,056	2,195	1,075	4,326	Teak	781	803	780	2,364	Sandalwood	442	318	272	1,032	Mahogany	1,257	2,083	1,524	4,819	Coconut	232	184	129	545	Breadfruit <2	41	41	29	111	Rambutan <2	82	82	58	222
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7. Hands on training on tree planting	No. of training courses No. of participants in the training courses (Participation level)	<p>- In addition to the training courses on seedling production, the NGO has organized six (6) hands-on training courses on techniques related to tree planting as of August 2009. In total, 253 participants took part in the training courses as shown below.</p> <p style="text-align: center;"><b>Support Activities done by the NGO for TPP-SP at Tohumeta</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Training courses</th> <th colspan="4">Number of participants (Participation level)</th> </tr> <tr> <th>Aldeia I</th> <th>Aldeia II</th> <th>Aldeia III</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Training on hole digging for coconut seedling</td> <td>10</td> <td>7</td> <td>5</td> <td>22</td> </tr> <tr> <td>Training on sticking (measuring the plots) and hole digging</td> <td>23</td> <td>18</td> <td>18</td> <td>59</td> </tr> <tr> <td>Training on filling soils into planting holes</td> <td>23</td> <td>23</td> <td>24</td> <td>70</td> </tr> <tr> <td>Training on transportation and planting of seedlings</td> <td>17</td> <td>20</td> <td>17</td> <td>54</td> </tr> <tr> <td>Training on weeding and mulching</td> <td>9</td> <td>13</td> <td>6</td> <td>28</td> </tr> <tr> <td>Training on maintenance of demonstration plots</td> <td>10</td> <td>3</td> <td>7</td> <td>20</td> </tr> <tr> <td>Total</td> <td>92</td> <td>84</td> <td>77</td> <td>253</td> </tr> </tbody> </table> <p>Source: Halarae Foundation</p>	Training courses	Number of participants (Participation level)				Aldeia I	Aldeia II	Aldeia III	Total	Training on hole digging for coconut seedling	10	7	5	22	Training on sticking (measuring the plots) and hole digging	23	18	18	59	Training on filling soils into planting holes	23	23	24	70	Training on transportation and planting of seedlings	17	20	17	54	Training on weeding and mulching	9	13	6	28	Training on maintenance of demonstration plots	10	3	7	20	Total	92	84	77	253						
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8. Development of village regulations and Organization of Tara Bandu ceremony	No. of workshops / meetings organized Village regulations	<p>- The NGO assisted the suco council of Tohumeta in the revival of Tara Bandu with formulation of the village regulations of the village. Five (5) meetings with the suco council and one (1) consultation meeting at each aldeia were organized as shown below.</p> <p style="text-align: center;"><b>Meetings with the Working Group for making Village Regulations</b></p> <table border="1"> <thead> <tr> <th>Meeting and date</th> <th>Topic discussed</th> <th>Number of participants</th> </tr> </thead> <tbody> <tr> <td>1<sup>st</sup> meeting with the suco council on October 2</td> <td>General aims of village regulations and Tara Bandu Organization of a working group</td> <td>21 participants</td> </tr> <tr> <td>2<sup>nd</sup> meeting with the council on</td> <td>Village regulations in the Portuguese era</td> <td>21 participants</td> </tr> </tbody> </table>	Meeting and date	Topic discussed	Number of participants	1 <sup>st</sup> meeting with the suco council on October 2	General aims of village regulations and Tara Bandu Organization of a working group	21 participants	2 <sup>nd</sup> meeting with the council on	Village regulations in the Portuguese era	21 participants																																									
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9. Assistance in distribution of seedlings	No. of seedlings distributed No. of households who received seedlings	<p>- Though the beneficiaries' groups were able to produce 18,117 seedlings as shown above, about 92 % or 16,646 seedlings were distributed to 111 members. The rest or about 1,500 seedlings were dead or taken by someone (the members or non-members) without notice.</p> <p style="text-align: center;"><b>Seedlings distributed to the members in 2008</b></p> <p style="text-align: right;">(Unit: Seedlings)</p> <table border="1"> <thead> <tr> <th>Seedlings</th> <th>Aldeia I (41 HHs)</th> <th>Aldeia II (41 HHs)</th> <th>Aldeia III (29 HHs)</th> <th>Total (111 HHs)</th> </tr> </thead> <tbody> <tr> <td>Caliandra</td> <td>660</td> <td>845</td> <td>859</td> <td>2,364</td> </tr> <tr> <td>L19</td> <td>601</td> <td>622</td> <td>612</td> <td>1,835</td> </tr> <tr> <td>Clove</td> <td>1,045</td> <td>2,140</td> <td>1,051</td> <td>4,236</td> </tr> <tr> <td>Teak</td> <td>665</td> <td>688</td> <td>711</td> <td>2,064</td> </tr> <tr> <td>Sandalwood</td> <td>360</td> <td>199</td> <td>248</td> <td>807</td> </tr> <tr> <td>Mahogany</td> <td>1,230</td> <td>1,993</td> <td>1,290</td> <td>4,513</td> </tr> <tr> <td>Coconut</td> <td>192</td> <td>175</td> <td>129</td> <td>496</td> </tr> <tr> <td>Breadfruit</td> <td>37</td> <td>36</td> <td>30</td> <td>103</td> </tr> <tr> <td>Rambutan</td> <td>56</td> <td>75</td> <td>54</td> <td>185</td> </tr> <tr> <td>Total</td> <td>4,873</td> <td>6,785</td> <td>4,988</td> <td>16,646</td> </tr> </tbody> </table> <p>Source: Halarae Foundation</p>	Seedlings	Aldeia I (41 HHs)	Aldeia II (41 HHs)	Aldeia III (29 HHs)	Total (111 HHs)	Caliandra	660	845	859	2,364	L19	601	622	612	1,835	Clove	1,045	2,140	1,051	4,236	Teak	665	688	711	2,064	Sandalwood	360	199	248	807	Mahogany	1,230	1,993	1,290	4,513	Coconut	192	175	129	496	Breadfruit	37	36	30	103	Rambutan	56	75	54	185	Total	4,873	6,785	4,988	16,646
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Rambutan	56	75	54	185																																																					
Total	4,873	6,785	4,988	16,646																																																					
10. Validation of plantations developed and survey on survival	No. of plantations / seedlings	- All the plantations planted by the beneficiaries' groups were surveyed by the NGO between February and August 2009. A total of 138 plots planted with 16,646 seedlings were surveyed and 15,124 seedlings were confirmed alive in the survey.																																																							

Major Activities	Indicators	Accomplishments																																																																																																	
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**Table 1-1-2 Accomplishments of TPP-SP at Tohumeta (As compared with the Objectives of the Sub-program)**

Objectives	Indicators	Accomplishments																																																
<u>Objective</u> 1. Expands the areas with new seedlings in the village	No. of tree planted and survive in suco as of Aug 09	- As shown in Table 1-1, a total of 138 plantations with 16,646 seedlings were developed by the members of the beneficiaries' groups of the sub-program. As of August 2009, 15,124 seedlings or 90.9 % of the total seedlings planted were confirmed alive. Assuming that seedlings were planted with a distance of 3m x 3m, the total areas with living seedlings would be estimated at 13.6 ha in total.																																																
<u>Outputs</u> 1. Capacities of local communities to produce and plant seedlings are enhanced.	Level of understandings and application of the techniques	<p>- The levels of understandings and application of the techniques among the members were assessed by the questionnaire survey in August 2009. The results of the survey are summarized below.</p> <p style="text-align: center;"><b>Level of Understanding and Application of the Techniques among the Members</b></p> <table border="1"> <thead> <tr> <th>Level of understanding of the techniques</th> <th>Compost making</th> <th>Land preparation</th> <th>Nursery establish.</th> <th>Soil prep and soil filling</th> <th>Seed preparation</th> <th>Sawing seeds in seed beds</th> <th>Transplant.</th> </tr> </thead> <tbody> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>3.7</td> <td>3.6</td> <td>3.5 (n=11)</td> <td>4.1</td> <td>3.2</td> <td>3.8</td> <td>4.2</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.3</td> <td>2.1</td> <td>2.1</td> <td>2.4</td> <td>2.0</td> <td>2.1</td> <td>2.5</td> </tr> <tr> <th>Level of application of the techniques</th> <th>Watering &amp; weeding</th> <th>Designing</th> <th>Hole digging and refilling</th> <th>Planting of seedlings</th> <th>Weeding</th> <th>Shading</th> <th>Conventional irrigation</th> </tr> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>3.7</td> <td>3.1</td> <td>4.2</td> <td>4.1</td> <td>3.6</td> <td>3.0</td> <td>3.2</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.2</td> <td>2.0</td> <td>2.5</td> <td>2.5</td> <td>2.1</td> <td>1.8</td> <td>2.0</td> </tr> </tbody> </table> <p>Note:            The number of samples is 20, unless specified with "n."            &lt;1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.            &lt;2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.            Source: JICA Study Team (2009)</p> <p>- As shown in the tables above, the members considered that they were able to understand almost all the techniques except "seed preparation," "designing," and "shading". Likewise, the members judged that they</p>	Level of understanding of the techniques	Compost making	Land preparation	Nursery establish.	Soil prep and soil filling	Seed preparation	Sawing seeds in seed beds	Transplant.	Level of understanding (1-5) <1	3.7	3.6	3.5 (n=11)	4.1	3.2	3.8	4.2	Level of application (1-3) <2	2.3	2.1	2.1	2.4	2.0	2.1	2.5	Level of application of the techniques	Watering & weeding	Designing	Hole digging and refilling	Planting of seedlings	Weeding	Shading	Conventional irrigation	Level of understanding (1-5) <1	3.7	3.1	4.2	4.1	3.6	3.0	3.2	Level of application (1-3) <2	2.2	2.0	2.5	2.5	2.1	1.8	2.0
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2. Local regulations is properly implemented and maintained by the communities	Local regulations agreed on No. of cases / offences after Tara Bandu	<p>- The local regulations in writing were developed by the members of the suco council in a participatory manner in December 2008. The regulations comprise of 11 chapters covering not only the rules on natural resource management but also those related to social norms in the village.</p> <p>- According to the members of the sub-program, the incidence of wildfire, cases of illegal activities (e.g., illegal cutting, steal of farm produce) and cases of violence in the village have been reduced since Tara Bandu ceremony.</p> <p>- However, the village committee has organized only two monitoring meetings since December 2008 though</p>																																																

Objectives	Indicators	Accomplishments
		<p>the monthly monitoring meeting was supposed to be organized every month as part of the activities for implementation of the village regulations. The village committee should periodically monitor the implementation of the regulations through the monthly monitoring meeting.</p> <p>- The level of the members' understandings about the village regulations and the monitoring system were also evaluated. The understanding level on the village regulations was rated rather high (4.2 points in 5 rating), while that on the monitoring system was evaluated fair (3.2 in the same rating).</p>

**Table 1-2-1 Accomplishments of HG-SP at Tohumeta (Outputs generated by the Activities)**

Major Activities	Indicators	Accomplishments																																																	
1. Organization of the working group	Organized groups No of members of the groups	- Three (3) beneficiaries' groups were formed with registration of 89 members in February 2008. The groups selected the group leaders, co-leaders and core members among the members and developed the group regulations defining the roles and responsibilities of the group leader, core members and regular members of the group. - The group membership was revised in March 2009 in consideration of existence of inactive members in the groups. The number of the members was reduced to 42 members for three (3) groups after reviewing the members' willingness.																																																	
2. Formulation of Work plan	1) Work plans 2) Workshops organized	- The NGO organized the planning workshop on February 22, 2008 with participation of 25 members from three (3) groups. A work plan on the sub-program from March 2008 to August 2009 was prepared as a result of the workshop.																																																	
3. Study Tour to the project site of USAID	No. of participants	- The NGO took a total of 19 members to sucos Lequitura and Sarin in Aileu, which were supported by the USAID project in the production and marketing of vegetables. The members who participated in the study tour observed farming practices and techniques used for growing vegetables including a greenhouse method. They were able to realize that they still needed to improve their farming practices in vegetable farming to produce quality vegetables.																																																	
4. Identification and Development of demonstration plots	No. of demonstration plots	- Each beneficiaries' group identified a potential site for the demonstration plot for vegetable farming considering the following criteria: i) availability of water source (A water source that can be used for watering is available.), ii) accessibility (The site is easily accessible from residential areas.), and iii) concurrence of land owner (A land owner agrees with the idea that the site is used as a demonstration plot.).																																																	
5. Hands on training on seedling production	No. of training courses No. of participants in the training courses (Participation level)	- Under the sub-program, a series of training courses on vegetable farming were organized so that the beneficiaries' groups could acquire proper techniques needed for producing several types of vegetables. The following training courses had been organized from April 2008 to August 2009.  <b>Training Courses on Vegetable Production</b>																																																	
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Technical Assistance in Vegetable Production	Vegetable production	<p>- Simultaneously with hands-on training, the NGO provided the following assistance to the beneficiaries' groups as well as individual members so that they could replicate the techniques that they had learned through the training courses.</p> <p style="text-align: center;"><b>Support Activities done by the NGO for TPP-SP at Tohumeta in 2008</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #e0f7fa;">Period</th> <th style="background-color: #e0f7fa;">Type of assistance</th> <th style="background-color: #e0f7fa;">Activities</th> <th style="background-color: #e0f7fa;">Timing</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Apr 08 – Feb 09</td> <td>Material assistance</td> <td>Provision of vegetable seeds Provision of farm tools</td> <td>June 08 June 08</td> </tr> <tr> <td>Technical assistance to members on demand</td> <td>Provision of technical assistance directly to individual members</td> <td>June – Oct 08</td> </tr> <tr> <td rowspan="2">Mar 09 – Aug 09</td> <td>Material assistance</td> <td>Provision of seeds</td> <td>May 09</td> </tr> <tr> <td>Technical assistance to members</td> <td>Provision of technical assistance directly to individual members</td> <td>May – Aug 09</td> </tr> </tbody> </table> <p>- From June 2008 to February 2009, the members had produced seven types of vegetables as shown below.</p> <p style="text-align: center;"><b>Average Production and Estimated Income from Major Vegetables in FY 2008 (from Jun 08-Feb 09)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #e0f7fa;">Vegetables</th> <th style="background-color: #e0f7fa;">No. of Members harvested</th> <th style="background-color: #e0f7fa;">Total Production</th> <th style="background-color: #e0f7fa;">Volume for Consumption</th> <th style="background-color: #e0f7fa;">Volume for Sale</th> <th style="background-color: #e0f7fa;">Average price</th> <th style="background-color: #e0f7fa;">Sales (income)</th> <th style="background-color: #e0f7fa;">Total Effect*</th> </tr> </thead> <tbody> <tr> <td>Mustard</td> <td style="text-align: center;">39</td> <td>34 bundles</td> <td>18 bundles</td> <td>16 bundles</td> <td style="text-align: right;">\$0.25</td> <td style="text-align: right;">\$4.0</td> <td style="text-align: right;">\$8.5</td> </tr> <tr> <td>Pechai</td> <td style="text-align: center;">40</td> <td>52 units</td> <td>33 units</td> <td>19 units</td> <td style="text-align: right;">\$0.25</td> <td style="text-align: right;">\$5.0</td> <td style="text-align: right;">\$13.0</td> </tr> <tr> <td>lettuce</td> <td style="text-align: center;">35</td> <td>30 bundles</td> <td>20 bundles</td> <td>10 bundles</td> <td style="text-align: right;">\$0.2</td> <td style="text-align: right;">\$2.0</td> <td style="text-align: right;">\$6.0</td> </tr> <tr> <td>Cabbage</td> <td style="text-align: center;">10</td> <td>48 units</td> <td>46 units</td> <td>2 units</td> <td style="text-align: right;">\$0.5</td> <td style="text-align: right;">\$1.0</td> <td style="text-align: right;">\$24.0</td> </tr> <tr> <td>Cowpea</td> <td style="text-align: center;">54</td> <td>25 bundles</td> <td>10 bundles</td> <td>15 bundles</td> <td style="text-align: right;">\$0.25</td> <td style="text-align: right;">\$3.8</td> <td style="text-align: right;">\$6.3</td> </tr> <tr> <td>Tomato</td> <td style="text-align: center;">28</td> <td>3.6 baskets</td> <td>1.5 basket</td> <td>2.1 baskets</td> <td style="text-align: right;">\$ 8.5</td> <td style="text-align: right;">\$17.8</td> <td style="text-align: right;">\$30.6</td> </tr> <tr> <td>Eggplant</td> <td style="text-align: center;">27</td> <td>3.8 baskets</td> <td>2.1 basket</td> <td>1.7 baskets</td> <td style="text-align: right;">\$ 3.1</td> <td style="text-align: right;">\$ 5.4</td> <td style="text-align: right;">\$11.8</td> </tr> </tbody> </table>					Period	Type of assistance	Activities	Timing	Apr 08 – Feb 09	Material assistance	Provision of vegetable seeds Provision of farm tools	June 08 June 08	Technical assistance to members on demand	Provision of technical assistance directly to individual members	June – Oct 08	Mar 09 – Aug 09	Material assistance	Provision of seeds	May 09	Technical assistance to members	Provision of technical assistance directly to individual members	May – Aug 09	Vegetables	No. of Members harvested	Total Production	Volume for Consumption	Volume for Sale	Average price	Sales (income)	Total Effect*	Mustard	39	34 bundles	18 bundles	16 bundles	\$0.25	\$4.0	\$8.5	Pechai	40	52 units	33 units	19 units	\$0.25	\$5.0	\$13.0	lettuce	35	30 bundles	20 bundles	10 bundles	\$0.2	\$2.0	\$6.0	Cabbage	10	48 units	46 units	2 units	\$0.5	\$1.0	\$24.0	Cowpea	54	25 bundles	10 bundles	15 bundles	\$0.25	\$3.8	\$6.3	Tomato	28	3.6 baskets	1.5 basket	2.1 baskets	\$ 8.5	\$17.8	\$30.6	Eggplant	27	3.8 baskets	2.1 basket	1.7 baskets	\$ 3.1	\$ 5.4	\$11.8
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8. Assistance in procurement of vegetable seedlings	Request letter prepared Vegetable seeds procured	<p>- In order to enable the beneficiaries' groups to procure vegetable seeds by themselves even after the end of the pilot project, the NGO helped them to prepare a request letter to MAF for obtaining seed support from MAF at no cost. As a result, they were able to get five (5) types of vegetable seeds from MAF as follows.</p> <p style="text-align: center;"><b>Vegetable Seeds requested to / obtained from MAF</b></p> <table border="1"> <thead> <tr> <th colspan="2">Seeds requested to MAF</th> <th colspan="2">Seeds obtained from MAF</th> </tr> <tr> <th>Type of vegetable</th> <th>Volume of seeds</th> <th>Type of vegetable</th> <th>Volume of seeds</th> </tr> </thead> <tbody> <tr> <td>Cabbage</td> <td>0.1 kg</td> <td>Green mustard</td> <td>0.21 kg</td> </tr> <tr> <td>Mustard</td> <td>0.2 kg</td> <td>Long bean</td> <td>1.4 kg</td> </tr> <tr> <td>Kangkung</td> <td>10.0 kg</td> <td>Kangkung</td> <td>2.8 kg</td> </tr> <tr> <td>Long beans</td> <td>10.0 kg</td> <td>Bitter melon</td> <td>0.05 kg</td> </tr> </tbody> </table>	Seeds requested to MAF		Seeds obtained from MAF		Type of vegetable	Volume of seeds	Type of vegetable	Volume of seeds	Cabbage	0.1 kg	Green mustard	0.21 kg	Mustard	0.2 kg	Long bean	1.4 kg	Kangkung	10.0 kg	Kangkung	2.8 kg	Long beans	10.0 kg	Bitter melon	0.05 kg																																																
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<sup>1</sup> Total sum of the sales from the vegetables except cabbage is estimated at US\$38.0. Hence, the gross earnings from the same vegetables are calculated by deducing the production cost (cost of seeds) from the total sum. (US\$ 38.0 – US\$ 6.0 = US\$ 32.0). On the other hand, the total savings are estimated at US\$ 38.3 by the following formula:  
US 76.2 (the sum of the total values from the vegetables except cabbage) – US 38.0 (the sum of the total sales from the same vegetables) = US\$ 38.2.



Major Activities	Indicators	Accomplishments																				
		<table border="1"> <tr> <td>Egg plant</td> <td>2.0 kg</td> <td>Red kangkung</td> <td>3.0 kg</td> </tr> <tr> <td>Tomato</td> <td>0.2 kg</td> <td></td> <td></td> </tr> <tr> <td>Chili</td> <td>0.2 kg</td> <td></td> <td></td> </tr> <tr> <td>Carrot</td> <td>2.0 kg</td> <td></td> <td></td> </tr> <tr> <td>Lettuce</td> <td>2.0 kg</td> <td></td> <td></td> </tr> </table> <p><i>Source: Halarae Foundation</i></p> <p>- Although they were able to get vegetable seeds, the volume and types of vegetable seeds that they finally obtained were not the same with what they proposed. Hence, the NGO further had to provide vegetable seeds to the beneficiaries' groups to supplement those given by MAF.</p>	Egg plant	2.0 kg	Red kangkung	3.0 kg	Tomato	0.2 kg			Chili	0.2 kg			Carrot	2.0 kg			Lettuce	2.0 kg		
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**Table 1-2-2 Accomplishments of HG-SP (As compared with the Objectives of the Sub-program)**

Objectives	Indicators	Accomplishments																																				
<u>Objective</u> 1. Living conditions of households who participate in the sub-program is improved.	Volume of vegetables consumed Income generated by sales of vegetables	- As shown in Table 1-2-1, the members of the beneficiaries' groups of the sub-program have produced seven (7) types of vegetables during the sub-program. The average earning from the sales of vegetable produced by the sub-program between June 2008 and February 2009 were estimated to be over US\$ 32/family. In addition, almost the same amount of vegetables was estimated to be consumed by the members' households. - Based on the results of the baseline survey conducted in 2008, the average income from agricultural activities in Tohumeta was estimated at US\$ 211/family/year. Hence, it is estimated that the sub-program was able to generate about 33 % (US\$ 70/family/yr) of the annual farm income in Tohumeta.																																				
<u>Outputs</u> 1. Capacities of participating members to produce vegetables is enhanced.	Level of understandings and application of the techniques	- The levels of understandings and application of the techniques among the members were assessed by the questionnaire survey conducted in August 2009. <table border="1"> <thead> <tr> <th>Level of understanding of the techniques</th> <th>Compost making</th> <th>Land preparation</th> <th>Seedling production.</th> <th>Transplanting of seedlings to pots</th> <th>Transplanting of seedlings to farm</th> </tr> </thead> <tbody> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>3.5</td> <td>3.3</td> <td>3.4</td> <td>3.8</td> <td>3.9</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.0</td> <td>2.4</td> <td>2.1</td> <td>2.1</td> <td>2.3</td> </tr> <tr> <th>Level of application of the techniques</th> <th>Maintenance of farm</th> <th>Natural pesticide application</th> <th>Liquid fertilizer application.</th> <th>Harvesting &amp; seed collection</th> <th>Preparation of request letter</th> </tr> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>3.3</td> <td>3.0</td> <td>3.6</td> <td>3.1</td> <td>2.8</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.1</td> <td>2.4</td> <td>2.0</td> <td>2.0</td> <td>1.6</td> </tr> </tbody> </table> <p>Note:                      The number of samples is 20, unless specified with "n."                      &lt;1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.</p>	Level of understanding of the techniques	Compost making	Land preparation	Seedling production.	Transplanting of seedlings to pots	Transplanting of seedlings to farm	Level of understanding (1-5) <1	3.5	3.3	3.4	3.8	3.9	Level of application (1-3) <2	2.0	2.4	2.1	2.1	2.3	Level of application of the techniques	Maintenance of farm	Natural pesticide application	Liquid fertilizer application.	Harvesting & seed collection	Preparation of request letter	Level of understanding (1-5) <1	3.3	3.0	3.6	3.1	2.8	Level of application (1-3) <2	2.1	2.4	2.0	2.0	1.6
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Objectives	Indicators	Accomplishments
		<p>&lt;2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied. Source: JICA Study Team (2009)</p> <ul style="list-style-type: none"> <li>- As shown in the table above, the members consider that they have well to fairly understood all the farming techniques introduced by the sub-program. But some of the techniques, such as natural pesticide application and harvesting and seed collection, are given rather low rates maybe because they might not be able to fully acquire such techniques. The members also judged that they could apply all the techniques, though the rates given were not always high.</li> <li>- The members gave rather low rate to “request letter to MAF”. It is therefore considered that it may be difficult for the members to coordinate with MAF without support from the NGO.</li> </ul>

**Table 2-1-1. Accomplishments of TPP-SP at Samalete (Outputs generated by the Activities)**

Major Activities	Indicators	Accomplishments											
1. Organization of the working group	Organized groups No of members of the groups	- Six beneficiaries' groups were formed with registration of 228 members in the village in February 2008. The groups selected the group leaders, co-leaders and core members among the members and developed the group regulations defining the roles and responsibilities of the group leader, core members and regular members of the group. - The group membership was revised in March 2009 in consideration of existence of inactive members in the groups. The number of the members was reduced to 184 members for six (6) groups after reviewing the members' willingness.											
2. Formulation of Work plan	1) Work plans 2) Workshops organized	- The NGO organized the planning workshop on February 19 and 20, 2008 with participation of 77 members from six groups. A work plan on the sub-program from March 2008 to August 2009 was prepared as a result of the workshop.											
3. Study Tour to Suco Mertutu in Aileu	No. of participants in the tour	- The NGO took 37 members to Suco Mertutu where PADTL has assisted in the development of a community nursery so that the members could deepen the understanding of the sub-program activities.											
4. Installation of water system	No. of water systems	- The NGO installed six (6) units of water system or one water system each for the group in the beginning of the sub-program.											
5. Development of nurseries	No. of nurseries Size of nurseries	- Likewise, a total of six (6) community nurseries were developed or one (1) community nursery was developed for each group. The size of the nursery was larger than it was originally planned. The locations of the nurseries were decided based on the availability of water source.											
6. Assistance to the groups in seedling production	Assistant activities made No. of seedlings produced	Under the sub-program, two (2) types of assistance, material assistance and technical assistance were made so that the beneficiaries' groups could produce seedlings by themselves. The supporting activities done by the NGO for seedling production from March 2008 to August 2009 are summarized below.  <b>Support Activities done by the NGO for TPP-SP at Samalete</b> <table border="1"> <thead> <tr> <th>Year</th> <th>Type of assistance</th> <th>Activities</th> <th>Timing</th> </tr> </thead> <tbody> <tr> <td rowspan="2">March 08 - Feb 09</td> <td>Material assistance</td> <td>Procurement and provision of seeds and materials for nursery development Procurement and provision of materials for rehabilitation of watering systems</td> <td>April-May May-June</td> </tr> <tr> <td>Technical assistance</td> <td>Establishment of nurseries Land preparation for nurseries Preparation of seed beds Roofing of the nurseries Mixing of soils with compost and wood chips Filling of mixed soils into poly bags Sowing of seeds in seedbeds Transplant of seedlings in seedbeds into poly bags Transplant of seedlings in poly bags into other poly bags</td> <td>May-June May-July May-July June-July June-September June-September June-September June-September September-October</td> </tr> </tbody> </table>	Year	Type of assistance	Activities	Timing	March 08 - Feb 09	Material assistance	Procurement and provision of seeds and materials for nursery development Procurement and provision of materials for rehabilitation of watering systems	April-May May-June	Technical assistance	Establishment of nurseries Land preparation for nurseries Preparation of seed beds Roofing of the nurseries Mixing of soils with compost and wood chips Filling of mixed soils into poly bags Sowing of seeds in seedbeds Transplant of seedlings in seedbeds into poly bags Transplant of seedlings in poly bags into other poly bags	May-June May-July May-July June-July June-September June-September June-September June-September September-October
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		March - Aug 09	Material assistance	Procurement and provision of seeds and materials for nursery development Procurement and provision of materials for rehabilitation of watering systems	Feb – June Mar - Apr																																																																																																															
			Technical assistance	Fixing nurseries including land preparation for seedbeds Collection of materials for seedbed preparation Sowing seeds in seedbeds Filling of mixed soils into ploy bags Maintenance of seedlings	April March – August March – August April – August April - September																																																																																																															
<p>The beneficiaries' groups produced 59,902 seedlings in 2008, while a total of 31,742 seedlings are being raised in the nurseries (as of October 2009). As the number of the members was reduced, the number of seedlings being produced in 2009 is lower than that of 2008.</p> <p style="text-align: center;"><b>Seedlings produced in 2008</b></p> <p style="text-align: right;">(Unit: Seedlings)</p> <table border="1"> <thead> <tr> <th rowspan="2">Seedlings</th> <th colspan="2">Aldeia Leburema</th> <th colspan="2">Aldeia Eraulun</th> <th colspan="2">Aldeia Ai urlalan</th> </tr> <tr> <th>Naro (30 HHs)</th> <th>Lebsome (32 HHs)</th> <th>Haburas (35 HHs)</th> <th>Hadia (31 HHs)</th> <th>Morisfoun (29 HHs)</th> <th>Halibur (37 HHs)</th> </tr> </thead> <tbody> <tr><td>Petai</td><td>63</td><td>60</td><td>58</td><td>58</td><td>52</td><td>75</td></tr> <tr><td>Albizia</td><td>776</td><td>191</td><td>350</td><td>305</td><td>168</td><td>291</td></tr> <tr><td>Lamtoro L19</td><td>292</td><td>159</td><td>229</td><td>230</td><td>162</td><td>345</td></tr> <tr><td>Caliandra</td><td>306</td><td>359</td><td>462</td><td>205</td><td>154</td><td>294</td></tr> <tr><td>Rambutan</td><td>34</td><td>35</td><td>19</td><td>31</td><td>26</td><td>40</td></tr> <tr><td>Mahogany</td><td>150</td><td>85</td><td>154</td><td>143</td><td>30</td><td>140</td></tr> <tr><td>Clove</td><td>34</td><td>319</td><td>0</td><td>0</td><td>21</td><td>0</td></tr> <tr><td>Jack fruits</td><td>246</td><td>213</td><td>275</td><td>316</td><td>303</td><td>252</td></tr> <tr><td>Orange</td><td>96</td><td>170</td><td>0</td><td>260</td><td>211</td><td>4</td></tr> <tr><td>Sandalwood</td><td>109</td><td>37</td><td>32</td><td>110</td><td>263</td><td>154</td></tr> <tr><td>Tephrosia</td><td>510</td><td>170</td><td>258</td><td>619</td><td>867</td><td>471</td></tr> <tr><td>Grevillea</td><td>89</td><td>64</td><td>136</td><td>77</td><td>51</td><td>80</td></tr> <tr><td>Coffee</td><td>7,669</td><td>7,935</td><td>8,315</td><td>7,317</td><td>6,737</td><td>8,635</td></tr> <tr><td>Total</td><td>10,374</td><td>9,797</td><td>10,288</td><td>9,617</td><td>9,045</td><td>10,781</td></tr> </tbody> </table> <p>Source: Halarae Foundation</p>						Seedlings	Aldeia Leburema		Aldeia Eraulun		Aldeia Ai urlalan		Naro (30 HHs)	Lebsome (32 HHs)	Haburas (35 HHs)	Hadia (31 HHs)	Morisfoun (29 HHs)	Halibur (37 HHs)	Petai	63	60	58	58	52	75	Albizia	776	191	350	305	168	291	Lamtoro L19	292	159	229	230	162	345	Caliandra	306	359	462	205	154	294	Rambutan	34	35	19	31	26	40	Mahogany	150	85	154	143	30	140	Clove	34	319	0	0	21	0	Jack fruits	246	213	275	316	303	252	Orange	96	170	0	260	211	4	Sandalwood	109	37	32	110	263	154	Tephrosia	510	170	258	619	867	471	Grevillea	89	64	136	77	51	80	Coffee	7,669	7,935	8,315	7,317	6,737	8,635	Total	10,374	9,797	10,288	9,617	9,045	10,781
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7. Hands on training on tree planting	No. of training courses No. of participants in the training courses (Participation level)	<p>- In addition to technical assistance in seedling production, the NGO organized a series of hands-on training courses on techniques related to planting trees for the regular members. As of August 2009, eight (8) training courses were organized with the participation of 855 members in total.</p> <table border="1"> <thead> <tr> <th rowspan="2">Training courses</th> <th colspan="4">Number of participants (Participation level)</th> </tr> <tr> <th>Leburema</th> <th>Eraulun</th> <th>Aiulalan</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Training on compost making</td> <td>57</td> <td>72</td> <td>62</td> <td>191</td> </tr> <tr> <td>Training on land preparation, sticking, hole digging</td> <td>55</td> <td>28</td> <td>48</td> <td>131</td> </tr> <tr> <td>Training on filling compost/top soils in puts</td> <td>37</td> <td>55</td> <td>48</td> <td>140</td> </tr> <tr> <td>Training on hauling and planting seedlings</td> <td>32</td> <td>19</td> <td>19</td> <td>70</td> </tr> <tr> <td>Training on weeding</td> <td>20</td> <td>17</td> <td>17</td> <td>54</td> </tr> <tr> <td>Follow-up training on compost making</td> <td>33</td> <td>55</td> <td>21</td> <td>109</td> </tr> <tr> <td>Training on maintenance of demonstration plots</td> <td>21</td> <td>29</td> <td>31</td> <td>81</td> </tr> <tr> <td>Training on preparation of natural pesticide</td> <td>29</td> <td>31</td> <td>19</td> <td>79</td> </tr> <tr> <td>Total</td> <td>284</td> <td>306</td> <td>265</td> <td>855</td> </tr> </tbody> </table> <p>Source: Halarae Foundation</p>	Training courses	Number of participants (Participation level)				Leburema	Eraulun	Aiulalan	Total	Training on compost making	57	72	62	191	Training on land preparation, sticking, hole digging	55	28	48	131	Training on filling compost/top soils in puts	37	55	48	140	Training on hauling and planting seedlings	32	19	19	70	Training on weeding	20	17	17	54	Follow-up training on compost making	33	55	21	109	Training on maintenance of demonstration plots	21	29	31	81	Training on preparation of natural pesticide	29	31	19	79	Total	284	306	265	855															
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8. Development of village regulations and Organization of Tara Bandu ceremony	No. of workshops / meetings organized Village regulations	<p>- The NGO assisted the council of suco in the formulation of the village regulations of suco Samalete and revival of Tara Bandu. Four (4) meetings with the council of suco and one consultation meeting at each aldeia were organized as shown below.</p> <p style="text-align: center;"><b>Meetings with the Working Group for making Village Regulations</b></p> <table border="1"> <thead> <tr> <th>Meeting and date</th> <th>Topic discussed</th> <th>Number of participants</th> </tr> </thead> <tbody> <tr> <td>1<sup>st</sup> meeting with council members on October 15 and 16</td> <td>Socialization of village regulations and Tara Bandu Organization of a working team Objectives of village regulations and Tara Bandu Village regulations in the Portuguese era</td> <td>16 participants on Oct 15 22 participants on Oct 16</td> </tr> </tbody> </table>	Meeting and date	Topic discussed	Number of participants	1 <sup>st</sup> meeting with council members on October 15 and 16	Socialization of village regulations and Tara Bandu Organization of a working team Objectives of village regulations and Tara Bandu Village regulations in the Portuguese era	16 participants on Oct 15 22 participants on Oct 16																																																															
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9. Assistance in distribution of seedlings	No. of seedlings distributed No. of households who received seedlings	<p>- Though the beneficiaries' groups were able to produce 59,902 seedlings in 2008, about 90 % or 55,200 seedlings were distributed to 190 members. The rest or about 4,000 seedlings were dead or taken by someone (the members or non-members) without notice.</p> <p style="text-align: center;"><b>Seedlings distributed to the members in 2008</b></p> <p style="text-align: right;">(Unit: Seedlings)</p> <table border="1"> <thead> <tr> <th rowspan="2">Seedlings</th> <th colspan="2">Aldeia Lebrema</th> <th colspan="2">Aldeia Eraulun</th> <th colspan="2">Aldeia Ai urlalan</th> </tr> <tr> <th>Naro (30 HHs)</th> <th>Lebsome (32 HHs)</th> <th>Haburas (35 HHs)</th> <th>Hadia (31 HHs)</th> <th>Morisfoun (29 HHs)</th> <th>Halibur (37 HHs)</th> </tr> </thead> <tbody> <tr> <td>Petai</td> <td>51</td> <td>0</td> <td>62</td> <td>58</td> <td>29</td> <td>60</td> </tr> <tr> <td>Albizia</td> <td>693</td> <td>191</td> <td>329</td> <td>266</td> <td>153</td> <td>264</td> </tr> <tr> <td>Lamtoro L19</td> <td>292</td> <td>159</td> <td>219</td> <td>250</td> <td>177</td> <td>345</td> </tr> <tr> <td>Caliandra</td> <td>270</td> <td>307</td> <td>467</td> <td>199</td> <td>152</td> <td>294</td> </tr> <tr> <td>Rambutan</td> <td>26</td> <td>30</td> <td>17</td> <td>28</td> <td>25</td> <td>26</td> </tr> <tr> <td>Mahogany</td> <td>116</td> <td>85</td> <td>124</td> <td>143</td> <td>30</td> <td>120</td> </tr> <tr> <td>Clove</td> <td>32</td> <td>290</td> <td>0</td> <td>0</td> <td>11</td> <td>0</td> </tr> <tr> <td>Jack fruits</td> <td>242</td> <td>175</td> <td>155</td> <td>316</td> <td>290</td> <td>242</td> </tr> <tr> <td>Orange</td> <td>93</td> <td>160</td> <td>0</td> <td>234</td> <td>116</td> <td>0</td> </tr> <tr> <td>Sandalwood</td> <td>31</td> <td>28</td> <td>18</td> <td>86</td> <td>58</td> <td>4</td> </tr> </tbody> </table>	Seedlings	Aldeia Lebrema		Aldeia Eraulun		Aldeia Ai urlalan		Naro (30 HHs)	Lebsome (32 HHs)	Haburas (35 HHs)	Hadia (31 HHs)	Morisfoun (29 HHs)	Halibur (37 HHs)	Petai	51	0	62	58	29	60	Albizia	693	191	329	266	153	264	Lamtoro L19	292	159	219	250	177	345	Caliandra	270	307	467	199	152	294	Rambutan	26	30	17	28	25	26	Mahogany	116	85	124	143	30	120	Clove	32	290	0	0	11	0	Jack fruits	242	175	155	316	290	242	Orange	93	160	0	234	116	0	Sandalwood	31	28	18	86	58	4
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9. Validation of plantations developed and survey on survival conditions	No. of plantations / seedlings validated Survival rate	<p>- Out of 55,200 seedlings, 91.3 % or 50,428 seedlings planted by the members were surveyed by the NGO between February and August 2009. As a result, 49,859 seedlings were confirmed alive in the survey.</p> <p><b>Seedlings confirmed survive in the plantations developed from Nov 08 to Feb 09</b> (Unit: Seedlings)</p> <table border="1"> <thead> <tr> <th rowspan="2">Seedlings</th> <th colspan="2">Aldeia Leburema</th> <th colspan="2">Aldeia Eraulun</th> <th colspan="2">Aldeia Ai urlalan</th> </tr> <tr> <th>Naro (30 HHs)</th> <th>Lebsome (32 HHs)</th> <th>Haburas (35 HHs)</th> <th>Hadia (31 HHs)</th> <th>Morisfoun (29 HHs)</th> <th>Halibur (37 HHs)</th> </tr> </thead> <tbody> <tr> <td>No. of plots</td> <td>59 plots</td> <td>60 plots</td> <td>57 plots</td> <td>44 plots</td> <td>47 plots</td> <td>65 plots</td> </tr> <tr> <td>Petai</td> <td>48</td> <td>42</td> <td>68</td> <td>62</td> <td>32</td> <td>58</td> </tr> <tr> <td>Albizia</td> <td>661</td> <td>163</td> <td>325</td> <td>274</td> <td>157</td> <td>218</td> </tr> <tr> <td>Lamtoro L19</td> <td>260</td> <td>169</td> <td>218</td> <td>243</td> <td>198</td> <td>317</td> </tr> <tr> <td>Caliandra</td> <td>232</td> <td>311</td> <td>469</td> <td>205</td> <td>167</td> <td>266</td> </tr> <tr> <td>Rambutan</td> <td>23</td> <td>31</td> <td>18</td> <td>27</td> <td>27</td> <td>26</td> </tr> <tr> <td>Mahogany</td> <td>101</td> <td>84</td> <td>129</td> <td>151</td> <td>39</td> <td>113</td> </tr> <tr> <td>Clove</td> <td>30</td> <td>283</td> <td>0</td> <td>0</td> <td>11</td> <td>0</td> </tr> <tr> <td>Jack fruits</td> <td>232</td> <td>149</td> <td>158</td> <td>313</td> <td>316</td> <td>199</td> </tr> <tr> <td>Orange</td> <td>90</td> <td>159</td> <td>10</td> <td>235</td> <td>127</td> <td>0</td> </tr> <tr> <td>Sandalwood</td> <td>31</td> <td>29</td> <td>0</td> <td>82</td> <td>59</td> <td>4</td> </tr> <tr> <td>Tephrosia</td> <td>446</td> <td>162</td> <td>248</td> <td>597</td> <td>541</td> <td>430</td> </tr> <tr> <td>Grevillea</td> <td>56</td> <td>64</td> <td>113</td> <td>66</td> <td>33</td> <td>77</td> </tr> <tr> <td>Coffee</td> <td>7,200</td> <td>7,365</td> <td>7,575</td> <td>6,256</td> <td>4,269</td> <td>5,912</td> </tr> <tr> <td>Total</td> <td>9,410</td> <td>9,011</td> <td>9,331</td> <td>8,511</td> <td>5,976</td> <td>7,620</td> </tr> <tr> <td>Ave Survival rate</td> <td>99.2%</td> <td>98.9%</td> <td>98.7%</td> <td>99.6%</td> <td>98.0%</td> <td>98.6%</td> </tr> </tbody> </table> <p>Source: Halarae Foundation</p>	Seedlings	Aldeia Leburema		Aldeia Eraulun		Aldeia Ai urlalan		Naro (30 HHs)	Lebsome (32 HHs)	Haburas (35 HHs)	Hadia (31 HHs)	Morisfoun (29 HHs)	Halibur (37 HHs)	No. of plots	59 plots	60 plots	57 plots	44 plots	47 plots	65 plots	Petai	48	42	68	62	32	58	Albizia	661	163	325	274	157	218	Lamtoro L19	260	169	218	243	198	317	Caliandra	232	311	469	205	167	266	Rambutan	23	31	18	27	27	26	Mahogany	101	84	129	151	39	113	Clove	30	283	0	0	11	0	Jack fruits	232	149	158	313	316	199	Orange	90	159	10	235	127	0	Sandalwood	31	29	0	82	59	4	Tephrosia	446	162	248	597	541	430	Grevillea	56	64	113	66	33	77	Coffee	7,200	7,365	7,575	6,256	4,269	5,912	Total	9,410	9,011	9,331	8,511	5,976	7,620	Ave Survival rate	99.2%	98.9%	98.7%	99.6%	98.0%	98.6%
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**Table 2-1-2 Accomplishments of TPP-SP at Samalete (As compared with the Objectives of the Sub-program)**

Objectives	Indicators	Accomplishments																																																
<u>Objective</u> 1. Expands the areas with new seedlings in the village	No. of tree planted and survive in suco as of Aug 09	- As shown in Table 2-1-1, a total of 55,200 seedlings were distributed to the members of the sub-program. As of August 2009, 98.9 % (or 49,859 seedlings) of 50,428 seedlings surveyed were confirmed alive. Assuming that seedlings were planted with a distance of 3m x 3m, the total areas with living seedlings would be estimated at 44.9 ha in total.																																																
<u>Outputs</u> 1. Capacities of local communities to produce and plant seedlings are enhanced.	Level of understandings and application of the techniques	<p>- The levels of understandings and application of the techniques among the members were assessed by the questionnaire survey conducted in August 2009.</p> <table border="1"> <thead> <tr> <th>Level of understanding of the techniques</th> <th>Compost making</th> <th>Land preparation</th> <th>Nursery establish.</th> <th>Soil prep and soil filling</th> <th>Seed preparation</th> <th>Sawing seeds in seed beds</th> <th>Transplant.</th> </tr> </thead> <tbody> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>4.0</td> <td>3.8</td> <td>3.9</td> <td>4.2</td> <td>3.4 (n=19)</td> <td>3.9</td> <td>4.2</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.5</td> <td>2.2</td> <td>2.4</td> <td>2.6</td> <td>2.2</td> <td>2.1</td> <td>2.2</td> </tr> <tr> <th>Level of application of the techniques</th> <th>Watering &amp; weeding</th> <th>Designing</th> <th>Hole digging and refilling</th> <th>Planting of seedlings</th> <th>Weeding</th> <th>Shading</th> <th>Conventional irrigation</th> </tr> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>4.3</td> <td>3.3</td> <td>4.1</td> <td>4.2</td> <td>4.1</td> <td>4.2</td> <td>4.1</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.8</td> <td>1.8</td> <td>2.9</td> <td>2.7</td> <td>2.6</td> <td>2.2 (n=19)</td> <td>2.25</td> </tr> </tbody> </table> <p>Note: The number of samples is 20, unless specified with “n.” &lt;1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand. &lt;2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied. Source: JICA Study Team (2009)</p> <p>- As shown in the table above, the members consider that they have well understood almost all the techniques except seed preparation and designing. Techniques on seed preparation and designing are also considered fairly understood by the members. Likewise, the members judge that they could partially or fully apply all the techniques except “designing”.</p> <p>- The questionnaire survey in August 2008 did not cover the level of understandings/application of the techniques on seedling production, since technical assistance was mainly provided to core members of the beneficiaries’ groups. Based on the physical accomplishments made by the beneficiaries’ groups, the JICA Study Team judges that the beneficiaries’ groups, especially their core members are capable enough to produce seedlings.</p>	Level of understanding of the techniques	Compost making	Land preparation	Nursery establish.	Soil prep and soil filling	Seed preparation	Sawing seeds in seed beds	Transplant.	Level of understanding (1-5) <1	4.0	3.8	3.9	4.2	3.4 (n=19)	3.9	4.2	Level of application (1-3) <2	2.5	2.2	2.4	2.6	2.2	2.1	2.2	Level of application of the techniques	Watering & weeding	Designing	Hole digging and refilling	Planting of seedlings	Weeding	Shading	Conventional irrigation	Level of understanding (1-5) <1	4.3	3.3	4.1	4.2	4.1	4.2	4.1	Level of application (1-3) <2	2.8	1.8	2.9	2.7	2.6	2.2 (n=19)	2.25
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2. Local regulations is	Local	- The local regulations in writing were developed by the council members of suco in a participatory manner																																																



Objectives	Indicators	Accomplishments
properly implemented and maintained by the communities	regulations agreed on No. of cases / offences after Tara Bandu	<p>in November 2008. The regulations comprise of 11 chapters covering not only the rules on natural resource management but also those on social norms in the village.</p> <ul style="list-style-type: none"> <li>- According to the members of the sub-program, the incidence of wildfire, cases of illegal activities (e.g., illegal cutting, steal of farm produce) and cases of violence in the village have been reduced since Tara Bandu ceremony in November 2009.</li> <li>- However, the village committee have just organized two (2) monitoring meetings so far though the monthly monitoring meeting was supposed to be organized every month by the committee as part of the activities for implementation of the village regulations. The village committee should periodically monitor the implementation of the regulations through the monthly monitoring meeting.</li> </ul>

**Table 2-2-1. Accomplishments of CPR-SP at Samalete (Outputs generated by the Activities)**

Major Activities	Indicators	Accomplishments																																																																					
1. Organization of the working group	Organized groups No of members of the groups	- Local communities in Samalete decided the same beneficiaries' groups would work for Tree Planting Promotion Sub-program (TPP-SP) and Coffee Plantation Rehabilitation Sub-program (CPR-SP). The total membership of the groups was 228 when they were formed in February 2008 and were revised to 184 members in March 2009. - As described in the grid of TPP-SP, the groups selected the group leaders, co-leaders and core members among the members and developed the group regulations defining the roles and responsibilities of the group leader, core members and regular members of the group.																																																																					
2. Formulation of Work plan	1) Work plans 2) Workshops organized	- The NGO organized the planning workshop on February 21 and 22, 2008 with participation of 57 members from six groups. A work plan on the sub-program from March 2008 to August 2009 was prepared as a result of the workshop.																																																																					
3. Study Tour to Suco Mertutu in Ermera	No. of participants in the tour	- The NGO took 37 members to suco Mertutu in Ermera, which has been assisted by PARDTL in the rehabilitation of aged coffee plantations, to observe rejuvenated coffee plantations so that the members could have a clear picture of the sub-program activities.																																																																					
4. Identification and Development of demonstration plots	No. of demonstration plots	- One (1) demonstration plot each for aldeia or three (3) demonstration plots in total were developed for demonstration of techniques on rejuvenation of aged coffee trees and pruning of productive coffee trees.																																																																					
5. Hands on training on seedling production	No. of training courses No. of participants in the training courses (Participation level)	- Under the sub-program, a series of hands-on training courses on improvement of coffee productivity were organized to enable the members of the beneficiaries' groups could replicate the techniques in their own coffee plantations. The following training courses had been organized from April 2008 to August 2009. <b>Training Courses on Coffee Plantation Rehabilitation Sub-program</b>																																																																					
<table border="1"> <thead> <tr> <th rowspan="2">Training courses</th> <th colspan="4">Number of participants (Participation level)</th> </tr> <tr> <th>Leburema</th> <th>Eraulun</th> <th>Aiulalan</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Training on compost making (part of training for TPP-SP)</td> <td>57</td> <td>72</td> <td>63</td> <td>192</td> </tr> <tr> <td>Training on identification of demonstration plots</td> <td>37</td> <td>43</td> <td>25</td> <td>105</td> </tr> <tr> <td>Training on rejuvenation of aged coffee plantation (1)</td> <td>38</td> <td>45</td> <td>27</td> <td>110</td> </tr> <tr> <td>Training on rejuvenation of aged coffee plantation (2)</td> <td>31</td> <td>28</td> <td>20</td> <td>79</td> </tr> <tr> <td>Training on pruning of young coffee trees (1)</td> <td>28</td> <td>33</td> <td>17</td> <td>78</td> </tr> <tr> <td>Training on pruning of young coffee trees (2)</td> <td>37</td> <td>42</td> <td>26</td> <td>105</td> </tr> <tr> <td>Training on seed selection</td> <td>26</td> <td>33</td> <td>22</td> <td>81</td> </tr> <tr> <td>Training on preparation of natural pesticide*</td> <td>29</td> <td>31</td> <td>26</td> <td>86</td> </tr> <tr> <td>Training on application of natural pesticide*</td> <td>32</td> <td>25</td> <td>28</td> <td>85</td> </tr> <tr> <td>Training on pruning of productive coffee trees</td> <td>20</td> <td>23</td> <td>15</td> <td>58</td> </tr> <tr> <td>Training on planting new seedlings*</td> <td>32</td> <td>19</td> <td>19</td> <td>70</td> </tr> <tr> <td>Total</td> <td>367</td> <td>394</td> <td>288</td> <td>1,049</td> </tr> </tbody> </table>			Training courses	Number of participants (Participation level)				Leburema	Eraulun	Aiulalan	Total	Training on compost making (part of training for TPP-SP)	57	72	63	192	Training on identification of demonstration plots	37	43	25	105	Training on rejuvenation of aged coffee plantation (1)	38	45	27	110	Training on rejuvenation of aged coffee plantation (2)	31	28	20	79	Training on pruning of young coffee trees (1)	28	33	17	78	Training on pruning of young coffee trees (2)	37	42	26	105	Training on seed selection	26	33	22	81	Training on preparation of natural pesticide*	29	31	26	86	Training on application of natural pesticide*	32	25	28	85	Training on pruning of productive coffee trees	20	23	15	58	Training on planting new seedlings*	32	19	19	70	Total	367	394	288	1,049
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		<p>Source: Halarae Foundation</p> <p>- As shown in table above, the level of members' participation in training course ranges from 30~50 % of the total members on average. In general, the members seem to have doubted the effectiveness of the techniques introduced by the sub-program, particularly those related to rejuvenation of aged coffee and pruning of young or productive trees. However, many of them are appreciating the effectiveness of rejuvenation and pruning techniques as they see the rejuvenated coffee trees flowering.</p>												
6. Assistance to the groups in coffee production	Assistant activities made No. of households who applied the techniques	<p>- The NGO supported the individual members of the beneficiaries' groups in the replication of the techniques that they had learned in the demonstration plots by providing farm tools and technical assistance to the members.</p> <p style="text-align: center;"><b>Support Activities done by the NGO for CPR-SP at Samalete</b></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Type of assistance</th> <th>Activities</th> <th>Timing</th> </tr> </thead> <tbody> <tr> <td>Oct 08 - Apr 09</td> <td>Technical guidance</td> <td>Application of rejuvenation and pruning</td> <td>Sept-Oct</td> </tr> <tr> <td>May/June 09</td> <td>Technical assistance</td> <td>Post harvest</td> <td>May/June</td> </tr> </tbody> </table> <p>- As of August 2009, only two members applied the rejuvenation practice and one member replicated pruning techniques in their own farms. Although almost all the members are still in a wait-and-see attitude and only few members actually have practiced the techniques, many of them seem to have been realizing the effect of the rejuvenation and pruning as they see the results of the demonstration plots.</p>	Year	Type of assistance	Activities	Timing	Oct 08 - Apr 09	Technical guidance	Application of rejuvenation and pruning	Sept-Oct	May/June 09	Technical assistance	Post harvest	May/June
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**Table 2-2-2 Accomplishments of CPR-SP at Samalete (As compared with the Objectives of the Sub-program)**

Objectives	Indicators	Accomplishments																														
<p><u>Objective</u></p> <p>1. The area of rehabilitated coffee plantation expands in Samalete</p>	No. of area of rehabilitated coffee plantation	- As shown in Table 2-2-1, only two members have applied the rejuvenation technique in their own farms, while the pruning technique was replicated by one member as of August 2009. To conclude, the objective of the sub-program has not been achieved during the project. It is judged that the project period of 20 months was too short to gain the members' appreciation and change their practices.																														
<p><u>Outputs</u></p> <p>1. Capacities of local communities to rehabilitate aged coffee plantations is enhanced.</p>	Level of understandings and application of the techniques	<p>- The levels of understandings and application of the techniques among the members were assessed by the questionnaire survey conducted in August 2009.</p> <p style="text-align: center;"><b>Level of Understanding and Application of Techniques introduced</b></p> <table border="1"> <thead> <tr> <th>Level of understanding of the techniques</th> <th>Compost making</th> <th>Rejuvenation</th> <th>Pruning of coffee trees</th> <th>Planting of coffee seedlings</th> </tr> </thead> <tbody> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>3.9</td> <td>3.9</td> <td>4.1 (n=17)</td> <td>4.0</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.3</td> <td>2.1</td> <td>2.1</td> <td>2.7</td> </tr> <tr> <th>Level of application of the techniques</th> <th>Maintenance of plantation</th> <th>Harvesting of coffee cherries</th> <th>Processing of coffee cherries</th> <th>Seed selection</th> </tr> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>4.1</td> <td>4.1 (n=17)</td> <td>3.7</td> <td>4.1</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.5</td> <td>2.0</td> <td>2.1</td> <td>2.2</td> </tr> </tbody> </table>	Level of understanding of the techniques	Compost making	Rejuvenation	Pruning of coffee trees	Planting of coffee seedlings	Level of understanding (1-5) <1	3.9	3.9	4.1 (n=17)	4.0	Level of application (1-3) <2	2.3	2.1	2.1	2.7	Level of application of the techniques	Maintenance of plantation	Harvesting of coffee cherries	Processing of coffee cherries	Seed selection	Level of understanding (1-5) <1	4.1	4.1 (n=17)	3.7	4.1	Level of application (1-3) <2	2.5	2.0	2.1	2.2
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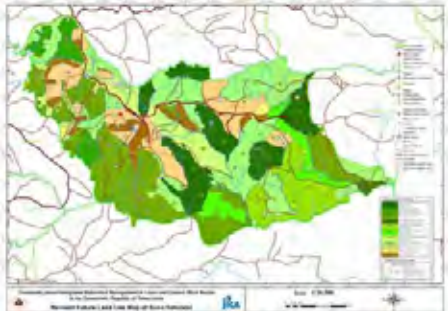
Objectives	Indicators	Accomplishments
		<p>Note:            The number of samples is 18, unless specified with “n.”</p> <p>&lt;1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.</p> <p>&lt;2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.</p> <p>Source: JICA Study Team (2009)</p> <p>- As shown in the tables above, the members consider that they have well understood all the techniques except “processing of coffee cherries” and they could fully to partially apply the techniques in their own farms.</p> <p>- Many members are likely afraid of losing their opportunity to earn cash income by cutting coffee trunk or branches. It is not easy for the members to make a trial in their own farms without having any assurance that they can get the same amount of harvest or more in a short period of time after cutting.</p>

**Table 3-1-1 Accomplishments of PULP-SP at Faturasa (Outputs generated by the Activities)**

Major Activities	Indicators	Accomplishments																											
1. Organization of the working group	Organized groups No of members of the groups	- The working group composed of 15 members, who are Chef de Suco, Chef de Aldeia, Representatives of women's group, Youth leaders, Lia Nain (Traditional leader) and large land owners, was formed by the sub-program. The group developed the group regulations and defined the roles and responsibilities of the group members.																											
2. Formulation of Work plan	1) Work plans 2) Workshops organized	- The NGO organized the planning workshop in February, 2008 with participation of all the members of the working group. A work plan on the sub-program from March 2008 to August 2009 was prepared as a result of the workshop.																											
3. Meetings with the working group to prepare future land use map and village regulations	No. of meetings organized No. of participants in the meetings	- Under the sub-program, six (6) workshops and meetings have been organized between March 2008 and August 2009 to develop the future land use map with the village regulations on natural resource management in the village. <table border="1"> <thead> <tr> <th>Workshops / Meetings</th> <th>Date of meeting</th> <th>No. of participants</th> </tr> </thead> <tbody> <tr> <td>Workshop on present land use mapping</td> <td>March 3-5, 2008</td> <td>-</td> </tr> <tr> <td>Workshop on future land use options</td> <td>June 17-19, 2008</td> <td>13</td> </tr> <tr> <td>Workshop on future land use mapping and outlines of village regulations</td> <td>July 3-4, and 10 2008</td> <td>13</td> </tr> <tr> <td>Workshop on the draft village regulations</td> <td>July 10, 2009</td> <td>13</td> </tr> <tr> <td rowspan="4">Meetings with communities members for socialization of the draft village regulations at each aldeia</td> <td>July 16 at Fakulao</td> <td>55</td> </tr> <tr> <td>July 17 at Remehei</td> <td>65</td> </tr> <tr> <td>July 19 at Kaitaso</td> <td>56</td> </tr> <tr> <td>July 20 at Bereliso</td> <td>68</td> </tr> <tr> <td>Workshop on revision of present and future land use maps</td> <td>May 22 &amp; 25, 2009</td> <td>19 and 25</td> </tr> </tbody> </table> <p>Source: USC Canada</p>	Workshops / Meetings	Date of meeting	No. of participants	Workshop on present land use mapping	March 3-5, 2008	-	Workshop on future land use options	June 17-19, 2008	13	Workshop on future land use mapping and outlines of village regulations	July 3-4, and 10 2008	13	Workshop on the draft village regulations	July 10, 2009	13	Meetings with communities members for socialization of the draft village regulations at each aldeia	July 16 at Fakulao	55	July 17 at Remehei	65	July 19 at Kaitaso	56	July 20 at Bereliso	68	Workshop on revision of present and future land use maps	May 22 & 25, 2009	19 and 25
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Workshop on revision of present and future land use maps	May 22 & 25, 2009	19 and 25																											
4. Organization of Tara Bandu ceremony	Ceremony organized	-Tara Bandu to announce the village regulations to the public was organized with the participation of i) Representatives from MAF, Ministry of Environment, and NDF, ii) Representatives from Aileu District and Remexio Sub-district, iii) Priest from church in Remexio, iv) Representative from PNTL of Remexio, v) village leaders of the neighboring villages, and vi) JICA Study Team on July 28, 2009.																											
5. Assistance in the implementation and monitoring of the Village Regulations	No. of meetings organized No. of participants in the meetings Topics discussed	- The working groups has organized five (5) monthly meetings after the Tara Bandu ceremony with assistance of the NGO to monitor the implementation of the regulations and discuss any issues to be handled at suco level. <p style="text-align: center;"><b>Monthly Monitoring Meetings for Implementation of Village Regulations</b></p> <table border="1"> <thead> <tr> <th>Monthly Monitoring Meetings</th> <th>Date</th> <th>Number of participants</th> </tr> </thead> <tbody> <tr> <td>Meeting for monitoring of the implementation of the regulations in September</td> <td>September 24</td> <td>12 participants</td> </tr> <tr> <td>Meeting for monitoring of the implementation</td> <td>October 31</td> <td>16 participants</td> </tr> </tbody> </table>	Monthly Monitoring Meetings	Date	Number of participants	Meeting for monitoring of the implementation of the regulations in September	September 24	12 participants	Meeting for monitoring of the implementation	October 31	16 participants																		
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Major Activities	Indicators	Accomplishments																						
		of the regulations in October																						
		Meeting for monitoring of the implementation of the regulations in November	December 2	14 participants																				
		Meeting for monitoring of the implementation of the regulations in December	January 21	21 participants																				
		Meeting for monitoring of the implementation of the regulations in January	February 26	14 participants																				
		<p>- Major topics that the participants had discussed in the meetings are: i) issues on crop damage caused by animals being freely grazed, ii) illegal activities committed by villagers in the neighboring sucos, iii) disputes among community members over land, and iv) other domestic issues.</p> <p>- Through a series of discussions, the working group members and suco leaders have deepened their understanding of the village regulations and developed their capacity to cope with the issues in the village.</p>																						
6. Assistance in fencing the selected grazing land to separate free-grazing animals from farmlands	Animal fences installed	<p>- One of the issues that local communities have faced was to control stray animals in the village. In order to reduce crop damage caused by animals, the working group demarcated the area for grazing from permanent agricultural land in future land use mapping. Although the future land use map clearly allocated several grazing areas in the village, there was no clear separation or segregation made on the ground. In response to the strong request from local communities for realization of the future land use map, the sub-program established about 2.8 km fence on the boundary between the areas designed as grazing land and permanent farm.</p> <p>- From July to September 2009, local people in Aldeia Kaitaso and Fakulau had engaged in hole making, collection of wood, sticking, and wiring. A total of 2,820 holes and 2,735 meters wiring were made by local communities as shown below.</p> <p style="text-align: center;"><b>Results of Fence Making</b></p> <table border="1"> <thead> <tr> <th>Date</th> <th>Activities</th> <th>Results</th> <th>Number of participants</th> </tr> </thead> <tbody> <tr> <td>July 24, 09</td> <td>Collection and preparation of sticks</td> <td>1,410 wood sticks 1,410 iron sticks 65 trees</td> <td>61 participants from Fakulao and Kaitaso</td> </tr> <tr> <td>July 24, 09</td> <td>Hole digging</td> <td>2,820 holes</td> <td>48 participants from Fakulao and Kaitaso</td> </tr> <tr> <td>Aug 3 – Aug 21, 09</td> <td>Sticking</td> <td>2,820 sticks</td> <td>315 participants in total</td> </tr> <tr> <td>Aug 27 – Sep 18, 09</td> <td>Wiring &lt;1</td> <td>2,735 meter</td> <td>122-139 participants in total</td> </tr> </tbody> </table> <p>Source: USC-CTL Note: &lt;1 About 150 meters of wiring is yet to be finalized since communities need to displace animals (cow and buffalo) to the grazing area first.</p>			Date	Activities	Results	Number of participants	July 24, 09	Collection and preparation of sticks	1,410 wood sticks 1,410 iron sticks 65 trees	61 participants from Fakulao and Kaitaso	July 24, 09	Hole digging	2,820 holes	48 participants from Fakulao and Kaitaso	Aug 3 – Aug 21, 09	Sticking	2,820 sticks	315 participants in total	Aug 27 – Sep 18, 09	Wiring <1	2,735 meter	122-139 participants in total
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**Table 3-1-2 Accomplishments of PULU-SP at Faturasa (As compared with the Objectives of the Sub-program)**

Objectives/Outputs	Indicators	Accomplishments																		
<p><u>Objective</u> 1. Enable the village to manage and use natural resources within its territory in a proper manner</p>	<p>No. of forest fires No. of cases or offences Level of understanding and application of the village regulations</p>	<p>- No forest fire has taken place since Tara Bandu ceremony on July 28, 2008, when the village regulations were officially announced to the public. - No illegal cutting or harvest of forest and other natural resources has been made by the community members. However, there have been several cases of illegal cutting committed by local people from the neighboring villages. - There have been several cases of crop damage caused by free grazing animals. - The levels of understandings and application of the village regulations among the members were assessed by the questionnaire survey conducted in August 2009.</p> <table border="1"> <thead> <tr> <th>Level of understanding and application of the techniques</th> <th>Rules on NRM</th> <th>Guidelines for land use</th> <th>Future land use map</th> <th>Monitoring system</th> <th>Roles &amp; responsibilities of the committee</th> </tr> </thead> <tbody> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>4.0</td> <td>4.0</td> <td>4.0</td> <td>4.0</td> <td>4.0</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>3.0</td> <td>3.0</td> <td>3.0</td> <td>3.0</td> <td>3.0</td> </tr> </tbody> </table> <p>Note: &lt;1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand. &lt;2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied. Source: JICA Study Team (2009)</p> <p>- As shown in the tables above, the members consider that they have well understood and applied the village regulations along with the future land use map to regulate activities of local people in the village.</p>	Level of understanding and application of the techniques	Rules on NRM	Guidelines for land use	Future land use map	Monitoring system	Roles & responsibilities of the committee	Level of understanding (1-5) <1	4.0	4.0	4.0	4.0	4.0	Level of application (1-3) <2	3.0	3.0	3.0	3.0	3.0
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<p><u>Outputs</u> 1. A future land use map and local regulations on natural resource management are developed.</p>	<p>Land use map with village regulations</p>	<p>- The land use map was first developed in July 2008 and further revised in May 2009 by the working group. The revised village map is shown right.</p> 																		
<p>2. Local regulations will be implemented with Tara Bandu.</p>	<p>Agreed-upon local regulations among local</p>	<p>- The village regulations were developed by the working group in July 2008 and approved by local communities in the village in the same month. The village regulations developed comprise of 11 chapters indicating the prohibited activities, land use guidelines, roles of the committee, implementation system of</p>																		

Objectives/Outputs	Indicators	Accomplishments											
	communities Monitoring system installed	<p>the regulations, and fines and penalties imposed on a violator.</p> <p>- Several monthly monitoring meetings have been organized after the Tara Bandu ceremony to monitor the implementation of the village regulations and discuss any issues to be handled by the committee. The committee has also decided to organize a meeting on an aldeia level every two months to share the results in the monthly meetings with community members in each aldeia.</p> <p>- The following table shows the willingness of the members to continue the current monitoring system of the village regulations. The members intend to continue the implementation of the village regulations with the current monitoring system. However, they may need more guidance on the necessity of information sharing with local communities on an aldeia level.</p> <table border="1"> <thead> <tr> <th>Level of willingness</th> <th>To continue the implementation of the village regulations</th> <th>To continue the monthly monitoring meeting</th> <th>To organize bi-monthly meeting at aldeia level</th> </tr> </thead> <tbody> <tr> <td>Level of willingness (1-5) &lt;1</td> <td>4.7</td> <td>4.3</td> <td>3.6</td> </tr> </tbody> </table> <p>Note:                      &lt;1: The level of understanding was evaluated by using 5-point rating, namely 5=very much, 4=very, 3=fairly, 2=less, and 1=does not want to.                      Source: JICA Study Team (2009)</p>				Level of willingness	To continue the implementation of the village regulations	To continue the monthly monitoring meeting	To organize bi-monthly meeting at aldeia level	Level of willingness (1-5) <1	4.7	4.3	3.6
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**Table 3-2-1. Accomplishments of GCPBWPR-SP (Outputs generated by the Activities)**

Major Activities	Indicators	Accomplishments																																																																													
1. Organization of the beneficiaries groups	Organized groups No of members of the groups	- Four (4) working groups were organized in suco Faturasa at a rate of one group per aldeia. Each group has five (5) members except in Kaitaso. The group of aldeia Kaitaso selected 9 members. Each group appointed one group leader and secretary and developed the group regulations defining the roles and responsibilities of the group members.																																																																													
2. Formulation of Work plan	1) Work plans 2) Workshops organized	- The NGO organized the planning workshop on February 21 and 22, 2008 with participation of 20 members from four (4) groups. A work plan on the sub-program from March 2008 to August 2009 was prepared as a result of the workshop.																																																																													
3. Study Tour to Suco Dare and Suco Tibar	No. of participants in the tour	- The NGO took eight (8) members to Suco Dare and Suco Tibar on February 22, 2008 to observe the production of fodder crops at Suco Dare with the assistance from ETADEP and the multiplication field insectaries of MAF at Suco Tibar. Through the exposure visit, the members were able to obtain a whole picture of the sub-program activities.																																																																													
4. Hands on training on protein banks and biological control of Chlomoraena	No. of training courses No. of participants in the training courses (Participation level)	- Under the sub-program, a total of ten (10) training courses have been conducted between March 2008 and August 2009 with total participation of 270 members.																																																																													
		<table border="1"> <thead> <tr> <th rowspan="2">Training courses</th> <th colspan="5">Number of participants (Participation level)</th> </tr> <tr> <th>Bereliso</th> <th>Fakulau</th> <th>Raimerhei</th> <th>Kaitaso</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Training on compost making</td> <td>6</td> <td>7</td> <td>5</td> <td>6</td> <td>24</td> </tr> <tr> <td>Training on identification of demonstration plots for protein bank and biological control against Chlomoraena</td> <td>6</td> <td>5</td> <td>5</td> <td>8</td> <td>24</td> </tr> <tr> <td>Training on making temporary fences</td> <td>6</td> <td>7</td> <td>5</td> <td>6</td> <td>24</td> </tr> <tr> <td>Training on land preparation with terrace making</td> <td>15</td> <td>7</td> <td>7</td> <td>14</td> <td>43</td> </tr> <tr> <td>Training on seed preparation of fodder trees and crops</td> <td>5</td> <td>8</td> <td>5</td> <td>6</td> <td>24</td> </tr> <tr> <td>Training on maintenance of the demonstration plots for protein banks</td> <td>6</td> <td>7</td> <td>5</td> <td>5</td> <td>23</td> </tr> <tr> <td>Training on planting fodder trees and crops</td> <td>10</td> <td>3</td> <td>6</td> <td>10</td> <td>29</td> </tr> <tr> <td>Training on collection of larvae and application of bunches of Chlomoraena to the demo-plot</td> <td>10</td> <td>6</td> <td>5</td> <td>12</td> <td>33</td> </tr> <tr> <td>Follow-up training on compost making</td> <td>5</td> <td>5</td> <td>5</td> <td>8</td> <td>23</td> </tr> <tr> <td>Follow-up training on terrace making</td> <td>5</td> <td>5</td> <td>5</td> <td>8</td> <td>23</td> </tr> <tr> <td><b>Total</b></td> <td><b>74</b></td> <td><b>60</b></td> <td><b>53</b></td> <td><b>83</b></td> <td><b>270</b></td> </tr> </tbody> </table>	Training courses	Number of participants (Participation level)					Bereliso	Fakulau	Raimerhei	Kaitaso	Total	Training on compost making	6	7	5	6	24	Training on identification of demonstration plots for protein bank and biological control against Chlomoraena	6	5	5	8	24	Training on making temporary fences	6	7	5	6	24	Training on land preparation with terrace making	15	7	7	14	43	Training on seed preparation of fodder trees and crops	5	8	5	6	24	Training on maintenance of the demonstration plots for protein banks	6	7	5	5	23	Training on planting fodder trees and crops	10	3	6	10	29	Training on collection of larvae and application of bunches of Chlomoraena to the demo-plot	10	6	5	12	33	Follow-up training on compost making	5	5	5	8	23	Follow-up training on terrace making	5	5	5	8	23	<b>Total</b>	<b>74</b>	<b>60</b>	<b>53</b>	<b>83</b>	<b>270</b>
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Source: USC Canada																																																																															
The members of CBSE-SP also participated in training sessions for GCPBWPR-SP, and vice-versa. Since securing animal feeds in the dry season was one of the critical issues in the village, the members' expectation were apparently high and therefore their participation level have been kept high.																																																																															

Major Activities	Indicators	Accomplishments																													
5. Assistance in the conducts management of crop farming and biological control	Type of assistance provided	<p>Although the original aim of the sub-program was to demonstrate the models, the NGO decided to provide the planting materials since the participants had high interest in the replication of the techniques.</p> <table border="1"> <thead> <tr> <th>Period</th> <th>Type of assistance</th> <th>Activities</th> <th>Timng</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Apr 08 – Feb 09</td> <td>Material assistance</td> <td>Provision of farm tools Provision of seeds of fodder trees and crops</td> <td>June 08 Sep-Oct 08</td> </tr> <tr> <td>Technical assistance to members on demand</td> <td>Land preparation Fencing Planting king grasses (sticks), gamal (cuttings) and caliandra (seeds) Replanting king grasses Maintenance of the demonstration plots Protection of the plots from fire</td> <td>Sep 08-Feb 09</td> </tr> <tr> <td>March-Oct 09</td> <td>Technical assistance to members</td> <td>Maintenance of the demonstration plots Monitoring of demonstration plots for Chlomoraena</td> <td>May-Oct 09</td> </tr> </tbody> </table>	Period	Type of assistance	Activities	Timng	Apr 08 – Feb 09	Material assistance	Provision of farm tools Provision of seeds of fodder trees and crops	June 08 Sep-Oct 08	Technical assistance to members on demand	Land preparation Fencing Planting king grasses (sticks), gamal (cuttings) and caliandra (seeds) Replanting king grasses Maintenance of the demonstration plots Protection of the plots from fire	Sep 08-Feb 09	March-Oct 09	Technical assistance to members	Maintenance of the demonstration plots Monitoring of demonstration plots for Chlomoraena	May-Oct 09														
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6. Raising awareness about protein bank and biological control against Chlomoraena	No. of technical guidance organized. No. of signboard set up	<p>In order to enhance the awareness of the protein bank and biological control against Chlomoraena among the communities, the NGO carried out the following activities.</p> <p>i) Provision of technical guidance on both techniques As tabulated below, two sessions of technical guidance on protein bank and grazing control were organized and a total of 61 members were participated in both sessions.</p> <table border="1"> <thead> <tr> <th rowspan="2">Session</th> <th colspan="5">Number of participants (Participation level)</th> </tr> <tr> <th>Bereliso</th> <th>Fakulau</th> <th>Raimerhei</th> <th>Kaitaso</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Technical guidance on protein bank</td> <td>11</td> <td>4</td> <td>7</td> <td>11</td> <td>33</td> </tr> <tr> <td>Technical guidance on biological control</td> <td>5</td> <td>7</td> <td>4</td> <td>12</td> <td>28</td> </tr> <tr> <td>Total</td> <td>16</td> <td>11</td> <td>11</td> <td>23</td> <td>61</td> </tr> </tbody> </table> <p>ii) Information dissemination about the biological control The NGO duplicated the posters and brochures of the biological control methods in coordination with MAF and provided them to the members.</p> <p>iii) Set-up of sign boards at demonstration plots for the biological control against Chlomoraena. With an aim to attract the attention of local communities and remind them not to burn the areas around the demonstration farms, a total of 4 sets of sign boards were set up at each demonstration plot.</p>	Session	Number of participants (Participation level)					Bereliso	Fakulau	Raimerhei	Kaitaso	Total	Technical guidance on protein bank	11	4	7	11	33	Technical guidance on biological control	5	7	4	12	28	Total	16	11	11	23	61
Session	Number of participants (Participation level)																														
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Total	16	11	11	23	61																										

**Table 3-2-2. Accomplishments of GCPBWPR-SP (As compared with the Objectives of the Sub-program)**

Objectives	Indicators	Accomplishments																		
<p><b>Objective</b> 1. A model for controlling Chlomoraena and reducing free grazing is developed in Suco Faturasa.</p>	<p>No. of demonstration plot established in suco</p>	<p>- Each group established one demonstration plot each for the protein bank and biological control. In total, eight (8) demonstration plots, two (2) plots each for a group were developed.</p> <p>- The demonstration plots for both techniques in the four (4) aldeias have not showed significant results yet so far. In those for the protein bank, the fodder crop (king grass) and trees (caliandra and gamal) did not grow well due to the lack of rain in the rainy season, poor soil condition in the demo plots, and poor planting materials procured.</p> <p>- In the demo plots for biological control, the growth condition of Chlomoraena did not apparently change during eight (8) months after inoculation of parasite galls. The nine (9) months may be not enough to expect to have the clear results from the biological control although there are many signs that larvae eclosed and laid eggs to other Chlomoraena.</p> <p>- From the point of view of developing a model for controlling Chlomoraena, it is hard to say that the sub-program was able to archive its target within the given time. Furthermore, the appropriateness of the techniques may need to be reconsidered since it might be difficult to keep <b>the attention</b> of local communities if significant visible results cannot be expected.</p>																		
<p><b>Outputs</b> 1. Develop the capacity of the members of control of Chlomoraena and development of protein bank</p>	<p>Level of understanding and application</p>	<p>- The levels of understandings and application of the techniques among the members were assessed by the questionnaire survey conducted in August 2009. The results of the survey are summarized below.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Level of understanding and application of the techniques</th> <th>Compost making</th> <th>Making and use of A-frame</th> <th>Application of soil conservation measures</th> <th>Planting of fodder trees/grasses</th> <th>Control of chromoralena using biological control measure</th> </tr> </thead> <tbody> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>4.6</td> <td>4.6</td> <td>4.4</td> <td>4.2</td> <td>3.6</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.8</td> <td>2.8</td> <td>3.0</td> <td>3.0</td> <td>2.6</td> </tr> </tbody> </table> <p>Note: &lt;1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand. &lt;2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied. Source: JICA Study Team (2009)</p> <p>- As shown in the above table, the members considered that they understood all the techniques except biological control measure.</p> <p>- Likewise, the members also judged that they could apply fully to partially all the techniques. Among others, more guidance and practices may need for biological control measure.</p>	Level of understanding and application of the techniques	Compost making	Making and use of A-frame	Application of soil conservation measures	Planting of fodder trees/grasses	Control of chromoralena using biological control measure	Level of understanding (1-5) <1	4.6	4.6	4.4	4.2	3.6	Level of application (1-3) <2	2.8	2.8	3.0	3.0	2.6
Level of understanding and application of the techniques	Compost making	Making and use of A-frame	Application of soil conservation measures	Planting of fodder trees/grasses	Control of chromoralena using biological control measure															
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Level of application (1-3) <2	2.8	2.8	3.0	3.0	2.6															
<p>2. Enhance Awareness raising of the effectiveness of the biological control measure among the community members</p>	<p>No. of wild fire at the demonstration plots</p>	<p>- No wild fire has been observed at the demonstration plots during the implementation of pilot projects. It is seemingly effect not only because of awareness raising activities done by the sub-program but also of the installation of village regulations.</p>																		

**Table 3-3-1. Accomplishments of CBSE-SP (Outputs generated by the Activities)**

Major Activities	Indicators	Accomplishments																																																								
1. Organization of the beneficiaries groups	Organized groups No of members of the groups	- Two beneficiaries' groups were organized in two aldeias, aldeia Berliso and aldeia Kaitaso, of suco Faturasa. The group of aldeia Bereliso consists of 44 members, while the group of aldeia Bereliso selected 40 members. Each group appointed one group leader, secretary and treasurer of the group and developed the group regulations defining the roles and responsibilities of the group members. - In March 2009, the group of aldeia Kaitaso divided the group into three (3) sub-groups to enable more members to participate in the group activities. In 2008, the participation of the members in the sub-program activities were not always high since many of them lived far from the demonstration plots.																																																								
2. Formulation of Work plan	1) Work plans 2) Workshops organized	- The NGO organized the planning workshop on February 20 and 21, 2008 with participation of 72 members from two groups. A work plan on the sub-program from March 2008 to August 2009 was prepared as a result of the workshop.																																																								
3. Study Tour to Quinta Portugal in District Aileu	No. of participants in the tour	- The NGO took 15 members to Quinta Portugal in District Aileu on February 14 and 15, 2008 to observe the test plots of improved varieties developed and managed by Seed of Life with MAF. Through the exposure visit, the members were able to deepen the understanding of the sub-program activities.																																																								
4. Hands on training on development and management of demonstration plots for improved seeds	No. of training courses No. of participants in the training courses (Participation level)	- Under the sub-program, a total of 12 training courses have been conducted between March 2008 and August 2009 with total participation of 786 members as shown below. <table border="1"> <thead> <tr> <th>Training courses</th> <th>Bereliso</th> <th>Kaitaso</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Training on land preparation</td> <td>40</td> <td>25</td> <td>65</td> </tr> <tr> <td>Training on compost making</td> <td>44</td> <td>44</td> <td>88</td> </tr> <tr> <td>Training on soil conservation</td> <td>49</td> <td>31</td> <td>80</td> </tr> <tr> <td>Training on compost application</td> <td>22</td> <td>35</td> <td>57</td> </tr> <tr> <td>Training on sowing seeds and planting</td> <td>44</td> <td>22</td> <td>66</td> </tr> <tr> <td>Training on preparation for liquid fertilizer</td> <td>40</td> <td>20</td> <td>60</td> </tr> <tr> <td>Training on farm maintenance</td> <td>48</td> <td>20</td> <td>68</td> </tr> <tr> <td>Training on planting seedlings</td> <td>48</td> <td>25</td> <td>73</td> </tr> <tr> <td>Training on application of liquid fertilizer</td> <td>37</td> <td>15</td> <td>52</td> </tr> <tr> <td>Training on harvest and post harvest</td> <td>40</td> <td>38</td> <td>78</td> </tr> <tr> <td>Follow-up training on compost making</td> <td>37</td> <td>39</td> <td>49</td> </tr> <tr> <td>Follow-up training on soil conservation</td> <td>39</td> <td>38</td> <td>50</td> </tr> <tr> <td>Total</td> <td>488</td> <td>298</td> <td>786</td> </tr> </tbody> </table> <p>Note*: Data is not available Source: USC Canada</p> <p>-The members of GCPBWPR-SP of the same aldeia also participated in the above-listed training sessions and vice-versa. -As shown in the table above, the participation level among the members of Kaitaso were lower than that of Berliso since many of them lived far from the demonstration plot.</p>	Training courses	Bereliso	Kaitaso	Total	Training on land preparation	40	25	65	Training on compost making	44	44	88	Training on soil conservation	49	31	80	Training on compost application	22	35	57	Training on sowing seeds and planting	44	22	66	Training on preparation for liquid fertilizer	40	20	60	Training on farm maintenance	48	20	68	Training on planting seedlings	48	25	73	Training on application of liquid fertilizer	37	15	52	Training on harvest and post harvest	40	38	78	Follow-up training on compost making	37	39	49	Follow-up training on soil conservation	39	38	50	Total	488	298	786
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Major Activities	Indicators	Accomplishments																																																																																
5. Assistance in the conducts management of crop farming	Crop production	<p>- Simultaneously with hands-on training, the NGO provided the following assistance to the beneficiaries' groups as well as individual members so that they could replicate the techniques that they had learned through the training courses.</p> <table border="1"> <thead> <tr> <th>Period</th> <th>Type of assistance</th> <th>Activities</th> <th>Timing</th> </tr> </thead> <tbody> <tr> <td rowspan="2">June 08 – Mar 09</td> <td>Material assistance</td> <td>Provision of farm tools Provision of seeds</td> <td>June 08 Oct. 08</td> </tr> <tr> <td>Technical assistance to members on demand</td> <td>Development and management of demonstration plots Assistance to the members to replicate techniques learnt at FFSs at their own farms Harvest of crops in the demonstration plots</td> <td>June 08-Mar 09 June 08-Mar 09 Feb.09</td> </tr> <tr> <td rowspan="2">April-Aug 09</td> <td>Material assistance</td> <td>Installation of corm mill</td> <td>April 09</td> </tr> <tr> <td>Technical assistance to members</td> <td>Maintenance of the demonstration plots Monitoring of demonstration plots for Chlomoraena</td> <td>May-Aug 09</td> </tr> </tbody> </table> <p>- The members produced upland crops in the demonstration plots as well as the individual plots with the assistance of the NGO in the last rainy season. The yields of the improved corn and peanut grown in the demonstration and individual plots were higher than those of local corn and peanut grown under the conventional farming practices as shown in the following tables.</p> <p><b>1) Crop Production under the conventional practices</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Crop</th> <th colspan="5">Local seeds with conventional practices</th> </tr> <tr> <th>Sample No.</th> <th>Ave. volume of seed (kg)</th> <th>Ave. Production (kg)</th> <th>Yield/ Seed Volume (kg)</th> <th>Average Vol. secured for next year (kg)</th> </tr> </thead> <tbody> <tr> <td>Corn</td> <td>3</td> <td>26.7</td> <td>325</td> <td>12.2</td> <td>27.5</td> </tr> <tr> <td>Peanuts</td> <td>2</td> <td>5</td> <td>35</td> <td>7.0</td> <td>5</td> </tr> <tr> <td>Cassava</td> <td colspan="5">Not yet harvested</td> </tr> <tr> <td>Red bean</td> <td>3</td> <td>1</td> <td>N.A*</td> <td>N.A*</td> <td>2</td> </tr> <tr> <td>Sweet Poteto</td> <td>N.A*</td> <td>N.A*</td> <td>N.A*</td> <td>N.A*</td> <td>N.A*</td> </tr> </tbody> </table> <p><i>Note*: Data not available</i> <i>Source: JICA Study Team (2009)</i></p> <p><b>2) Crop Production of local and improved varieties in the demonstration plots under the improved practices&lt;1</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Crop</th> <th colspan="5">Local</th> <th colspan="5">Improved</th> </tr> <tr> <th>Sam ple No.</th> <th>Ave. volume of seed (kg)</th> <th>Ave.Pro duction (kg)</th> <th>Yield/ Seed Volume (kg)</th> <th>Average Vol. secured for next</th> <th>Sam ple No.</th> <th>Ave. volume of seed (kg)</th> <th>Ave.Pro duction (kg)</th> <th>Yield/ Seed Volume (kg)</th> <th>Average Vol. secured for next</th> </tr> </thead> </table>	Period	Type of assistance	Activities	Timing	June 08 – Mar 09	Material assistance	Provision of farm tools Provision of seeds	June 08 Oct. 08	Technical assistance to members on demand	Development and management of demonstration plots Assistance to the members to replicate techniques learnt at FFSs at their own farms Harvest of crops in the demonstration plots	June 08-Mar 09 June 08-Mar 09 Feb.09	April-Aug 09	Material assistance	Installation of corm mill	April 09	Technical assistance to members	Maintenance of the demonstration plots Monitoring of demonstration plots for Chlomoraena	May-Aug 09	Crop	Local seeds with conventional practices					Sample No.	Ave. volume of seed (kg)	Ave. Production (kg)	Yield/ Seed Volume (kg)	Average Vol. secured for next year (kg)	Corn	3	26.7	325	12.2	27.5	Peanuts	2	5	35	7.0	5	Cassava	Not yet harvested					Red bean	3	1	N.A*	N.A*	2	Sweet Poteto	N.A*	N.A*	N.A*	N.A*	N.A*	Crop	Local					Improved					Sam ple No.	Ave. volume of seed (kg)	Ave.Pro duction (kg)	Yield/ Seed Volume (kg)	Average Vol. secured for next	Sam ple No.	Ave. volume of seed (kg)	Ave.Pro duction (kg)	Yield/ Seed Volume (kg)	Average Vol. secured for next
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Major Activities	Indicators	Accomplishments											
						year (kg)					year (kg)		
		Corn	2	5	362.5	72.5	112.5	2	5	400	80.0	87.5	
		Peanuts	2	15	412.5	27.5	62.5	2	10	391.5	39.2	41.5	
		Cassava	2	Not yet harvested				-	-	-	-	-	
		Soy bean	2	4.5	157.5	35.0	27.5	-	-	-	-	-	
		Red bean	2	6.5	232.5	35.8	25	-	-	-	-	-	
		Sweet Potato	2	7.5 bunches	Damaged			2	7.5 bunches	Damaged			
		<i>Source: JICA Study Team (2009)</i>											
		<i>Note: Improved practices means the farming practices introducing line planting, application of compost, and application of liquid fertilizer.</i>											
		<b>3) Crop Production of local and improved varieties in the individual plots</b>											
		Crop	Local					Improved					
			Sam ple No.	Ave. volume of seed (kg)	Ave.Pro duction (kg)	Yield/ Seed Volume (kg/ kg or cutting)	Average Vol. secured for next year (kg)	Sam ple No.	Ave. volume of seed (kg)	Ave.Pro duction (kg)	Yield/ Seed Volume (kg)	Average Vol. secured for next year (kg)	
		Corn	17	12.4	419	33.8	46	6	5.1	278.3	54.6	15	
		Peanuts	16	6.5	100.6	15.5	42.7	9	1.55	23.88	15.4	6.6	
		Cassava	8	Not yet harvested					-	-	-	-	-
		Soybean	11	3.5	45.9	13.1	8.6	-	-	-	-	-	
		Red bean	12	3.5	176.7	49.8	10.73	-	-	-	-	-	
		Sweet Potato	10	325	796	2.4	508.3	-	-	-	-	-	
		<i>Source: JICA Study Team (2009)</i>											
		<ul style="list-style-type: none"> <li>- All the crops grown under the improved farming practices in the demonstration plots showed good results.</li> <li>- The yields of improved corn and peanut are higher than those of their local ones in both demonstration and individual plots.</li> <li>- The results reveal that using the improved varieties along with the introduction of the improved farming practices could bring about the higher returns that would allow local communities to secure enough seeds for the next cropping.</li> <li>- Sweet potato planted in the demonstration plots was damaged due to lack of rain.</li> </ul>											

Major Activities	Indicators	Accomplishments
		- It is also speculated that some members may have applied the improved farming techniques in farming the upland crops along with the improved seeds as the yields of the crops grown in the individual plots are significantly higher than those under the conventional farming.
6. Construction of check dams	Size of gully erosion covered by the check dams	-There was a gully 10 meter long and 2~3 meter wide between the demonstration plots for the protein bank and community-based seed extension in Kaitaso. Since it might have further developed in the rainy season if it had been left as it was, the NGO together with the working group of GCPBWPR-SP and the group of CBSE-SP in Kaitaso constructed four (4) wattles in the gully using dead wood/trees in November 2008. The check dams installed have worked well on stopping the expansion of gully erosion.
7. Establishment of guidelines on the use of corn mill	Draft regulation prepared on corn mill operation	- From April to May 2009, the beneficiaries' groups and other community members of Faturasa had a series of discussions on how to operate and manage two units of corn mill provided by the sub-program. The communities decided to place one unit each at Berliso and Fakulao. The former unit has been used by communities in Berliso and the neighboring villages, while the latter has been used by communities in Fakulao, Remehei and Kaitaso. Furthermore, the communities in Berliso and Fakulao developed the rules and guidelines on corn mill operations. - The rules and guidelines on corn mill operations stipulates 1) composition of management body of corn mill, 2) roles and functions of the management body, 3) regular operating hours of the mill, 4) milling fees, and 5) allocation of earnings from the operations. - It was reported in the evaluation workshops in September, 2009 that the group of Berliso was able to generate USD 14 from the operations of corn mill.

**Table 3-3-2. Accomplishments of CBSE-SP (As compared with the Objectives of the Sub-program)**

Objectives	Indicators	Accomplishments
Objective 1. Participating farmers as well as the community can secure seeds of staple crops for the next	Volume of seeds deposited	- As shown in Table 3-3-1, the members could secure seeds of six (6) and seven (7) types of crops for the next cropping season at the demonstration plots and individual farms respectively. - However, non-members have not received the improved seeds yet, since the sub-program only assisted the members of the groups. The JICA Study Team judges that the original objective defined in the Interim Report is rather unrealistic or beyond the scope of the sub-program.

Objectives	Indicators	Accomplishments																														
cropping season.																																
<b>Output</b> 1. Develop capacities of the members to produce staple crops	Level of understanding and application	<p>- The levels of understandings and application of the techniques among the members were assessed by the questionnaire survey conducted in August 2009. The results of the survey are summarized below.</p> <table border="1"> <thead> <tr> <th>Level of understanding and application of the techniques</th> <th>Compost making</th> <th>Making and use of A-frame</th> <th>Application of soil conservation measures</th> <th>Land preparation including design of plot</th> <th>Selection of seeds</th> <th>Mono-cropping in line</th> <th>Farm management</th> <th>Harvest and post-harvest</th> <th>Storage of seeds</th> </tr> </thead> <tbody> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>4.1</td> <td>3.9</td> <td>3.9</td> <td>4.1</td> <td>4.2</td> <td>4.1</td> <td>4.1</td> <td>4.3</td> <td>4.2</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.9</td> <td>2.9</td> <td>2.9</td> <td>2.9</td> <td>2.9</td> <td>2.7</td> <td>2.8</td> <td>3.0</td> <td>3.0</td> </tr> </tbody> </table> <p>Note:            &lt;1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.            &lt;2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.            Source: JICA Study Team (2009)</p> <p>- As shown above, the members consider that they have well understood all the techniques. Likewise, they also judged them to be able to apply all the techniques in their own farms.            - However, the JICA Study Team believes that the groups still need the external support for them to acquire enough skills to follow what they have learned in the demonstration plots and to produce enough seeds for the next cropping.</p>	Level of understanding and application of the techniques	Compost making	Making and use of A-frame	Application of soil conservation measures	Land preparation including design of plot	Selection of seeds	Mono-cropping in line	Farm management	Harvest and post-harvest	Storage of seeds	Level of understanding (1-5) <1	4.1	3.9	3.9	4.1	4.2	4.1	4.1	4.3	4.2	Level of application (1-3) <2	2.9	2.9	2.9	2.9	2.9	2.7	2.8	3.0	3.0
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Level of application (1-3) <2	2.9	2.9	2.9	2.9	2.9	2.7	2.8	3.0	3.0																							



**Table 4-1-1. Accomplishments of SUFP-SP (Outputs generated by the Activities)**

Major Activities	Indicators	Accomplishments																																																																																															
1. Organization of the beneficiaries groups	Organized groups No of members of the groups	- Four (4) beneficiaries' groups were organized in suco Batara to establish one group each in aldeia (Fatuha, Wer-Ulun, Are-Ain, aldeia Balulin). Each group consists of 30 members and appointed one group leader, secretary and treasurer of the group. The groups developed the group regulations defining the roles and responsibilities of the group members.																																																																																															
2. Formulation of Work plan	1) Work plans 2)Workshops organized	- The NGO organized the planning workshop on February 20 and 21, 2008 with participation of 72 members from the four (4) groups. A work plan on the sub-program from March 2008 to August 2009 was prepared as a result of the workshop.																																																																																															
3. Study Tour to Suco Manelima in District Laclubar	No. of participants in the tour	- The NGO took 40 members of the groups to Suco Manelima in District Manatuto on February 15, 2008 to observe the farms with soil conservation measures and talk to farms who applied the techniques. Through the exposure visit, the members were able to deepen the understanding of the sub-program activities. Some members tried to apply the soil conservation measures they observed during the visit to their own farms.																																																																																															
4. Hands on training on sustainable upland agriculture and development of demonstration plot	No. of training courses No. of participants in the training courses (Participation level)	- Under the sub-program, each group has developed a demonstration plot. And 13 training courses have been conducted between March 2008 and August 2009 at each demonstration plot with total participation of 1,467 members as shown below.																																																																																															
		<table border="1"> <thead> <tr> <th rowspan="2">Training courses</th> <th colspan="5">No.of Participants</th> </tr> <tr> <th>Are-Ain</th> <th>Fatuha</th> <th>Wer-Ulun</th> <th>Balulin</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Training on how to make and use A-frame</td> <td>30</td> <td>30</td> <td>30</td> <td>30</td> <td>120</td> </tr> <tr> <td>Training on making bench terraces and contour composting systems</td> <td>28</td> <td>32</td> <td>19</td> <td>31</td> <td>110</td> </tr> <tr> <td>Training on land preparation (making bench terrace and contour compost systems)</td> <td>20</td> <td>30</td> <td>25</td> <td>30</td> <td>105</td> </tr> <tr> <td>Training on planting annual crops</td> <td>32</td> <td>36</td> <td>34</td> <td>37</td> <td>139</td> </tr> <tr> <td>Training on weeding, planting pineapple, fodder trees and peanuts, and digging hole</td> <td>25</td> <td>32</td> <td>29</td> <td>30</td> <td>116</td> </tr> <tr> <td>Training on planting potato, talo and preparation of materials for temporary fences</td> <td>28</td> <td>29</td> <td>26</td> <td>30</td> <td>113</td> </tr> <tr> <td>Training on pest management</td> <td>25</td> <td>30</td> <td>25</td> <td>28</td> <td>108</td> </tr> <tr> <td>Training on second weeding, planting seedlings such as orange and mahogany and harvesting red beans</td> <td>30</td> <td>30</td> <td>30</td> <td>30</td> <td>120</td> </tr> <tr> <td>Training on harvesting and post harvesting</td> <td>17</td> <td>30</td> <td>30</td> <td>30</td> <td>107</td> </tr> <tr> <td>Training on compost making</td> <td>29</td> <td>29</td> <td>26</td> <td>30</td> <td>114</td> </tr> <tr> <td>Follow-up training on soil conservation</td> <td>24</td> <td>26</td> <td>24</td> <td>28</td> <td>102</td> </tr> <tr> <td>Follow-up training on how to make and use A-frame</td> <td>26</td> <td>29</td> <td>24</td> <td>27</td> <td>106</td> </tr> <tr> <td>Follow-up training on terrace making</td> <td>27</td> <td>28</td> <td>23</td> <td>29</td> <td>107</td> </tr> <tr> <td><b>Total</b></td> <td><b>341</b></td> <td><b>391</b></td> <td><b>345</b></td> <td><b>390</b></td> <td><b>1,467</b></td> </tr> </tbody> </table>	Training courses	No.of Participants					Are-Ain	Fatuha	Wer-Ulun	Balulin	Total	Training on how to make and use A-frame	30	30	30	30	120	Training on making bench terraces and contour composting systems	28	32	19	31	110	Training on land preparation (making bench terrace and contour compost systems)	20	30	25	30	105	Training on planting annual crops	32	36	34	37	139	Training on weeding, planting pineapple, fodder trees and peanuts, and digging hole	25	32	29	30	116	Training on planting potato, talo and preparation of materials for temporary fences	28	29	26	30	113	Training on pest management	25	30	25	28	108	Training on second weeding, planting seedlings such as orange and mahogany and harvesting red beans	30	30	30	30	120	Training on harvesting and post harvesting	17	30	30	30	107	Training on compost making	29	29	26	30	114	Follow-up training on soil conservation	24	26	24	28	102	Follow-up training on how to make and use A-frame	26	29	24	27	106	Follow-up training on terrace making	27	28	23	29	107	<b>Total</b>	<b>341</b>	<b>391</b>	<b>345</b>	<b>390</b>	<b>1,467</b>
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5. Assistance in the conducts management of upland crop farms	Crops produced at 1) the demonstration plots and 2) Individual farms	<p>- Simultaneously with hands-on training, the NGO provided the following assistance to the beneficiaries' groups as well as individual members so that they could replicate the techniques that they had learned through the training courses.</p> <table border="1"> <thead> <tr> <th>Period</th> <th>Type of assistance</th> <th>Activities</th> <th>Timing</th> </tr> </thead> <tbody> <tr> <td rowspan="2">June 08 – Mar 09</td> <td>Material assistance</td> <td>Provision of farm tools Provision of seeds</td> <td>June 08 Nov-Dec. 08</td> </tr> <tr> <td>Technical assistance to members on demand</td> <td>Development and management of demonstration plots Assistance to the members to replicate techniques learnt at FFSs at their own farms Harvest of crops in the demonstration plots</td> <td>June 08-Mar 09 June 08-Mar 09 Feb-April.09</td> </tr> <tr> <td>April-Aug 09</td> <td>Technical assistance to members</td> <td>Maintenance of the demonstration plots Assistance to the members to replicate techniques learnt at FFSs at their own farms</td> <td>April-Aug 09</td> </tr> </tbody> </table> <p>- The beneficiaries' groups have produced crops at the demonstration plots and individual farms from May 2008 to August 2009 with the assistance of the NGO.</p> <table border="1"> <thead> <tr> <th rowspan="2">Crops</th> <th colspan="2">Fatuha</th> <th colspan="2">Wer-ulun</th> <th colspan="2">Are-ain</th> <th colspan="2">Balulin</th> </tr> <tr> <th>Product.</th> <th>Yield**</th> <th>Product.</th> <th>Yield**</th> <th>Product.</th> <th>Yield**</th> <th>Product.</th> <th>Yield**</th> </tr> </thead> <tbody> <tr> <td>Corn (bench terrace)</td> <td>50 kg</td> <td>39 kg</td> <td>50 kg</td> <td>44 kg</td> <td>75 kg</td> <td>68 kg</td> <td>50 kg</td> <td>29 kg</td> </tr> <tr> <td>Corn (compost terrace)</td> <td>100 kg</td> <td>66 kg</td> <td>100 kg</td> <td>87 kg</td> <td>30 kg</td> <td>23 kg</td> <td>90 kg</td> <td>57 kg</td> </tr> <tr> <td>Soybean (bench terrace)</td> <td>40 kg</td> <td>33 kg</td> <td>-</td> <td>-</td> <td>64 kg</td> <td>52 kg</td> <td>-</td> <td>-</td> </tr> <tr> <td>Soybean (compost terrace)</td> <td>80 kg</td> <td>45 kg</td> <td>75 kg</td> <td>66 kg</td> <td>80 kg</td> <td>68 kg</td> <td>75 kg</td> <td>45 kg</td> </tr> <tr> <td>Red bean (bench terrace)</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>26 kg</td> <td>7 kg</td> <td>-</td> <td>-</td> </tr> <tr> <td>Red bean (compost terrace)</td> <td>50 kg</td> <td>25 kg</td> <td>50 kg</td> <td>35 kg</td> <td>40 kg</td> <td>28 kg</td> <td>25 kg</td> <td>5 kg</td> </tr> <tr> <td>Sweet potato (bench terrace)</td> <td>N.A.*</td> <td>N.A.*</td> <td>N.A.*</td> <td>N.A.*</td> <td>N.A.*</td> <td>N.A.*</td> <td>30 kg</td> <td>1.5kg/bunch</td> </tr> <tr> <td>Sweet potato (compost terrace)</td> <td>N.A.*</td> <td>N.A.*</td> <td>30 kg</td> <td>1.5kg/bunch</td> <td>40 kg</td> <td>2.0kg/bunch</td> <td>15 kg</td> <td>1.5kg/bunch</td> </tr> <tr> <td>Peanut (bench terrace)</td> <td>18 kg</td> <td>10 kg</td> <td>N.A.*</td> <td>N.A.*</td> <td>75 kg</td> <td>40 kg</td> <td>15 kg</td> <td>7 kg</td> </tr> <tr> <td>Peanut (compost terrace)</td> <td>100 kg</td> <td>60 kg</td> <td>50 kg</td> <td>35 kg</td> <td>15 kg</td> <td>3 kg</td> <td>20 kg</td> <td>15 kg</td> </tr> </tbody> </table> <p>Note: * Data was not available. ** Yield is the productivity against the volume of seeds used.</p> <p>- In the demonstration plot, the crop yields in contour composting parcels are higher than those in bench terracing parcels.</p>	Period	Type of assistance	Activities	Timing	June 08 – Mar 09	Material assistance	Provision of farm tools Provision of seeds	June 08 Nov-Dec. 08	Technical assistance to members on demand	Development and management of demonstration plots Assistance to the members to replicate techniques learnt at FFSs at their own farms Harvest of crops in the demonstration plots	June 08-Mar 09 June 08-Mar 09 Feb-April.09	April-Aug 09	Technical assistance to members	Maintenance of the demonstration plots Assistance to the members to replicate techniques learnt at FFSs at their own farms	April-Aug 09	Crops	Fatuha		Wer-ulun		Are-ain		Balulin		Product.	Yield**	Product.	Yield**	Product.	Yield**	Product.	Yield**	Corn (bench terrace)	50 kg	39 kg	50 kg	44 kg	75 kg	68 kg	50 kg	29 kg	Corn (compost terrace)	100 kg	66 kg	100 kg	87 kg	30 kg	23 kg	90 kg	57 kg	Soybean (bench terrace)	40 kg	33 kg	-	-	64 kg	52 kg	-	-	Soybean (compost terrace)	80 kg	45 kg	75 kg	66 kg	80 kg	68 kg	75 kg	45 kg	Red bean (bench terrace)	-	-	-	-	26 kg	7 kg	-	-	Red bean (compost terrace)	50 kg	25 kg	50 kg	35 kg	40 kg	28 kg	25 kg	5 kg	Sweet potato (bench terrace)	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	30 kg	1.5kg/bunch	Sweet potato (compost terrace)	N.A.*	N.A.*	30 kg	1.5kg/bunch	40 kg	2.0kg/bunch	15 kg	1.5kg/bunch	Peanut (bench terrace)	18 kg	10 kg	N.A.*	N.A.*	75 kg	40 kg	15 kg	7 kg	Peanut (compost terrace)	100 kg	60 kg	50 kg	35 kg	15 kg	3 kg	20 kg	15 kg
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Major Activities	Indicators	Accomplishments
		<p>- This tendency may be caused by the difference in soil fertility between the parcels. The sub-surface soils were often mixed with the surface soils when bench terraces were made. In addition, the parcels of contour composting are located in the bottom of slope in general. Therefore, the soil fertility in contour composting parcels is considered higher than that in bench terrace parcels.</p> <p>- According to the NGO, 12 members have developed bench terraces and another 32 members have also introduced the contour composting method in their own farms as of August 2009.</p>

**Table 4-1-2. Accomplishments of SUFP-SP (As compared with the Objectives of the Sub-program)**

Objectives	Indicators	Accomplishments																																	
<p><u>Objective</u></p> <p>1. Develop a model for sustainable upland crop production in the village</p>	<p>- No. and area of farms with soil conservation measures</p>	<p>- A total of four (4) demonstration plots with application of bench terrace and contour composting practices in four (4) aldeias. They are used as venues for hands-on training for the members of the groups and also as the models for soil conservation measures (or upland farming techniques) for non-members in the village.</p> <p>- As mentioned in Table 4-1-1, a total of 12 bench terrace farms and 32 contour composting farms have been developed by the members as of August 2009.</p> <p>- It would take more time for many members of introduced the techniques in their own farms, but it is safe to say that the sub-program were able to develop the model for sustainable upland farming techniques in the village.</p>																																	
<p><u>Output</u></p> <p>1. Develop the capacity of the members to introduce sustainable upland farming technologies</p>	<p>Level of understanding and application</p>	<p>- The levels of understandings and application of the techniques among the members were assessed by the questionnaire survey conducted in August 2009.</p> <table border="1"> <thead> <tr> <th>Level of understanding and application</th> <th>Compost making</th> <th>Use of A-frame</th> <th>bench terracing</th> <th>contour composting</th> <th>Land preparation</th> <th>Selection of seeds</th> <th>Mono-cropping in line</th> <th>Farm management</th> <th>Harvest and post harvest</th> <th>Storage of seeds</th> </tr> </thead> <tbody> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>4.3</td> <td>4.4</td> <td>4.4 (n=23)</td> <td>4.4</td> <td>4.1</td> <td>4.8</td> <td>4.4</td> <td>4.3</td> <td>4.3</td> <td>4.3</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.3 (n=23)</td> <td>2.5</td> <td>2.4 (n=23)</td> <td>2.4</td> <td>2.1 (n=23)</td> <td>2.8</td> <td>2.4</td> <td>2.4</td> <td>2.4</td> <td>2.4</td> </tr> </tbody> </table> <p>Note: The number of samples is 24, unless specified with "n".</p> <p>&lt;1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.</p> <p>&lt;2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.</p> <p>- As shown in the tables above, the members considered that they understood almost all the techniques and would be able to apply them in their own farms.</p> <p>- In spite of the results shown above, the JICA Study Team judges that it would not be easy for them to develop</p>	Level of understanding and application	Compost making	Use of A-frame	bench terracing	contour composting	Land preparation	Selection of seeds	Mono-cropping in line	Farm management	Harvest and post harvest	Storage of seeds	Level of understanding (1-5) <1	4.3	4.4	4.4 (n=23)	4.4	4.1	4.8	4.4	4.3	4.3	4.3	Level of application (1-3) <2	2.3 (n=23)	2.5	2.4 (n=23)	2.4	2.1 (n=23)	2.8	2.4	2.4	2.4	2.4
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**Table 4-2-1. Accomplishments of IG/CS-SP (Outputs generated by the Activities)**

Major Activities	Indicators	Accomplishments																																																																																															
1. Organization of the beneficiaries groups	Organized groups No of members of the groups	- Four (4) women's groups were organized in suco Batara at a rate of one group per aldeia. Each aldeia selected 10 women as members and appointed one group leader, one sub-group leader, and secretary of the group. At the same time, the groups developed the group regulations and defined the roles and responsibilities of the group members. - The regulations of the group were reviewed and revised in June 2009 to enable the groups to manage the group funds and assets in a proper and transparent manner.																																																																																															
2. Formulation of Work plan	1) Work plans 2) Workshops organized	- The NGO organized the planning workshop on February 27 and 28, 2008 with participation of 37 members from four groups. A work plan on the sub-program from March 2008 to August 2009 was prepared as a result of the workshop.																																																																																															
3. Study Tour to Suco Manerima	No. of participants in the tour	- The NGO took of 25 members to Suco Manerima to observe the handicraft making (weaving) and vegetable gardening that are presently carried out by the communities of Maneriam. Through the exposure visit, the members were able to deepen the understanding of the sub-program activities.																																																																																															
4. Hands on training on vegetable farming, tais making, food processing, use of sewing machine, and business/financial management	No. of training courses No. of participants in the training courses (Participation level)	Under the sub-program, a total of 13 training courses have been conducted between March 2008 and August 2009 with participation of 664 members in total.																																																																																															
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		Training on business/financial management	N.A.	N.A.	N.A.	N.A.	41																																																																																										
		Training on use of sewing machine	10	10	10	10	40																																																																																										
		Training on food processing	10	10	10	10	40																																																																																										
		Training on tais making	12	12	10	11	45																																																																																										
		Follow-up training on compost making	11	17	15	9	52																																																																																										
Follow-up training on use of sewing machine	47	42	42	42	173																																																																																												
Training on land preparation with compost application	10	8	12	8	38																																																																																												
Follow-up training on financial management	7	10	9	8	34																																																																																												
Total	-	-	-	-	664																																																																																												
Source: USC Canada																																																																																																	
5..Marketing survey	No. of participants involved in the survey Organizations	- The market survey was carried out with participation of six (6) members of the groups from October 27 to 29, 2008. The participants interviewed the following market outlets (organizations and persons) to identify the current market conditions of the products/goods that the groups planned to produce in the sub-program. - Middlemen at bazaar at Laclubar - Church / Sub-district Administrative Office																																																																																															

Major Activities	Indicators	Accomplishments																																																																																																																																																
	visited	<ul style="list-style-type: none"> <li>- Supermarket in Dili</li> <li>- Tais market in Dili</li> <li>- School at Laclubar</li> </ul>																																																																																																																																																
6. Assistance in the conducts of the income generating activities, i.e., vegetable farming, tais making, food processing, and dress making	<ul style="list-style-type: none"> <li>1) Vegetables produced</li> <li>2) Tais made</li> </ul>	<p>- The women's groups have produced more than eight types of vegetables at the demonstration plots from May 2008 to August 2009 with the assistance of the NGO.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th colspan="5">Aldeia</th> </tr> <tr> <th>Vegetable produced</th> <th>Areain</th> <th>Balurin</th> <th>Werlulun</th> <th>Fatuha</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Green Mustard (bunch)</td> <td>40</td> <td>35</td> <td>NA</td> <td>45</td> <td>120</td> </tr> <tr> <td>Mustard (bunch)</td> <td>422</td> <td>498</td> <td>260</td> <td>343</td> <td>1,523</td> </tr> <tr> <td>Lettuce/Green salad (unit)</td> <td>300</td> <td>80</td> <td>NA</td> <td>8</td> <td>388</td> </tr> <tr> <td>Broccoli (units)</td> <td>NA</td> <td>NA</td> <td>208</td> <td>NA</td> <td>208</td> </tr> <tr> <td>Pechai (pechai)</td> <td>NA</td> <td>14</td> <td>NA</td> <td>NA</td> <td>12</td> </tr> <tr> <td>Cowpeas</td> <td>NA</td> <td>NA</td> <td>30 bundles</td> <td>0.5 sacks</td> <td>NA</td> </tr> <tr> <td>Red beans</td> <td>35 cups</td> <td>NA</td> <td>NA</td> <td>20 bundles</td> <td>NA</td> </tr> <tr> <td>Cabbage</td> <td>15</td> <td>10</td> <td>NA</td> <td>NA</td> <td>25</td> </tr> <tr> <td>Others*1</td> <td>NA</td> <td>Tomato 1 bucket</td> <td>Bitter melon 6 bundles</td> <td>Water spinach 4 bundles</td> <td>NA</td> </tr> </tbody> </table> <p>Note*1: Others are chilli, tomato, bitter gourd, egg plant, onion, garlic and soy bean</p> <p>- In addition to vegetables, the groups have also produced tais, clothes, and processed foods applying the techniques that they have learned through the training courses.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>IG activities</th> <th>Areain</th> <th>Balurin</th> <th>Werlulun</th> <th>Fatuha</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Tais making</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Small tais</td> <td>3 pcs</td> <td>4 pcs</td> <td>4 pcs</td> <td>3 pcs</td> <td>14 pcs</td> </tr> <tr> <td>Clothes</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Table cloths</td> <td>2 pcs</td> <td>1 pc</td> <td>1 pc</td> <td>2 pcs</td> <td>6 pcs</td> </tr> <tr> <td>- Shirt (repair)</td> <td>2 pcs</td> <td>1 pc</td> <td>1 pc</td> <td>2 pcs</td> <td>6 pcs</td> </tr> <tr> <td>- Shirt (new)</td> <td>2 pcs</td> <td>1 pc</td> <td>1 pc</td> <td>2 pcs</td> <td>6 pcs</td> </tr> <tr> <td>- Trouser (repair)</td> <td>2</td> <td>1 pc</td> <td>1 pc</td> <td>2 pcs</td> <td>6 pcs</td> </tr> <tr> <td>Processed foods</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Banana chips</td> <td>45 pcs</td> <td>50 pcs</td> <td>65 pcs</td> <td>45 pcs</td> <td>205 pcs</td> </tr> <tr> <td>- Cassava chips</td> <td>25 packs</td> <td>45 packs</td> <td>60 packs</td> <td>25 packs</td> <td>155 packs</td> </tr> <tr> <td>- Sweet potato chips</td> <td>30 packs</td> <td>40 packs</td> <td>35 packs</td> <td>25 packs</td> <td>130 packs</td> </tr> <tr> <td>- Fried peanut with egg</td> <td>30 packs</td> <td>30 packs</td> <td>40 packs</td> <td>30 packs</td> <td>130 packs</td> </tr> </tbody> </table>		Aldeia					Vegetable produced	Areain	Balurin	Werlulun	Fatuha	Total	Green Mustard (bunch)	40	35	NA	45	120	Mustard (bunch)	422	498	260	343	1,523	Lettuce/Green salad (unit)	300	80	NA	8	388	Broccoli (units)	NA	NA	208	NA	208	Pechai (pechai)	NA	14	NA	NA	12	Cowpeas	NA	NA	30 bundles	0.5 sacks	NA	Red beans	35 cups	NA	NA	20 bundles	NA	Cabbage	15	10	NA	NA	25	Others*1	NA	Tomato 1 bucket	Bitter melon 6 bundles	Water spinach 4 bundles	NA	IG activities	Areain	Balurin	Werlulun	Fatuha	Total	Tais making						Small tais	3 pcs	4 pcs	4 pcs	3 pcs	14 pcs	Clothes						- Table cloths	2 pcs	1 pc	1 pc	2 pcs	6 pcs	- Shirt (repair)	2 pcs	1 pc	1 pc	2 pcs	6 pcs	- Shirt (new)	2 pcs	1 pc	1 pc	2 pcs	6 pcs	- Trouser (repair)	2	1 pc	1 pc	2 pcs	6 pcs	Processed foods						- Banana chips	45 pcs	50 pcs	65 pcs	45 pcs	205 pcs	- Cassava chips	25 packs	45 packs	60 packs	25 packs	155 packs	- Sweet potato chips	30 packs	40 packs	35 packs	25 packs	130 packs	- Fried peanut with egg	30 packs	30 packs	40 packs	30 packs	130 packs
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Table 4-2-2. Accomplishments of IG/CS-SP (As compared with the Objectives of the Sub-program)

Objectives	Indicators	Accomplishments																								
1. Develop the capacity of the members of the women's groups	Level of understanding and application	- The levels of understandings and application of the techniques among the members were assessed by the questionnaire survey conducted in August 2009. The results are summarized as follows.																								
		<b>a. Vegetable Farming</b>																								
		<table border="1"> <thead> <tr> <th>Level of understanding and application of the techniques</th> <th>Compost making</th> <th>Land preparation</th> <th>Seedling production</th> <th>Transplanting</th> <th>Maintenance of farm</th> <th>Natural pesticide application</th> <th>Harvesting and Seed collection</th> </tr> </thead> <tbody> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>4.8</td> <td>4.8</td> <td>4.8</td> <td>4.5</td> <td>4.5</td> <td>1.3</td> <td>4.9</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.9</td> <td>3.0</td> <td>2.9</td> <td>2.9</td> <td>2.9</td> <td>1.1</td> <td>3.0</td> </tr> </tbody> </table>	Level of understanding and application of the techniques	Compost making	Land preparation	Seedling production	Transplanting	Maintenance of farm	Natural pesticide application	Harvesting and Seed collection	Level of understanding (1-5) <1	4.8	4.8	4.8	4.5	4.5	1.3	4.9	Level of application (1-3) <2	2.9	3.0	2.9	2.9	2.9	1.1	3.0
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		<b>b. Tais making</b>																								
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		Level of understanding (1-5) <1	2.9	4.6	4.5	4.6	2.5	3.8	4.1																	
		Level of application (1-3) <2	2.5	2.9	2.9	2.9	1.9	2.6	2.6																	
		<b>b. Food processing</b>																								
		<table border="1"> <thead> <tr> <th>Level of understanding and application of the techniques</th> <th>Cassava chips</th> <th>Steam cassava</th> <th>Taro chips</th> <th>Sweet potato chips</th> <th>Banana chips</th> <th>Fried peanut with eggs</th> <th>Fried mash potato</th> </tr> </thead> <tbody> <tr> <td>Level of understanding (1-5) &lt;1</td> <td>4.1</td> <td>4.4</td> <td>4.6</td> <td>4.6</td> <td>4.6</td> <td>3.3</td> <td>2.6</td> </tr> <tr> <td>Level of application (1-3) &lt;2</td> <td>2.6</td> <td>2.5</td> <td>2.6</td> <td>2.6</td> <td>2.7</td> <td>1.7</td> <td>1.4</td> </tr> </tbody> </table>	Level of understanding and application of the techniques	Cassava chips	Steam cassava	Taro chips	Sweet potato chips	Banana chips	Fried peanut with eggs	Fried mash potato	Level of understanding (1-5) <1	4.1	4.4	4.6	4.6	4.6	3.3	2.6	Level of application (1-3) <2	2.6	2.5	2.6	2.6	2.7	1.7	1.4
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<1: The level of understanding was evaluated by using 5-point rating, namely 5=very well understood, 4=well understood, 3=fairly understood, 2=less understood, and 1=did not understand.																										
<2: The level of application was evaluated in accordance with the following rating: 1=not applied, 2=partially applied, and 3=fully applied.																										
Source: JICA Study Team (2009)																										
- As shown in the tables above, the members consider that they have understood almost all the techniques except "natural pesticide application" in vegetable farming, "designing of letters and motifs" in Tais making, "making of fried peanut with eggs and fried mach potato" in food processing, and "measuring and cutting cloths" and "fixing of sewing machine" in the use of sewing machine.																										
- The same tendency is shown in the level of application of the techniques. The members have difficulties in application of the above-mentioned techniques. In particular, many members expressed that they still need training on making and application of natural pesticide.																										
2. Generate income of the	Income	- The women's groups have earned cash income of US\$ 87 ~ US\$ 163 from the sales of the products																								

Objectives	Indicators	Accomplishments																																				
group members	generated by the activities	<p>produced by the groups from April 2008 to August 2009, though actual amounts may be different from the figures reported here due to some missing data.</p> <table border="1"> <thead> <tr> <th>IG activities</th> <th>Areain</th> <th>Balurin</th> <th>Werlulun</th> <th>Fatuha</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Vegetables farming</td> <td>129</td> <td>111</td> <td>50</td> <td>62</td> <td>343</td> </tr> <tr> <td>Tais making</td> <td>8</td> <td>12</td> <td>10</td> <td>8</td> <td>38</td> </tr> <tr> <td>Clothes making/repairing</td> <td>15</td> <td>12</td> <td>8</td> <td>15</td> <td>50</td> </tr> <tr> <td>Food processing</td> <td>11</td> <td>15</td> <td>19</td> <td>11</td> <td>56</td> </tr> <tr> <td>Total</td> <td>163</td> <td>150</td> <td>87</td> <td>96</td> <td>487</td> </tr> </tbody> </table> <p>Source: JICA Study Team (2008 )(2009)</p> <ul style="list-style-type: none"> <li>- The groups decided not to merely share the earnings among the members, but to wisely use the money in a sustainable manner.</li> <li>- In line with such an agreement, the women's groups have used parts of the earnings to run micro credit schemes and kiosks at the village, so that the group members could enjoy the benefit of the group activities. The members can borrow money with low interest (10 % for three months) from the micro credit scheme and purchase grocery at kiosks on credit in case of emergencies.</li> </ul>	IG activities	Areain	Balurin	Werlulun	Fatuha	Total	Vegetables farming	129	111	50	62	343	Tais making	8	12	10	8	38	Clothes making/repairing	15	12	8	15	50	Food processing	11	15	19	11	56	Total	163	150	87	96	487
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3. Contributed to saving expenditures and time	Cost saved	<p>-The interview survey also revealed that parts of vegetables produced were also used for home consumption as summarized below.</p> <table border="1"> <thead> <tr> <th>Vegetable produced</th> <th>Areain</th> <th>Balurin</th> <th>Werlulun</th> <th>Fatuha</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Green Mustard (bunch)</td> <td>NA</td> <td>5</td> <td>NA</td> <td>5</td> <td>10</td> </tr> <tr> <td>Mustard (bunch)</td> <td>22</td> <td>208</td> <td>100</td> <td>105</td> <td>435</td> </tr> <tr> <td>Lettuce (units)</td> <td>150</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>150</td> </tr> <tr> <td>Broccoli (units)</td> <td>NA</td> <td>NA</td> <td>200</td> <td>NA</td> <td>200</td> </tr> <tr> <td>Others</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table> <p>Source: JICA Study Team (2009) Note: NA: Data not available</p> <ul style="list-style-type: none"> <li>-The women's groups also reported that food processing and cloth repairing were also effective in saving their expenses.</li> <li>- Micro credit and kiosk operations have contributed to stabilizing of household economy. Thanks to those activities, the members do not need to sell their livestock or assets even under unfavourable conditions such as crop failure, or in case of emergencies, since they can either borrow money from the micro credit or purchase groceries at kiosk on credit.</li> </ul>	Vegetable produced	Areain	Balurin	Werlulun	Fatuha	Total	Green Mustard (bunch)	NA	5	NA	5	10	Mustard (bunch)	22	208	100	105	435	Lettuce (units)	150	NA	NA	NA	150	Broccoli (units)	NA	NA	200	NA	200	Others	NA	NA	NA	NA	NA
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**Table 5-1-1 Accomplishments of PAC-SP (Outputs generated by the Activities)**

Major Activities	Indicators	Accomplishments
1. Organization of the beneficiaries groups	Organized groups No of members of the groups	- Two target groups were organized in Suco Samalete for implementation of PAC-SP. One group consists of 63 children of primary school of the village, namely, 20 from grade III and 43 from grade IV. And the other group was composed of 30 adults, such as members of suco council and core members of TPP-SP of the same village.
2. Awareness Survey	Survey conducted	<p>- The Study Team together with the counterparts from NDF and district MAF, conducted a questionnaire survey to grasp the awareness level among the members of target groups in July, 2008. The Study Team interviewed a total of 33 children and 21 adults using questionnaire form.</p> <p>- The result of the survey is highlighted below.</p> <ul style="list-style-type: none"> <li>➤ The adults replied that the conditions of forests and springs in the village have been getting worse for the last decade, pointing out that the area covered with forests in the village has diminished and the volume of water from the springs has become scarce.</li> <li>➤ Also, many students replied that the conditions of forest and springs in the village would be negatively changed 10 years later from now. Specifically, they expected that the number of trees and plants in forest would decrease.</li> <li>➤ Although almost all the adults were aware of their responsibility of reserving forests and protecting water resources for their descendants, they considered that it was not easy for them to fulfill their responsibility due to ineffectiveness of Tara Bandu as well as limited knowledge and experience of any environmentally protective measures.</li> <li>➤ The children gain most of information related to environmental issues at school from teachers and informative materials.</li> <li>➤ The adults recommended that the PAC workshop targeted on children should focus on the following topics: such as 1) how to plant trees, 2) importance of Tara-bandu Regulations and 3) importance of protection of forest and water resources.</li> </ul> <p>- Based on the results of the awareness survey, the topic focused by the sub-program was selected as importance of forest and water resources.</p>
3. Presentation of work schedule of PAC to the community	Meeting organized	- The Study Team organized a meeting on July 23 to present the overall work schedule of PAC activities to target adults. A total of 22 adults participated in the meeting and agreed to the proposed activities of PAC and its work schedule.
4. Development of the PAC materials (1)	Material prepared	- In October 2008, the Study Team developed a picture book on the importance of forest and water resources. And the Team presented the picture book to ten of the target children on trial on October 23, 2008 to validate its effectiveness.



Major Activities	Indicators	Accomplishments																																
5. Organization of workshops for awareness raising	Workshops implemented and No. of participants	<p>-Under the sub-program, five workshops were organized during June and August, 2009 with 480 participants in total as shown in the following table.</p> <table border="1"> <thead> <tr> <th colspan="4">Number of participants at workshops</th> </tr> <tr> <th>Workshops organized</th> <th>Children</th> <th>Adults</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Workshop on Picture Show and Drawing Festival</td> <td>63</td> <td>-</td> <td>63</td> </tr> <tr> <td>Workshop on Presentation of Drawings</td> <td>55</td> <td>22</td> <td>77</td> </tr> <tr> <td>Workshop on Village Regulation-1 Dialogue between the children and council members of the village</td> <td>63</td> <td>59</td> <td>122</td> </tr> <tr> <td>Workshop on Village Regulation-2 Participation in Tara Bandu ceremony presenting children's drawings</td> <td>63</td> <td>46</td> <td>109</td> </tr> <tr> <td>Workshop on Village Regulation-3 Recapturing of the Tara Bandu ceremony</td> <td>63</td> <td>46</td> <td>109</td> </tr> <tr> <td><b>Total</b></td> <td>307</td> <td>173</td> <td>480</td> </tr> </tbody> </table> <p>Source: JICA Study Team</p> <ul style="list-style-type: none"> <li>- As shown above, the 1<sup>st</sup> workshop on picture show and drawing festival targeted only the children while remaining workshops involved both children and adult groups.</li> <li>- The participation level among the target members has been high throughout the workshops implemented by the sub-program.</li> </ul>	Number of participants at workshops				Workshops organized	Children	Adults	Total	Workshop on Picture Show and Drawing Festival	63	-	63	Workshop on Presentation of Drawings	55	22	77	Workshop on Village Regulation-1 Dialogue between the children and council members of the village	63	59	122	Workshop on Village Regulation-2 Participation in Tara Bandu ceremony presenting children's drawings	63	46	109	Workshop on Village Regulation-3 Recapturing of the Tara Bandu ceremony	63	46	109	<b>Total</b>	307	173	480
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6. Development of the PAC materials (2)	Material prepared	<p>- Between October and December 2009, the Study Team prepared a calendar for 2010 using the drawings prepared by the children at the workshop on picture show and drawing festival. The calendar was to be distributed to the target members of PAC and the entire house holds in Suco Samalete so that the villagers can share the idea of children about natural resources in the community and remind their responsibility for the next generation to make rational use of natural resources.</p>																																

**Table 5-1-2 Accomplishments of PAC-SP (As compared with the Objectives of the Sub-program)**

Objectives	Indicators	Accomplishments																					
Objective 1. Foster awareness among villagers on sustainable natural resources management	Perception of condition of natural resources among the target groups	<p>- The sub-program aimed to facilitate target members to consider present and future condition of natural resources, especially forest and water resources in the community and necessary measures to be taken to realize sustainable natural resource management based on understanding of the value of natural resources.</p> <p>- The perception of future condition of forest and water resources by the target members were assessed by the questionnaire survey conducted in August 2009.</p> <table border="1"> <thead> <tr> <th rowspan="2">Topics</th> <th colspan="2">Children</th> <th colspan="2">Adults</th> </tr> <tr> <th>Answers (Percentage of respondents)</th> <th>Reason</th> <th>Answers (Percentage of respondents)</th> <th>Reason</th> </tr> </thead> <tbody> <tr> <td>Condition of forest area after 10 years</td> <td>- More trees and plants (100%)</td> <td>- Can start tree plantation from now. - Already prepared nurseries for plantation of trees. - NGO/JICA supported the adults to prepare nurseries and plant trees. - Protection of environment is understood.</td> <td>- More trees and plants (100%)</td> <td>- Can plant trees in the bare land - Can protect trees - Can stop firing land</td> </tr> <tr> <td rowspan="2">Condition of water in the spring after 10 years</td> <td>- More water in the springs (83%)</td> <td>- Water can be conserved by planting trees</td> <td rowspan="2">- More water in the springs (100%)</td> <td rowspan="2">- Water can be conserved by planting and protecting trees around the spring, and stopping firing land</td> </tr> <tr> <td>- No change (17%)</td> <td>- More villagers will use the water due to increase of population in the village.</td> </tr> </tbody> </table> <p>- In comparison with the results of awareness survey conducted at the beginning of the sub-program as shown in the Table 5-1, the children have positive image of future condition of forest and water resources in the village after implementation of the sub-program.</p> <p>- Generally, the members consider that the condition of forest and water can be changed positively in 10 years due to their initiatives such as planting and protecting trees, and stopping to fire the land.</p>	Topics	Children		Adults		Answers (Percentage of respondents)	Reason	Answers (Percentage of respondents)	Reason	Condition of forest area after 10 years	- More trees and plants (100%)	- Can start tree plantation from now. - Already prepared nurseries for plantation of trees. - NGO/JICA supported the adults to prepare nurseries and plant trees. - Protection of environment is understood.	- More trees and plants (100%)	- Can plant trees in the bare land - Can protect trees - Can stop firing land	Condition of water in the spring after 10 years	- More water in the springs (83%)	- Water can be conserved by planting trees	- More water in the springs (100%)	- Water can be conserved by planting and protecting trees around the spring, and stopping firing land	- No change (17%)	- More villagers will use the water due to increase of population in the village.
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Objectives	Indicators	Accomplishments																		
<p><u>Output</u> 1. Enhance understanding on importance of natural resource management among the villagers</p>	<p>Level of understanding of topics</p>	<p>- The activities under the sub-program covered topics such as i) importance of forest and water resources, ii) future condition of forest and water resources in the village, and iii) village regulation as a measure for natural resources management in the village.</p> <p>- The questionnaire survey conducted in August 2009 also evaluated if the target members could understand the above-mentioned topics by the approaches taken in the workshops organized under the sub-program. The results are summarized below.</p> <p>1) Results of understanding among the children</p> <table border="1"> <thead> <tr> <th>Topics</th> <th>Answers (Percentage of respondents)</th> <th>Reason/findings at the workshops in the sub-program</th> </tr> </thead> <tbody> <tr> <td>Could understand the importance of forest to conservation of water resources by the picture show?</td> <td>Yes (100%)</td> <td>-Picture book helped understanding on the function of forest - Picture book implied not to cut trees to protect water</td> </tr> <tr> <td>Could have more interest in future condition of natural resources such as forest and water in the village through preparation of the drawing?</td> <td>Yes (100%)</td> <td>- Could draw future of the village - The drawing activity facilitated them to understand importance of forest and water in the village - The activity helped them to understand importance to protect natural resources</td> </tr> <tr> <td>Could understand the village regulation through explanation by the adults?</td> <td>Yes (100%)</td> <td>- Regulation will support the community. - Regulation will conserve natural resources - The villagers need to have the regulation. - The villagers should follow the regulation - The regulation can impose a penalty to the violator.</td> </tr> </tbody> </table> <p>Note: The number of samples is 12.</p> <p>2) Results of understanding among the adults</p> <table border="1"> <thead> <tr> <th>Topics</th> <th>Answers (Percentage of respondents)</th> <th>Reason/findings at the workshops in the sub-program</th> </tr> </thead> <tbody> <tr> <td>Could understand the future vision of natural resources by the children through presentation of the drawings?</td> <td>Yes (100%)</td> <td>- The activity reminded adults to protect natural resources, stop cutting trees and firing in the village. - At the session, the adults realized that children could express about their future</td> </tr> </tbody> </table>	Topics	Answers (Percentage of respondents)	Reason/findings at the workshops in the sub-program	Could understand the importance of forest to conservation of water resources by the picture show?	Yes (100%)	-Picture book helped understanding on the function of forest - Picture book implied not to cut trees to protect water	Could have more interest in future condition of natural resources such as forest and water in the village through preparation of the drawing?	Yes (100%)	- Could draw future of the village - The drawing activity facilitated them to understand importance of forest and water in the village - The activity helped them to understand importance to protect natural resources	Could understand the village regulation through explanation by the adults?	Yes (100%)	- Regulation will support the community. - Regulation will conserve natural resources - The villagers need to have the regulation. - The villagers should follow the regulation - The regulation can impose a penalty to the violator.	Topics	Answers (Percentage of respondents)	Reason/findings at the workshops in the sub-program	Could understand the future vision of natural resources by the children through presentation of the drawings?	Yes (100%)	- The activity reminded adults to protect natural resources, stop cutting trees and firing in the village. - At the session, the adults realized that children could express about their future
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Objectives	Indicators	Accomplishments		
		<p>The presentation of drawings and following discussion with children helped you to consider the necessary measures for natural resource management for future?</p>	<p>Yes (100%)</p>	<p>- The activities made them to think about the measures to be taken such as planting trees, protection of trees and compliance with the village regulation.</p>
<p>Note: The number of samples is 6.</p> <ul style="list-style-type: none"> <li>- As shown in the tables above, the members consider that they could deepen understanding on all the topics discussed at the workshops.</li> <li>- Although the workshops mainly targeted the children, the adults attended the workshops also deepened their understanding on importance of natural resources and realized the necessity of taking proper measures for natural resource management.</li> </ul>				

***Appendix I-4-1***  
***Results of Evaluation***  
***of the Sub-programs of the Pilot Projects***  
***in accordance with DAC's five Evaluation Criteria***  
***and Implementation Process of the Sub-programs***

**Table 1-1-1 Appropriateness of the Implementation Process**

Objectives	Accomplishments																																																																																							
Appropriateness of the process	<p>- The members evaluated the process of the sub-program implementation from the viewpoints of satisfaction level of training courses, approaches taken in the sub-program implementation and work relationship with the NGO and Study Team. In general, the members were satisfied the implementation process of the sub-program except “group organization” and “making group regulations.” Feeling of unfairness caused by existence of inactive members who have rarely participated in the project activities yet demanded their shares is considered the major reason why the members evaluated such topics (group organization and making group regulation) unsatisfactory.</p> <table border="1"> <thead> <tr> <th>Aspect</th> <th>Evaluation by members (Score &lt;1 and % of Positive Ans.&lt;2)</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>Training courses</td> <td>3.9</td> <td></td> </tr> <tr> <td>Content</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Time frame</td> <td>Fully satisfied</td> <td>n=10</td> </tr> <tr> <td>Timing</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Techniques</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Frequency</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Management</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Facilitator</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Food</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Techniques introduced / demonstrated</td> <td>3.9</td> <td></td> </tr> <tr> <td>Compost making</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Land preparation</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Nursery establishment</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Soil prep and soil filling</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Seed preparation</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Sowing seeds in seed beds</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Transplanting</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Watering &amp; 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App-1-4-1-1

Objectives	Accomplishments					
	Time for planning	Satisfied				
	Group organization	Rather unsatisfied				
	Making regulations	Unsatisfied				
	FFS	Fully satisfied				
	Deployment of staff	Fully satisfied				
	No cash payment	Fully satisfied	n=11			
	Work relationship	3.8				
	- with local staff of NGO	Satisfied				
	- with field staff of NGO	Fully satisfied				
	- with MAF	Fully satisfied				
	- with JICA Study Team	Fully satisfied				
	<p>Note:            The number of sample is 12, unless specified with "n."            &lt;1: The level of satisfaction was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= was not satisfied.            &lt;2: The proportion of the positive answer against the total number of the positive and negative answers.            Source: JICA Study Team (2009)</p>					

**Table 1-1-2 Evaluation of the Performance of TPP-SP (based on the five criteria, such as relevance, effectiveness, efficiency, impact, and sustainability)**

Objectives	Evaluation
1. Relevance	
1.1 Relevance with the needs of the target groups	- The sub-program was selected by local communities, especially male members, in November 2007. The major aims of the communities were to recover the forest cover to ensure stable flow of quality water in natural spring in the village and to expand the potential areas for coffee production. Hence, planting trees is considered relevant to the needs of local communities, though it may not directly meet the needs of the communities.
1.2 Relevance with the watershed management plan	- Deforestation or forest degradation is the main phenomenon of the watershed degradation. Tree planting can rehabilitate the deforested areas and will directly contribute to the improvement of the target watersheds.
2. Effectiveness	
2.1 Achievement of sub-program objectives	<p>- The main objective of the sub-program is to expand the forest cover in the village through the capacity development of local communities to produce and plant seedlings and the protection of planted seedlings by introduction of the local regulations. As described in Table 1-1-2, the beneficiaries' groups were able to plant 16,646 seedlings, of which 15,124 seedlings were confirmed alive as of August 2009.</p> <p>- The seedlings planted under the sub-program have been protected from wildfire and illegal cutting owing to the revival of Tara Bandu with the written village regulations.</p> <p>- It is safe to say that the sub-program were able to achieve its objective at a certain level. But there is still a need to develop the capacities of the beneficiaries' groups to enable them to produce seedlings sustainably even after the end of the pilot project.</p>
2.2 Logical relation between the activities and sub-program objectives	<p>- The sub-program comprises of the following activities:</p> <ul style="list-style-type: none"> <li>➤ Installation of watering systems</li> <li>➤ Hands-on training courses (FFSs) on seedling production and planting trees</li> <li>➤ Technical assistance to individual members</li> <li>➤ Provision of farm tools for planting seedlings</li> <li>➤ Development of the village regulations in writing and revival of Tara Bandu</li> </ul> <p>In the design of the sub-program, the members can go through all the processes for seedling production and planting seedlings. It is expected that the members who participate in the sub-program actively could develop their capacities to establish new plantations.</p>
2.3 Any external factors that affected the project implementation	<p>- The following activities or external factors affected the participation of the group members in the project and eventually affected the progress of the project.</p> <ul style="list-style-type: none"> <li>➤ Traditional activities, such as Koremetan and Uma lulic</li> <li>➤ Government projects</li> </ul>



Objectives	Evaluation																												
	<ul style="list-style-type: none"> <li>➤ Weak leadership of the village</li> <li>- Furthermore, the following factors directly affected the accomplishment of the project.</li> <li>➤ Shortage of rainfall</li> <li>➤ Stealing of seedlings in the nurseries</li> <li>➤ Land dispute</li> <li>➤ Straying animal</li> </ul>																												
<p>3. Efficiency</p> <p>3.1 Inputs made by NGO</p>	<p>- The effectiveness and efficiency of major inputs made by the NGO for implementation of the sub-program were also evaluated as follows.</p> <table border="1"> <thead> <tr> <th>Inputs</th> <th>Timing</th> <th>Cost</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1. Staff allocation</td> <td>Allocated as planned, but the number of staff was not sufficient in a certain period.</td> <td>Half as much as planned</td> <td>Amount of basic salary was lower than estimated in accordance with the work experiences of staffs recruited.</td> </tr> <tr> <td>2. Installation of watering system</td> <td>Behind the schedule</td> <td>Twice as much as planned</td> <td>Some materials were procured additionally.</td> </tr> <tr> <td>3. Provision of farm tools</td> <td>Provided as planned</td> <td>Slightly lower than planned</td> <td>Inactive members were not given the farm tools.</td> </tr> <tr> <td>4. Training</td> <td>Organized as planned</td> <td>Half as much as planned</td> <td>Some training courses were integrated into one course.</td> </tr> <tr> <td>5. Assistance in nursery operations</td> <td>Provided as planned</td> <td>Three times as much as planned</td> <td>Consumptions for members working in the nurseries were borne by the NGO.</td> </tr> <tr> <td>6. Development of the village regulations and Tara Bandu ceremony</td> <td>Organized as planned</td> <td>As planned</td> <td>-</td> </tr> </tbody> </table> <p style="text-align: center;">Source: JICA Study Team (2009)</p> <ul style="list-style-type: none"> <li>- Installation of water system was delayed since the contract between the NGO and JICA Study Team in 2008 was delayed. Such delay partially caused the delay in seedling production in 2008. Almost all the activities other than the installation of water system were carried out as originally planned.</li> <li>- The expenditures for training activities were half as much as originally planned, since some training courses were not conducted at aldeia level but integrated into one session at suco level due to limited participation.</li> <li>- On the other hand, the expenditure used for nursery operations became three times as much as planned. The NGO had to shoulder all the consumptions for the members participating in the nursery operations, though it was agreed by both the beneficiaries' groups and the NGO that the consumptions for daily activities should be shouldered by the groups.</li> </ul>	Inputs	Timing	Cost	Remarks	1. Staff allocation	Allocated as planned, but the number of staff was not sufficient in a certain period.	Half as much as planned	Amount of basic salary was lower than estimated in accordance with the work experiences of staffs recruited.	2. Installation of watering system	Behind the schedule	Twice as much as planned	Some materials were procured additionally.	3. Provision of farm tools	Provided as planned	Slightly lower than planned	Inactive members were not given the farm tools.	4. Training	Organized as planned	Half as much as planned	Some training courses were integrated into one course.	5. Assistance in nursery operations	Provided as planned	Three times as much as planned	Consumptions for members working in the nurseries were borne by the NGO.	6. Development of the village regulations and Tara Bandu ceremony	Organized as planned	As planned	-
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3.2 Level of achievement	- Hands-on training courses were considered effective in enhancement of knowledge and skills of participants. However, not																												

Objectives	Evaluation															
of outputs and sub-program objectives as compared with the inputs	<p>all the members were able to acquire the skills needed for seedling production and tree planting, since the significant number of the members did not actively participate in the hands-on training courses.</p> <ul style="list-style-type: none"> <li>- Limited participation of the members in the nursery operations also caused some loss of seedlings in the nurseries. Such loss could have been avoided if the members had periodically maintained the seedlings.</li> <li>- One of the constraints on the improvement of members' participation level was the weak leadership of the village leaders (chef de suco and chef de aldeia). The encouragement by the village leaders to facilitate the members' participation has been limited during the implementation of the pilot project.</li> <li>- Given the difficulty that the sub-program has faced in facilitation of the members' participation in the sub-program activities, especially in the process of seedling production, the Study Team judges that the nursery operations have not been necessarily implemented efficiently.</li> </ul>															
4. Impact																
4.1 Positive impact	<ul style="list-style-type: none"> <li>- A series of hands-on training courses enabled the members to acquire techniques and skills on producing and planting seedlings.</li> <li>- Implementation of the village regulations and/or revival of Tara Bandu has contributed to improving the peace and order situations of the village and protecting the individual assets of local households.</li> </ul>															
4.2 Negative impact	<ul style="list-style-type: none"> <li>- The members who have participated in the project activities have lost the opportunities to earn cash income from other government projects.</li> </ul>															
5. Sustainability																
5.1 Government support	<ul style="list-style-type: none"> <li>- NDF intends to keep supporting the target village in seedling production by providing materials and technical assistance from time to time. However, the government initiatives are still uncertain since there is no clear plan in the government to support the target village after the pilot project.</li> </ul>															
5.2 Capacity of the groups	<ul style="list-style-type: none"> <li>- Some members, particularly core members, of the groups have gone through the whole process from seedling production to tree planting. They have developed their capacity to produce and plant seedlings on a certain level, although they may still need more field practices to acquire knowledge and skills, especially on how to cope with diseases of seedlings.</li> <li>- In the questionnaire survey done in August 2009, the members showed their willingness to continue the seedling production by either a group or individuals as shown below.</li> </ul> <table border="1"> <thead> <tr> <th>Willingness</th> <th>Rate &lt;1</th> <th>Why willing to continue</th> <th>Any hindrance</th> <th>Necessary assistance</th> </tr> </thead> <tbody> <tr> <td>Production by group</td> <td>3.6</td> <td>Useful for the future Continue to complete and attain the results</td> <td>Lack of support from chef de suco Overlap with other works</td> <td>Poly bags, Seeds, and Techniques</td> </tr> <tr> <td>Production by individuals</td> <td>3.5</td> <td>Prepare for the future</td> <td>Lack of fund, manpower or location</td> <td>Poly bags, Seeds, and Water</td> </tr> </tbody> </table> <p>Note: "n" means the number of samples collected &lt;1: The level of impact was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= no impact</p>	Willingness	Rate <1	Why willing to continue	Any hindrance	Necessary assistance	Production by group	3.6	Useful for the future Continue to complete and attain the results	Lack of support from chef de suco Overlap with other works	Poly bags, Seeds, and Techniques	Production by individuals	3.5	Prepare for the future	Lack of fund, manpower or location	Poly bags, Seeds, and Water
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Objectives	Evaluation
	<p>Source: JICA Study Team (2009)</p> <ul style="list-style-type: none"> <li>- Since many members of the beneficiaries' groups have interest in working with other projects for earning cash, it would not be easy for the beneficiaries' groups to continue the project activities without having any external support and facilitation. Such tendency will be maintained under the current leadership of the village.</li> <li>- On the other hand, the members evaluated that they have understood almost all the techniques on planting trees except designing and seed preparation as shown in Table 1-1-2. Based on the field observation, the JICA Study Team judges that the members would have less difficulty in planting seedlings in their own farms, through many of them may not adequately tend seedlings after planting.</li> <li>- It is considered that the beneficiaries' groups might not continue the sub-program activities as a group without any external assistance, though some of them showed their willingness to keep continuing the sub-program activities. In fact, many members seem to regard the nursery operations as laborious and time consuming.</li> </ul>
5.3 Coordination with the NGO	- The NGO, Halarae Foundation, has no plan to provide technical and managerial assistance to local communities in the target village after the pilot project.
5.4 Coordination with other organizations	- There is no coordination or linkage with other organizations made so far.
5.5 Financial aspect	- It would be rather difficult for the beneficiaries' groups to undertake the same activities without financial support after the pilot project. In particular, the groups may need support in the procurement of seeds of trees and poly bags.

**Table 1-1-3 Lessons learned**

Lessons learned	Stage	Descriptions
Participatory planning	Planning	- The participatory planning was effective in deepening the members' understanding of the sub-program activities. The process of the participatory planning was good opportunity for the communities and the NGO to share the ideas of the sub-program.
Low participation	Implementation	- The level of participation of the members in the project activities was not always high. In particular, the participation in nursery operations, such as filling soils in poly bags, watering and weeding, was limited. Many members preferred to engage in other government projects that pay for the work. Strong leadership or support from the village leaders is necessary for improvement of the such situation.
Combination with the formulation of Tara Bandu regulations	Implementation	- Incorporation of the implementation of the village regulations into the sub-program activities was effective in protecting the seedlings planted from wildfire, stealing, and animal damage. The sub-program should be combined with the formulation of the village regulations.
Deployment of field staff	Implementation	- Deployment of the field staff was effective in building a trustful relationship with local communities. Field coordinator/s should be posted in the field during the implementation of the sub-program.
Hands-on training / FFS	Implementation	- By hands-on training courses or FFSs, the members were able to practice and go through all the techniques

Lessons learned	Stage	Descriptions
approach		on seedling production and tree planting in the field. FFS approach should be employed as a main scheme to develop the capacity of the members.

**Table 1-2-1 Appropriateness of the Implementation Process**

Objectives	Accomplishments																																																																																																
Appropriateness of the process	<p>- The members evaluated the process of the sub-program implementation from the viewpoints of satisfaction level of training courses, approaches taken in the sub-program implementation and work relationship with the NGO. In general, the members appreciated the implementation process of the sub-program except group organization and making group regulations. Less participation of the members in the project activities is the major reason why the members evaluated group organization and making group regulations unsatisfactory.</p> <table border="1"> <thead> <tr> <th>Aspect</th> <th>Evaluation by members (Score &lt;1 and % of Positive Ans.&lt;2)</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>Training courses</td> <td>3.9</td> <td></td> </tr> <tr> <td>Content</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Time frame</td> <td>Satisfied</td> <td></td> </tr> <tr> <td>Timing</td> <td>Satisfied</td> <td></td> </tr> <tr> <td>Techniques</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Frequency</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Management</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Facilitation</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Food</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Others (training material)</td> <td>Fully satisfied</td> <td>n=1</td> </tr> <tr> <td>Techniques introduced / demonstrated</td> <td>4.1</td> <td></td> </tr> <tr> <td>Compost</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Land Preparation</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Seedling &amp; Nursery</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Transplanting</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Maintenance of farm</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Natural pesticide</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Liquid fertilizer</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Harvesting &amp; seeds collection</td> <td>Fully satisfied</td> <td>n=7</td> </tr> <tr> <td>Approach taken</td> <td>3.5</td> <td></td> </tr> <tr> <td>Participatory planning</td> <td>Satisfied</td> <td></td> </tr> <tr> <td>Time for planning</td> <td>Fair</td> <td></td> </tr> <tr> <td>Group organization</td> <td>Rather unsatisfied</td> <td></td> </tr> <tr> <td>Making regulations</td> <td>Rather unsatisfied</td> <td></td> </tr> <tr> <td>FFS</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Deployment of staff</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>No cash payment</td> <td>Fully satisfied</td> <td>n=7</td> </tr> <tr> <td>Work relationship</td> <td>3.8</td> <td></td> </tr> <tr> <td>- with local staff of NGO</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- with field staff of NGO</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- with MAF</td> <td>Fully satisfied</td> <td></td> </tr> </tbody> </table>	Aspect	Evaluation by members (Score <1 and % of Positive Ans.<2)	Note	Training courses	3.9		Content	Fully satisfied		Time frame	Satisfied		Timing	Satisfied		Techniques	Fully satisfied		Frequency	Fully satisfied		Management	Fully satisfied		Facilitation	Fully satisfied		Food	Fully satisfied		Others (training material)	Fully satisfied	n=1	Techniques introduced / demonstrated	4.1		Compost	Fully satisfied		Land Preparation	Fully satisfied		Seedling & Nursery	Fully satisfied		Transplanting	Fully satisfied		Maintenance of farm	Fully satisfied		Natural pesticide	Fully satisfied		Liquid fertilizer	Fully satisfied		Harvesting & seeds collection	Fully satisfied	n=7	Approach taken	3.5		Participatory planning	Satisfied		Time for planning	Fair		Group organization	Rather unsatisfied		Making regulations	Rather unsatisfied		FFS	Fully satisfied		Deployment of staff	Fully satisfied		No cash payment	Fully satisfied	n=7	Work relationship	3.8		- with local staff of NGO	Fully satisfied		- with field staff of NGO	Fully satisfied		- with MAF	Fully satisfied	
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-Church	Fully satisfied	n=1					
Any changes in the sub-program implementation	None						

**Table 1-2-2 Evaluation of the Performance of HG-SP (based on the five criteria, such as relevance, effectiveness, efficiency, impact, and sustainability)**

Objectives	Evaluation
1. Relevance 1.1 Relevance to the needs of the target groups	- Vegetable production is one of the main agricultural activities in the village, in which women or housewives are mainly engaged. Therefore, the sub-program was selected by local communities, especially female participants, in 2007. As for stabilization and improvement of household income is one of the main concerns of local communities in the village. The sub-program activities, provision of technical and material support in vegetable production, are considered consistent with the needs of the target groups, especially women members, in the village.
1.2 Relevance with the watershed management plan	<p>- One of the major constraints on forest and watershed protection is the limited livelihood opportunities in hilly and mountainous areas. Due to the lack of livelihood opportunities combined with limited knowledge of sustainable farming methods, local communities tend to heavily explore forest resources and/or practice shifting cultivation in an unsustainable manner. Hence, the improvement of livelihoods of local communities can help local communities to break out of the vicious cycle of poverty and environmental degradation as shown right.</p>
2. Effectiveness 2.1 Achievement of	- The main objective of the sub-program is to improve the living conditions of local communities through diversification and

Objectives	Evaluation																
sub-program objectives	<p>increase of vegetable production in their own vegetable farms. As described in Table 1-2-2, the sub-program generated additional income for the members as high as US\$ 32 /family/year on average in addition to the increase of vegetable supply for daily consumption.</p> <p>- However, the number of the members who received the vegetable seeds decreased by half from the original members. It is hard to say that the sub-program achieved the target of the sub-program objective at a full scale, but the Study Team considers that the sub-program was able to achieve a certain level of the objective.</p>																
2.2 Logical relation between the activities and sub-program objectives	<p>- The sub-program comprised of the following activities:</p> <ul style="list-style-type: none"> <li>➤ Hands on training courses (FFSs) on vegetable farming</li> <li>➤ Provision of farm tools for vegetable farming</li> <li>➤ Provision of vegetable seeds</li> <li>➤ Technical assistance to the individual members in vegetable farming</li> <li>➤ Assistance in the preparation of a request letter for MAF's seed supply support</li> </ul> <p>- All the activities listed above are logically related to each other in the framework of vegetable production. Hence, the sub-program is expected to enhance the capacity of the members for vegetable farming as long as the members take part in a series of hands-on training courses.</p> <p>- However, the increase of vegetable production might not necessarily increase or stabilize household income since it is not easy for the members to sell vegetables especially during the rainy season due to poor road conditions and limited transportation services in the village.</p>																
2.3 Any external factors that affected the project implementation	<p>- The following activities or external factors affected the participation of the group members in the project and eventually affected the progress of the project.</p> <ul style="list-style-type: none"> <li>➤ Traditional activities, such as Koremetan and Uma lulic</li> <li>➤ Government projects or other projects with cash payment</li> <li>➤ Weak leadership of the village</li> </ul> <p>- Furthermore, the following factors directly affected the accomplishment of the project.</p> <ul style="list-style-type: none"> <li>➤ Shortage of rainfall</li> <li>➤ Absence of group leaders for the work/business in Dili</li> </ul>																
3. Efficiency 3.1 Inputs made by NGO	<p>- The following table shows the evaluation of major inputs made for implementation of the sub-program.</p> <table border="1"> <thead> <tr> <th>Inputs</th> <th>Timing</th> <th>Cost</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1. Staff allocation</td> <td>Allocated as planned, but the number of staff was not sufficient in a certain period.</td> <td>Half as much as planned</td> <td>Amount of basic salary was lower than estimated in accordance with the work experiences of staffs recruited.</td> </tr> <tr> <td>2. Provision of farm tools</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>3. Training</td> <td>As planned</td> <td>Higher than planned</td> <td>Additional training courses were organized.</td> </tr> </tbody> </table>	Inputs	Timing	Cost	Remarks	1. Staff allocation	Allocated as planned, but the number of staff was not sufficient in a certain period.	Half as much as planned	Amount of basic salary was lower than estimated in accordance with the work experiences of staffs recruited.	2. Provision of farm tools	As planned	As planned	-	3. Training	As planned	Higher than planned	Additional training courses were organized.
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3. Training	As planned	Higher than planned	Additional training courses were organized.														

Objectives	Evaluation										
	<p>Source: JICA Study Team (2009)</p> <ul style="list-style-type: none"> <li>- Expenditures for training activities were beyond the amount originally planned. The NGO needed to repeat the same training courses sometimes to provide training as many members as possible. Limited participation of the members in training courses incurred the additional costs. Other inputs were almost the same with what were originally estimated.</li> </ul>										
3.2 Level of achievement of outputs and sub-program objectives as compared with the inputs	<ul style="list-style-type: none"> <li>- Hands-on training courses were considered effective in enhancement of knowledge and skills of the participants.</li> <li>- However, not all the members were able to acquire the skills provided by the training, since significant number of them did not participate in the training courses.</li> <li>- Limited participation of the members in the training courses adversely affected the efficiency of the sub-program. Though the sub-program spent the budget for hands-on training more than expected, only half the number of the total members of the groups likely learned the techniques and skills for vegetable farming.</li> <li>- One of the constraints on the improvement of members' participation level was the weak leadership of the village leaders (chef de suco and chef de aldeia). The encouragement by the village leaders to facilitate the members' participation has been limited during the implementation of the pilot project.</li> </ul>										
4. Impact											
4.1 Positive impact	<ul style="list-style-type: none"> <li>- A series of hands-on training courses enabled the members to acquire techniques and skills on vegetable production.</li> <li>- On average, the members who received vegetable seeds were able to earn more than US\$ 30/family/year and to consume vegetables valued at about US\$ 40/family/year by the support from the sub-program.</li> <li>- Increase of vegetable consumption might improve the nutritional status of children in the members' households.</li> </ul>										
4.2 Negative impact	<ul style="list-style-type: none"> <li>- The members who have participated in the project activities have lost the opportunities to earn cash income gained by engaging in the government project.</li> </ul>										
5. Sustainability											
5.1 Government support	<ul style="list-style-type: none"> <li>- There is no definite plan in the government to support the beneficiaries' groups or the village in vegetable production at present. However, the beneficiaries' groups might be able to tap the extensionist, which has been recently assigned to assist local people in Tohumeta for agricultural production, for having technical and material support in vegetable farming.</li> </ul>										
5.2 Capacity of the groups	<ul style="list-style-type: none"> <li>- Some members, particularly core members, of the groups have gone through the whole processes of producing a variety of vegetables. They have likely developed their capacities to produce vegetables in both dry and wet seasons, although they may still need to enhance their knowledge and skills especially on natural pesticide and liquid fertilizer application.</li> <li>- In the questionnaire survey done in August 2009, the members showed their willingness to continue the vegetable farming especially in the dry season.</li> </ul> <table border="1"> <thead> <tr> <th>Willingness</th> <th>Rate &lt;1</th> <th>Why willing to continue</th> <th>Any hindrance</th> <th>Necessary assistance</th> </tr> </thead> <tbody> <tr> <td>to continue vegetable farming in dry season</td> <td>4.1</td> <td>It does not take long time to see results. To increase family income</td> <td>Lack of time, workers, seeds,</td> <td>Seeds, transportation of markets, and technical staff</td> </tr> </tbody> </table>	Willingness	Rate <1	Why willing to continue	Any hindrance	Necessary assistance	to continue vegetable farming in dry season	4.1	It does not take long time to see results. To increase family income	Lack of time, workers, seeds,	Seeds, transportation of markets, and technical staff
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to continue vegetable farming in dry season	4.1	It does not take long time to see results. To increase family income	Lack of time, workers, seeds,	Seeds, transportation of markets, and technical staff							



Objectives	Evaluation				
	to continue vegetable farming in wet season	2.8	Long beans are suitable for rainy seasons.	water and fund. lack of funds	Seeds and shading materials
	<p>Note: The number of samples is 12.            &lt;1: The level of impact was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= no impact            Source: JICA Study Team (2009)</p> <p>- As the production of vegetables in the wet season was lower than that in the dry season, the members preferred to continue the vegetable farming in the dry season.            - The JICA Study Team expects that the members likely continue the vegetable farming in their own farms even without any external support since many of them had grown vegetables by themselves even before the pilot project. However, the types of vegetables and volume of products might not be as same as what they produced in the sub-program.</p>				
5.3 Coordination with the NGO	- The NGO, Halarae Foundation, has no plan to provide technical and managerial assistance to local communities in the target village after the pilot project.				
5.4 Coordination with other organizations	- There is no coordination or linkage with other organizations made so far.				
5.5 Financial aspect	- The members were able to earn cash income enough to buy vegetable seeds for next cropping. Logically, it would not much difficult for the members to continue the activities from the financial point of view.				

**Table 1-2-3 Lessons learned**

Lessons learned	Stage	Descriptions
Participatory planning	Planning	- The participatory planning was effective in deepening the members' understanding of the sub-program activities. The process of the participatory planning was good opportunity for the communities and the NGO to share the ideas of the sub-program.
Low participation	Implementation	- The level of the members' participation in the sub-program was not always high. Many members preferred to engage in other projects that pay for the work. Strong leadership or support from the village leaders is necessary for improvement of such situation.
Deployment of field staff	Implementation	- Deployment of the field staff was effective in building a trustful relationship with local communities. Field coordinator/s should be posted in the field during the implementation of the sub-program.
Hands-on training / FFS approach	Implementation	- By hands-on training courses or FFSs, the members were able to practice and go through all the techniques on vegetable production in the field. FFS approach should be employed as a main scheme to develop the capacity of the members.

**Table 2-1-1 Appropriateness of the Implementation Process**

Objectives	Accomplishments																																																																																																									
Appropriateness of the process	<p>- The members evaluated the process of the sub-program implementation from the viewpoints of satisfaction level of training courses, approaches taken in the sub-program implementation and work relationship with the NGO. The members highly appreciated the sub-program activities as shown below.</p> <table border="1"> <thead> <tr> <th>Aspect</th> <th>Evaluation by members (Score &lt;1 and % of Positive Ans.&lt;2)</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>Training courses</td> <td>3.9</td> <td></td> </tr> <tr> <td>- Contents of training</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Timeframe of training</td> <td>Fully satisfied</td> <td>n=10</td> </tr> <tr> <td>- Timing of training</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Techniques introduced</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Frequency of training</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Management of training</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Food provided</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Contents of training</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Approach taken</td> <td>3.3</td> <td></td> </tr> <tr> <td>- Participatory planning</td> <td>Satisfied</td> <td></td> </tr> <tr> <td>- Sufficient time allocation for planning</td> <td>Satisfied</td> <td></td> </tr> <tr> <td>- Organization of beneficiaries' groups</td> <td>Rather unsatisfied</td> <td></td> </tr> <tr> <td>- Formulation of group regulations</td> <td>Unsatisfied</td> <td></td> </tr> <tr> <td>- Field Farmers' School (FFS)</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Deployment of staff to the village</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- No cash payment / Voluntary work</td> <td>Fully satisfied</td> <td>n=11</td> </tr> <tr> <td>Techniques introduced / demonstrated</td> <td>4.3</td> <td></td> </tr> <tr> <td>- Compost making</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Land preparation</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Nursery establishment</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Soil prep and soil filling</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Seed preparation</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Sowing seeds in seed beds</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Transplanting</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Watering &amp; 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Objectives	Accomplishments		
	Work relationship - with local staff of NGO - with field staff of NGO - with MAF - with JICA Study Team	3.8 Satisfied Fully satisfied Fully satisfied Fully satisfied	
Any changes in the sub-program implementation	None		

Note:

The number of sample is 12, unless specified with “n.”.

<1: The level of satisfaction was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= was not satisfied.

<2: The proportion of the positive answer against the total number of the positive and negative answers.

Source: JICA Study Team (2009)

- Since the beneficiaries’ groups have had difficulties in involving all the members of the groups in the project activities, they evaluated the aspects related to group organizations, namely “organization of beneficiaries’ groups” and “formulation of group regulations,” unsatisfied.

**Table 2-1-2 Evaluation of the Performance of TPP-SP at Samalete (based on the five criteria, such as relevance, effectiveness, efficiency, impact, and sustainability)**

Objectives	Evaluation
1. Relevance 1.1 Relevance with the needs of the target groups	<ul style="list-style-type: none"> <li>- Coffee is the main source of income in Samalete and many community members in the village intend to expand their coffee plantations to increase their cash income. In order to expand the coffee plantations, they need to first expand the areas covered with shade trees since there is no existing forest except coffee plantations in Samalete.</li> <li>- In addition, the leaders of the village intend to reforest the village to secure and increase the flow of water sources in the village since a shortage of water is one of the critical issues in the village, especially during the dry season.</li> <li>- It is, therefore, judged that the project activities are consistent with the needs of the village.</li> </ul>
1.2 Relevance with the watershed management plan	<ul style="list-style-type: none"> <li>- Deforestation or forest degradation is the main phenomenon of the watershed degradation. Tree planting can rehabilitate the deforested areas and will directly contribute to the improvement of the target watersheds.</li> </ul>
2. Effectiveness 2.1 Achievement of sub-program objectives	<ul style="list-style-type: none"> <li>- The main objective of the sub-program is to expand the forest cover in the village through the capacity development of local communities to produce and plant seedlings and the protection of planted seedlings by introduction of the local regulations. As described in Table 2-1-2, the beneficiaries' groups were able to plant 50,428 seedlings, of which 49,859 seedlings were confirmed alive as of August 2009.</li> <li>- The seedlings planted under the sub-program have been protected from wildfire and illegal cutting owing to the revival of Tara Bandu with the written village regulations.</li> <li>- It is safe to say that the sub-program were able to achieve its objective at a certain level. But there is still a need to develop the capacities of the beneficiaries' groups to enable them to produce seedlings sustainably even after the end of the pilot project.</li> </ul>
2.2 Logical relation between the activities and sub-program objectives	<ul style="list-style-type: none"> <li>- The sub-program comprised of the following activities:               <ul style="list-style-type: none"> <li>➤ Installation of watering systems</li> <li>➤ Hands-on training courses (FFSs) on seedling production and planting trees</li> <li>➤ Technical assistance to individual members</li> <li>➤ Provision of farm tools for planting seedlings</li> <li>➤ Development of the village regulations in writing and revival of Tara Bandu</li> </ul> </li> </ul> <p>In the design of the sub-program, the members can go through the whole processes of producing and planting seedlings. It is expected that the members who would participate in the sub-program actively could develop their capacities to expand forested areas.</p>
2.3 Any external factors that affected the project implementation	<ul style="list-style-type: none"> <li>- The following activities or external factors affected the participation of the group members in the project and eventually affected the progress of the project.               <ul style="list-style-type: none"> <li>➤ Traditional activities, such as Koremetan and Uma lulic</li> </ul> </li> </ul>

Objectives	Evaluation																								
	<ul style="list-style-type: none"> <li>➤ Government projects</li> <li>- Furthermore, the following factors directly affected the accomplishment of the project.</li> <li>➤ Shortage of rainfall</li> <li>➤ Stealing of seedlings in the nurseries</li> <li>➤ Land dispute</li> <li>➤ Straying animal</li> </ul>																								
<p>3. Efficiency</p> <p>3.1 Inputs made by NGO</p>	<p>- The following table shows the evaluation of major inputs made for implementation of the sub-program.</p> <table border="1"> <thead> <tr> <th>Inputs</th> <th>Timing</th> <th>Cost</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1. Staff allocation</td> <td>As planned but there were several months when only one field staff had worked in the field.</td> <td>Beyond the planned budget</td> <td>The employment of local staff was not planned in the second contract.</td> </tr> <tr> <td>2. Installation of watering system</td> <td>Behind the schedule</td> <td>Slightly higher than planned</td> <td>Delay in contract with JICA caused the delay in installation of water systems.</td> </tr> <tr> <td>3. Provision of farm tools</td> <td>As planned</td> <td>Slightly higher than planned</td> <td></td> </tr> <tr> <td>4. Training</td> <td>As planned</td> <td>Increased by 50 %</td> <td>There was a need to organize the same training courses several times.</td> </tr> <tr> <td>5. Development of the village regulations and Tara Bandu ceremony</td> <td>Slightly behind the schedule</td> <td>As planned</td> <td>The suco leaders decided to organize Tara Bandu ceremony in December.</td> </tr> </tbody> </table> <p style="text-align: center;">Source: JICA Study Team (2009)</p> <ul style="list-style-type: none"> <li>- Installation of water system was delayed since the contract between the NGO and the JICA Study Team in 2008 was delayed. Such delay partially caused the delay in seedling production in 2008. Almost all the activities other than the installation of water system were carried out as originally planned.</li> <li>- There were some weeks or months in which only one field staff of the NGO was assigned during the implementation of the sub-program, though there were supposed to be two field staffs assigned during the whole sub-program period.</li> <li>- Expenditures for training activities were beyond the budget originally planned. The NGO needed to repeat the same training courses sometimes to cover as many members as possible. Limited participation of the members in training courses incurred the additional costs.</li> </ul>	Inputs	Timing	Cost	Remarks	1. Staff allocation	As planned but there were several months when only one field staff had worked in the field.	Beyond the planned budget	The employment of local staff was not planned in the second contract.	2. Installation of watering system	Behind the schedule	Slightly higher than planned	Delay in contract with JICA caused the delay in installation of water systems.	3. Provision of farm tools	As planned	Slightly higher than planned		4. Training	As planned	Increased by 50 %	There was a need to organize the same training courses several times.	5. Development of the village regulations and Tara Bandu ceremony	Slightly behind the schedule	As planned	The suco leaders decided to organize Tara Bandu ceremony in December.
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<p>3.2 Level of achievement of outputs and sub-program objectives as compared with the inputs</p>	<ul style="list-style-type: none"> <li>- Hands-on training courses were considered effective in enhancement of knowledge and skills of the participants. However, not all the members were able to acquire the skills needed for seedling production and tree planting, since the significant number of the members did not actively participate in the hands-on training courses.</li> <li>- Limited participation of the members in the nursery operations also caused some loss of seedlings in the nurseries. Such loss could have been avoided if the members had periodically maintained the seedlings.</li> </ul>																								

Objectives	Evaluation										
	<p>- Given the difficulty that the sub-program has faced in facilitation of the members' participation in the sub-program activities, especially in the process of seedling production, the Study Team judges that the nursery operations have not been necessarily implemented efficiently.</p>										
<p>4. Impact 4.1 Positive impact</p>	<p><u>Economic and socio-economic impact to the members</u></p> <ul style="list-style-type: none"> <li>- Working as a group and periodical meeting among the group members made the solidarity among the member strong. Owing to such feeling, the frequency of disputes or conflicts between/among community members has been reduced.</li> <li>- The implementation of the village regulations and/or revival of Tara Bandu has improved the situations of the village as follows: <ul style="list-style-type: none"> <li>- The peace and order situation of the village have been improved.</li> <li>- No theft of agricultural products/harvest has been found in the village.</li> <li>- The incidence of wildfire and case of illegal cutting have been reduced.</li> </ul> </li> <li>- The water systems installed for nursery operations have been also used for drinking purposes. The water systems have eased the burden of local people.</li> </ul> <p><u>Impact to other villages</u></p> <ul style="list-style-type: none"> <li>- The neighboring villages envys the privilege of Samalete. Other villages also want to implement the sub-program and revive the Tara Bandu system.</li> </ul>										
<p>4.2 Negative impact</p>	<ul style="list-style-type: none"> <li>- The members who have participated in the project activities have lost the opportunities to earn cash income gained by engaging in the government project.</li> </ul>										
<p>5. Sustainability 5.1 Government support</p>	<ul style="list-style-type: none"> <li>- NDF intends to keep supporting the target village in seedling production by providing materials and technical assistance from time to time. However, the government initiatives are still uncertain since there is no definite plan in the government to support the target village after the pilot project.</li> </ul>										
<p>5.2 Capacity of the groups</p>	<ul style="list-style-type: none"> <li>- Core members of the groups have gone through the whole processes of seedling production in 2008 and 2009. They have developed their capacity to produce seedlings though they still need more field practices to acquire knowledge and skills especially on how to cope with diseases of seedlings.</li> <li>- On the other hand, the members evaluated that they have understood almost all the techniques on planting trees except designing and seed preparation as shown in Table 2-1-2. Based on the field observation, the JICA Study Team judges that the members would have less difficulty in planting seedlings in their own farms, though many of them may not be able to design the plantations properly.</li> <li>- In the questionnaire survey done in August 2009, the members showed their willingness to continue the seedling production as shown below.</li> </ul>										
	<table border="1"> <thead> <tr> <th>Willingness</th> <th>Rate &lt;1</th> <th>Why willing to continue</th> <th>Any hindrance</th> <th>Necessary assistance</th> </tr> </thead> <tbody> <tr> <td>Production by group</td> <td>4.1</td> <td>Useful for future</td> <td>funds, man</td> <td>Poly bags and other planting</td> </tr> </tbody> </table>	Willingness	Rate <1	Why willing to continue	Any hindrance	Necessary assistance	Production by group	4.1	Useful for future	funds, man	Poly bags and other planting
Willingness	Rate <1	Why willing to continue	Any hindrance	Necessary assistance							
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Objectives	Evaluation				
	(n=14)		Good for income Working together makes things easier	power and location	materials
	Note: "n" means the number of samples collected <1: The level of impact was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= no impact Source: JICA Study Team (2009) - Though the members showed their willingness to keep implementing the sub-program, it would be difficult for them to continue the sub-program as a group without any external assistance. In fact, many members of the groups seem to regard the nursery operations as laborious and time consuming.				
5.3 Coordination with the NGO	- The NGO, Halarae Foundation, has no plan to provide technical and managerial assistance to local communities in the target village after the pilot project.				
5.4 Coordination with other organizations	- There is no coordination or linkage with other organizations made so far.				
5.5 Financial aspect	- It would be rather difficult for the beneficiaries' groups to undertake the same activities without financial support after the pilot project. In particular, the groups may need support in the procurement of seeds of trees and poly bags.				

**Table 2-1-3 Lessons learned from TPP-SP at Samalete**

Lessons learned	Stage	Descriptions
Participatory planning	Planning	- The participatory planning was effective in deepening the members' understanding of the sub-program activities. The process of the participatory planning was good opportunity for the communities and the NGO to share the ideas of the sub-program.
Low participation	Implementation	- The level of participation of the members in the project activities was not always high. In particular, the participation in nursery operations, such as watering and weeding, was limited. The collective activity as a group was not necessary accepted by all the members. Some did not prefer to work for others. - Without an obvious incentive given in the subprogram, it would not be easy for the sub-program to maintain the level of participation of the community members in the sub-program activities.
Combination with the formulation of Tara Bandu regulations	Implementation	- The development and implementation of the village regulations were effective in protecting the seedlings planted from wildfire, stealing, and animal damage. The sub-program should be combined with the formulation of the village regulations.
Deployment of field staff	Implementation	- Deployment of the field staff was effective in building a trustful relationship with local communities. Field coordinator/s should be posted in the field during the implementation of the sub-program.
Hands-on training / FFS approach	Implementation	- By hands-on training courses or FFSs, the members were able to practice and go through all the techniques on seedling production and tree planting in the field. The FFS approach should be employed as a main scheme to develop the capacity of the members.

**Table 2-2-1. Appropriateness of the Implementation Process of CPR-SP at Samalete**

Objectives	Accomplishments																																																																																																
Appropriateness of the process	<p>- The members evaluated the process of the sub-program implementation from the viewpoints of satisfaction level of training courses, approaches taken in the sub-program implementation and work relationship with the NGO. The members highly appreciated the sub-program activities as shown below.</p> <table border="1"> <thead> <tr> <th>Aspect</th> <th>Evaluation by members (Score &lt;1 and % of Positive Ans.&lt;2)</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>Training courses</td> <td><b>4.3</b></td> <td></td> </tr> <tr> <td>- Contents of training</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Timeframe of training</td> <td>Fully satisfied</td> <td>n=10</td> </tr> <tr> <td>- Timing of training</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Techniques introduced</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Frequency of training</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Management of training</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Food provided</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- Contents of training</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>Techniques introduced / demonstrated</td> <td><b>4.2</b></td> <td data-bbox="1697 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</tr> <tr> <td>- with local staff of NGO</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- with field staff of NGO</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- with MAF</td> <td>Fully satisfied</td> <td></td> </tr> <tr> <td>- with JICA Study Team</td> <td>Fully satisfied</td> <td></td> </tr> </tbody> </table> <p>Note:</p>	Aspect	Evaluation by members (Score <1 and % of Positive Ans.<2)	Note	Training courses	<b>4.3</b>		- Contents of training	Fully satisfied		- Timeframe of training	Fully satisfied	n=10	- Timing of training	Fully satisfied		- Techniques introduced	Fully satisfied		- Frequency of training	Fully satisfied		- Management of training	Fully satisfied		- Food provided	Fully satisfied		- Contents of training	Fully satisfied		Techniques introduced / demonstrated	<b>4.2</b>		- Compost making	Fully satisfied		- Rejuvenation	Fully satisfied		- Pruning of coffee trees	Fully satisfied		- Planting of coffee seedlings	Fully satisfied		- Maintenance of plantation	Fully satisfied		- Harvesting of coffee cherries	Fully satisfied		- Processing of coffee cherries	Fully satisfied		- Seed selection	Fully satisfied		Approach taken	<b>3.8</b>		- Participatory planning	Fully satisfied		- Sufficient time allocation for planning	Fully satisfied		- Organization of beneficiaries' groups	Fully satisfied		- Formulation of group regulations	Fully satisfied		- Field Farmers' School (FFS)	Fully satisfied		- Deployment of staff to the village	Fully satisfied		- No cash payment / Voluntary work	Fully satisfied	n=11	Work relationship	<b>4.5</b>		- with 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Objectives	Accomplishments
	<p>The number of sample is 12, unless specified with “n.”</p> <p>&lt;1: The level of satisfaction was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= was not satisfied.</p> <p>&lt;2: The proportion of the positive answer against the total number of the positive and negative answers.</p> <p>Source: JICA Study Team (2009)</p> <p>- The framework of the training courses, approaches taken, and work relationship with the NGO as well as JICA Study Team were highly accepted and appreciated by the beneficiaries’ groups. Considering the results of the training courses given to the members, the Study Team considers that the process of the sub-program is generally appropriate for development of the capacity of the members to rehabilitate aged coffee and improve the productivity of existing coffee plantations.</p>
Any changes in the sub-program implementation	- None

**Table 2-2-2 Evaluation of the Performance of CPR-SP at Samalete (based on the five criteria, such as relevance, effectiveness, efficiency, impact, and sustainability)**

Objectives	Evaluation
<p>1. Relevance</p> <p>1.1 Relevance with the needs of the target groups</p> <p>1.2 Relevance with the watershed management plan</p>	<p>- Coffee is the main source of income in Samalete. However, many existing coffee trees in the village are over-aged and under poor management as well, and therefore, the productivity of coffee in the area is estimated to be as low as less than 0.1 ton/ha according to the results of RRA survey carried out in 2007. Consequently, the improvement of productivity of the existing coffee plantation is one of the major concerns of local communities in the village.</p> <p>- Therefore, the capacity development of local communities for improving the productivity of the existing coffee plantation is closely related to the needs of local households in the village.</p> <p>- Existing coffee plantations are generally covered with a thick canopy of shade trees (alvizia trees) in the Comoro river watershed. Proper management and protection of the existing coffee plantations in the village directly contributed to sustainable management and protection of the target watershed since local people likely convert unproductive coffee plantations into other land uses, such as upland farms. Furthermore, the improvement of coffee productivity also contributed to the increase and stabilization of cash income of local households in the village.</p>
<p>2. Effectiveness</p> <p>2.1 Achievement of sub-program objectives</p> <p>2.2 Logical relation between the activities and sub-program objectives</p>	<p>- Given the fact that only two members have applied the rejuvenation practice in their own farms so far, it is difficult to say that the sub-program has achieved its objective.</p> <p>- It would take a few years more for local communities to start replicating the techniques of rejuvenating and pruning in their farms. In general, farmers tend to hesitate to apply any techniques/practices newly introduced until they see the actual results of such techniques.</p> <p>- The sub-program comprised of the following activities:</p> <ul style="list-style-type: none"> <li>➤ Hands-on training courses (FFSs) on rehabilitation of aged coffee trees and improvement of productivity of existing productive trees</li> <li>➤ Provision of farm tools for application of the techniques introduced in the hands-on training</li> <li>➤ Technical assistance to individual members</li> </ul> <p>- Logically, the above-listed activities are considered appropriate for development of the capacity of the members to improve their own coffee plantation on their own initiatives. However, there should have been a scheme to support the members financially if the sub-program needed to achieve its objective within the 20 months.</p>
<p>2.3 Any external factors that affected the project</p>	<p>- Traditional activities, such as Koremetan and Uma lulic, and the other government projects had affected the participation of the group members in the sub-program and eventually affected the progress of the sub-program.</p>
<p>3. Efficiency</p> <p>3.1 Inputs made by NGO</p>	<p>- The effectiveness and efficiency of major inputs made by the NGO for implementation of the sub-program were also evaluated as follows.</p>

Objectives	Evaluation			
	Inputs	Timing	Cost	Remarks
	1. Staff allocation	As planned but there were several months when only one field staff had worked in the field.	Beyond the planned budget	The employment of local staff was not planned in the second contract.
	2. Provision of farm tools	As planned	Slightly lower than planned	Farm tools were not given to inactivity members.
	3. Training	As planned	Increased by 45 % from the original budget	NGO needed to organize the same training twice or trice for absent members.
	<p>Source: JICA Study Team (2009)</p> <ul style="list-style-type: none"> <li>- Expenditures for training activities were beyond the budget originally planned. The NGO needed to repeat the same training courses due to the low participation of the members. Limited participation of the members in training courses incurred the additional costs for training. Other inputs were almost the same with what were originally estimated.</li> <li>- The NGO coordinated with PARDTL and MAF in the conducts of hands-on training courses. Such an arrangement allowed the NGO not to hire an/ expert/s from external sources for training.</li> </ul>			
3.2 Level of achievement of outputs and sub-program objectives as compared with the inputs	<ul style="list-style-type: none"> <li>- Hands-on training courses were considered effective in enhancement of knowledge and skills of the participants.</li> <li>- However, not all the members might be able to acquire the skills necessary for rehabilitation of aged coffee plantation and improvement of existing productive coffee trees since significant number of the members did not actively participate in the hands-on training courses organized in the sub-program.</li> <li>- The results of the inputs/interventions made by the sub-program are evaluated as “reasonable” from a qualitative viewpoint, but may be considered “inefficient” from a quantitative viewpoint.</li> </ul>			
4. Impact				
4.1 Positive impact	<ul style="list-style-type: none"> <li>- Working as a group and periodical meeting among the group members made the solidarity among the member strong. Owing to such feeling, the frequency of disputes or conflicts between/among community members has been reduced.</li> <li>- The members have acquired new knowledge and skills that can improve the productivity of their coffee plantations.</li> </ul>			
4.2 Negative impact	<ul style="list-style-type: none"> <li>- The members who have participated in the project activities may have lost the opportunities to earn cash income gained by engaging in the government project.</li> </ul>			
5. Sustainability				
5.1 Government support	<ul style="list-style-type: none"> <li>- The government intends to support coffee farmers in rehabilitating aged coffee plantations by rejuvenating old trees and replanting new seedlings. However, the area covered by the government support is still very limited.</li> </ul>			

Objectives	Evaluation																				
5.2 Capacity of the groups	<p>- Part of the members of the groups have gone through the field application of several techniques on rehabilitation and improvement of coffee plantations. They have developed their capacity to improve their coffee plantations, especially aged coffee plantations.</p> <p>- In fact, as shown in Table 2-2-2, the members consider that they have understood all the techniques introduced by the sub-program. Considering the nature of the techniques, the JICA Study Team also judges that it would not be difficult for the members to apply such practices in their own farms from a technical point of view.</p> <p>- However, many of the members can not afford to take a risk of losing the opportunities to generate income by cutting trunk or branches of existing coffee trees. It is expected that the application of such techniques might be expanded gradually at a slower pace as the members observe the rejuvenated or pruned coffee trees bear coffee cherries.</p> <p>- In the questionnaire survey done in August 2009, the members were willing to apply the techniques that they have learnt.</p> <p style="text-align: center;"><b>Willingness of the Members to continue the Activities</b></p> <table border="1"> <thead> <tr> <th>Willingness</th> <th>Rate &lt;1</th> <th>Why willing to continue</th> <th>Any hindrance</th> <th>Necessary assistance</th> </tr> </thead> <tbody> <tr> <td>To continue compost making</td> <td>4.3 (n=15)</td> <td>To make the crops grow well To improve soil composition</td> <td>Worker, Material, Locations</td> <td>EM4 and Materials</td> </tr> <tr> <td>To continue rejuvenating of old coffee trees</td> <td>4.3 (n=17)</td> <td>To make harvest easy To improve production and quality of coffee To use cut trees for firewood</td> <td>Worker, Time Fund, Materials</td> <td>Materials including saw, machete, and iron sticks</td> </tr> <tr> <td>To continue pruning coffee trees</td> <td>4.8 (n=17)</td> <td>To make harvest easy</td> <td>Worker, Fund, Materials</td> <td>Scissor, Saw</td> </tr> </tbody> </table> <p>Note: "n" means the number of samples collected &lt;1: The level of impact was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= no impact Source: JICA Study Team (2009)</p> <p>- Though the members commented that they need material support like scissor and saw for application of the techniques, it would not be much difficult for the members to replicate the techniques without having additional support since the sub-program has already provided the same tools to the members.</p>	Willingness	Rate <1	Why willing to continue	Any hindrance	Necessary assistance	To continue compost making	4.3 (n=15)	To make the crops grow well To improve soil composition	Worker, Material, Locations	EM4 and Materials	To continue rejuvenating of old coffee trees	4.3 (n=17)	To make harvest easy To improve production and quality of coffee To use cut trees for firewood	Worker, Time Fund, Materials	Materials including saw, machete, and iron sticks	To continue pruning coffee trees	4.8 (n=17)	To make harvest easy	Worker, Fund, Materials	Scissor, Saw
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To continue pruning coffee trees	4.8 (n=17)	To make harvest easy	Worker, Fund, Materials	Scissor, Saw																	
5.3 Coordination with the NGO	- The NGO, Halarae Foundation, has no plan to provide technical and managerial assistance to local communities in the target village after the pilot project.																				
5.4 Coordination with other organizations	- Many members have the membership of CCT. Hence, it is also possible for them to have a certain support from CCT.																				
5.5 Financial aspect	- Application of the rejuvenation and pruning techniques does not require cash expenses. But many of them can not afford to take a risk of losing a source of cash income.																				

**Table 2-2-3 Lessons learned from CPR-SP at Samalete**

<b>Lessons learned</b>	<b>Stage</b>	<b>Descriptions</b>
Participatory planning	Planning	- The participatory planning was effective in deepening the members' understanding of the sub-program activities. The process of the participatory planning was good opportunity for the communities and the NGO to share the ideas of the sub-program.
Low participation	Implementation	- The level of the members' participation in the project activities was not always high. The collective activity as a group was not necessary accepted by all the members. Some did not prefer to work for others. - Without an obvious incentive given in the subprogram, it would not be easy for the sub-program to maintain the members' participation in the sub-program activities.
Deployment of field staff	Implementation	- Deployment of the field staff was effective in building a trustful relationship with local communities. Field coordinator/s should be posted in the field during the implementation of the sub-program.
Hands-on training / FFS approach	Implementation	- By hands-on training courses or FFSs, the members were able to practice and go through the techniques on coffee rejuvenation and pruning. The FFS approach should be employed as a main scheme to develop the capacity of the members.

**Table 3-1-1 Appropriateness of the Implementation Process of PULP-SP at Faturasa**

Objectives	Accomplishments																																														
Appropriateness of the process	<p>- The members of the working group evaluated the process of the sub-program implementation from the viewpoints of satisfaction level of the meetings, approaches taken in the sub-program and work relationship with the NGO. In general, the members highly appreciated the sub-program activities as shown below.</p> <table border="1"> <thead> <tr> <th>Aspect</th> <th>Evaluation by the members</th> </tr> </thead> <tbody> <tr> <td>Meetings</td> <td></td> </tr> <tr> <td>- Contents of meeting</td> <td>Satisfied</td> </tr> <tr> <td>- Timeframe of meeting</td> <td>ditto</td> </tr> <tr> <td>- Timing of meeting</td> <td>ditto</td> </tr> <tr> <td>- Topics discussed</td> <td>ditto</td> </tr> <tr> <td>- Frequency of meeting</td> <td>ditto</td> </tr> <tr> <td>- Management of meeting</td> <td>ditto</td> </tr> <tr> <td>- Food provided</td> <td>ditto</td> </tr> <tr> <td>Approaches taken</td> <td></td> </tr> <tr> <td>- Present land use mapping</td> <td>Satisfied</td> </tr> <tr> <td>- Future land use mapping</td> <td>ditto</td> </tr> <tr> <td>- Rules on natural resource uses</td> <td>ditto</td> </tr> <tr> <td>- Guidelines on land management</td> <td>ditto</td> </tr> <tr> <td>- Monitoring of implementation of the village regulations</td> <td>ditto</td> </tr> <tr> <td>- Roles and responsibilities of the village committee</td> <td>ditto</td> </tr> <tr> <td>- Importance of the village regulations to the village</td> <td>ditto</td> </tr> <tr> <td>- Importance of the village regulations to watershed management</td> <td>ditto</td> </tr> <tr> <td>Work relationship</td> <td></td> </tr> <tr> <td>- with local staff of NGO</td> <td>Satisfied</td> </tr> <tr> <td>- with field staff of NGO</td> <td>ditto</td> </tr> <tr> <td>- with MAF</td> <td>ditto</td> </tr> <tr> <td>- with JICA Study Team</td> <td>ditto</td> </tr> </tbody> </table> <p>Source: JICA Study Team (2009)</p>	Aspect	Evaluation by the members	Meetings		- Contents of meeting	Satisfied	- Timeframe of meeting	ditto	- Timing of meeting	ditto	- Topics discussed	ditto	- Frequency of meeting	ditto	- Management of meeting	ditto	- Food provided	ditto	Approaches taken		- Present land use mapping	Satisfied	- Future land use mapping	ditto	- Rules on natural resource uses	ditto	- Guidelines on land management	ditto	- Monitoring of implementation of the village regulations	ditto	- Roles and responsibilities of the village committee	ditto	- Importance of the village regulations to the village	ditto	- Importance of the village regulations to watershed management	ditto	Work relationship		- with local staff of NGO	Satisfied	- with field staff of NGO	ditto	- with MAF	ditto	- with JICA Study Team	ditto
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Any changes in the sub-program implementation	- None																																														

**Table 3-1-2 Evaluation of the Performance of PULU-SP at Faturasa (based on the five criteria, such as relevance, effectiveness, efficiency, impact, and sustainability)**

Objectives	Evaluation
<p>1. Relevance</p> <p>1.1 Relevance with the needs of the target groups</p> <p>1.2 Relevance with the watershed management plan</p>	<p>- Sustainable natural resource management along with reduction of forest fire can directly contribute to the security of livelihoods of local communities since they are significantly dependent on natural resources for their livelihoods. Since the main aim of the sub-program is to enable the local communities to manage and use natural resources in the village in a proper and sustainable manner, the sub-program is considered consistent with the needs of the local communities.</p> <p>- In fact, the participation level of local communities in the sub-program activities has been kept high. This tendency must be evidence that the sub-program activities are in line with the needs of local communities.</p> <p>- Incidence of forest fire, shifting cultivation, and over-grazing along with improper land use are the direct causes of forest and land degradation in the target watersheds. The sub-program aims to minimize wildfire caused by human activities, reduce the areas used for shifting cultivation, and restrict free grazing in agricultural production and ecologically important areas through introduction of the village regulations with a future land use map. Consequently, the implementation of the sub-program is expected to contribute to the improvement of the watershed environment.</p>
<p>2. Effectiveness</p> <p>2.1 Achievement of sub-program objectives</p>	<p>- The main objective of the sub-program is to enable the local communities in the target village to manage and use natural resources in their locality in a proper and sustainable manner. As described in Table 3-1-2, the incidence of wildfire and illegal extraction of forest resources have been drastically reduced after the village regulations were publicized in the Tara Bandu ceremony. Though the communities still seem to need the assistance of the NGO in the implementation of the village regulations, the sub-program activities revealed that the formulation of the village regulations with future land use mapping was quite effective in developing the capacities of the village leaders and reducing the human activities causing the forest and land degradation.</p> <p>- The results of the questionnaire survey made by the JICA Study Team also revealed that the members' understandings of the village regulations and implementing system introduced were apparently high. Although it would take some times more for local communities to be able to revise the village regulations as the environment of the village changes, it is safe to say that the members of the working group have digested the village regulations and can use them for sustainable resource management in the village.</p>
<p>2.2 Logical relation between the activities and sub-program objectives</p>	<p>- The sub-program comprises of the following activities:</p> <ul style="list-style-type: none"> <li>➤ Preparation of a present land use map of the village;</li> <li>➤ Discussion of land and resource use options;</li> <li>➤ Preparation of a future land use map;</li> <li>➤ Determination of rules and regulations on natural resource management;</li> <li>➤ Determination of fines and penalties, roles and responsibilities of the village committee, and a system/mechanism for</li> </ul>

Objectives	Evaluation																												
	<p>implementation of the village regulations;</p> <ul style="list-style-type: none"> <li>➤ Organization of a traditional ceremony (Tara Bandu ceremony)</li> <li>➤ Organization of a monthly monitoring meeting with the participation of the committee member every month</li> <li>➤ Facilitation of discussions among the committee and assistance in resolving the issues discussed in the meetings</li> </ul> <p>These activities were effective in enhancing the capacities of the working group to manage the natural resources in their locality and solve issues not only on natural resources but also on social issues in the village. It is judged that the sub-program activities directly contribute to the achievement of the sub-program objectives.</p>																												
2.3 Any external factors that affected the project implementation	<ul style="list-style-type: none"> <li>- Support from church has encouraged the members to observe the village regulations. In combination with the strong Christian faith among the local communities, the village regulations were widely prevalent.</li> <li>- Positive support to or endorsement of the village regulations by church encouraged the local communities to be responsible for the regulations as well as the future land use map.</li> <li>- Illegal activities done by local people living in the neighboring villages are still prevailing. Such external influence may have affected the people's confidence in the regulations.</li> </ul>																												
<p>3. Efficiency</p> <p>3.1 Inputs made by NGO</p>	<p>- The following table shows the original budget and actual expenses of the sub-program.</p> <table border="1"> <thead> <tr> <th colspan="4">Inputs made by NGO</th> </tr> <tr> <th>Inputs</th> <th>Timing</th> <th>Cost</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1. Staff allocation</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>2. Workshops for formulation</td> <td>As planned</td> <td>Beyond the planned budget</td> <td>Socialization meetings were organized at aldeia level.</td> </tr> <tr> <td>3. Tara Bandu ceremony</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>4. Monitoring meeting</td> <td>Not organized as planned</td> <td>As planned</td> <td>Monthly meetings were not always organized every month due to busyness of the NGO.</td> </tr> <tr> <td>5. Fence making</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> </tbody> </table> <p>Source: JICA Study Team (2009)</p> <ul style="list-style-type: none"> <li>- In general, the inputs made by the NGO are considered appropriate and reasonable as compared with the results made by the activities.</li> <li>- Meetings and workshops were generally implemented as schedule, but monthly monitoring meetings were not always organized every month due to the busyness of the NGO.</li> </ul>	Inputs made by NGO				Inputs	Timing	Cost	Remarks	1. Staff allocation	As planned	As planned	-	2. Workshops for formulation	As planned	Beyond the planned budget	Socialization meetings were organized at aldeia level.	3. Tara Bandu ceremony	As planned	As planned	-	4. Monitoring meeting	Not organized as planned	As planned	Monthly meetings were not always organized every month due to busyness of the NGO.	5. Fence making	As planned	As planned	-
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3.2 Level of achievement of outputs and sub-program objectives as compared with the inputs	<ul style="list-style-type: none"> <li>- The working group of Faturasa developed the village regulations and future land use map in a participatory manner and has implemented the regulations according to the implementation system stipulated in the regulations.</li> <li>- The implementation of the village regulations along with Tara Bandu ceremony has reduced the incidence of wildfire and illegal exploitation of forest and natural resources.</li> <li>- A series of workshops organized for the formulation of the village regulations and meetings for monitoring of the implementation were effective in developing the capacities of the village leaders for governing the village including natural</li> </ul>																												



Objectives	Evaluation
	<p>resource management. It is, therefore, judged that workshops and meetings organized contributed to the achievement of the outputs and purpose of the project effectively.</p> <ul style="list-style-type: none"> <li>- A large scale investment was made for fence making on the 2 km boundary between the grazing land and permanent farm to separate free-grazing animals from farms. The Study Team judges that it was necessary input for the project to realize the future land use map in a short period of time, but it is also true that such scale of investment might not be reasonable from the viewpoint of applicability.</li> </ul>
<p>4. Impact</p> <p>4.1 Positive impact</p>	<p><u>Economic and socio-economic impact to the members</u></p> <ul style="list-style-type: none"> <li>- As series of activities for making and implementing the village regulations has improved the governing ability of the village leaders and made other community members serious about observing the regulations, and eventually resulted in improving the peace and order situation of the village and protecting individual right to protect their own assets from illegal capture.</li> <li>- Reduction of wildfire, crop damage caused by animals, and illegal exploitation of natural resources and agricultural products can contribute to reducing the risk of food shortage.</li> <li>- Present and future land use mapping helped local leaders to realize the present and possible future conditions of forests in the village and improved a sense of ownership of natural resources among village leaders.</li> </ul> <p><u>Impact to other villages</u></p> <ul style="list-style-type: none"> <li>- Leaders of the neighboring villages showed their willingness to develop their future land use maps and village regulations to protect and manage natural resources in their localities.</li> </ul>
<p>4.2 Negative impact</p>	<ul style="list-style-type: none"> <li>- In Faturasa, most of the lands belong to the limited number of land owners and many community members have used part of their lands under an unwritten-cum-conventional agreement between the owner and user. Since the village regulations define that no one can use anyone's land without permission of the owner, there have been some disputes over land use between the land owners and those who have used the owners' lands for long time. It was agreed among the community members that the vested tenure right should be protected though it was not clearly mentioned in the village regulations.</li> </ul>
<p>5. Sustainability</p> <p>5.1 Government support</p>	<ul style="list-style-type: none"> <li>- There is no government clear plan to support the sub-program activities after the pilot project. Although the forest policy states that sustainable forest management supported by forest protection and community participation is the policy goal. However, there is no actual physical activity planned in the government.</li> </ul>
<p>5.2 Capacity of the groups</p>	<ul style="list-style-type: none"> <li>- The village leaders have comprehended the village regulations and been capable to solve issues in the village by themselves in accordance with the village regulations.</li> <li>- Although they still need external assistance to adjust and revise the village regulations with the changes in the conditions of the village, the group leaders are expected to be capable of managing natural resources in the village according to the village regulations.</li> </ul>
<p>5.3 Coordination with the</p>	<ul style="list-style-type: none"> <li>- The NGO, USC Canada Timor-Leste, was committed to supporting the village in the implementation and monitoring of</li> </ul>

Objectives	Evaluation
NGO	the village regulations even after the end of the pilot project. In fact, the NGO already programmed the post-pilot project activities in its work plan in 2009. Hence, the village regulations are expected to be implemented in the same manner that they have implemented during the project period.
5.4 Coordination with other organizations	- There is no coordination or linkage with other organizations made so far.
5.5 Financial aspect	- Implementation of the village regulations does not require money expenditure. Only some snacks and tea/coffee may be needed for the monthly monitoring meeting. In terms of financial aspect, it would not be difficult for local communities to continue the sub-program activities.

**Table 3-1-3 Lessons learned from the Implementation of PLUP-SP at Faturasa**

Lessons learned	Stage	Descriptions
Mapping	Planning stage	- Present and future land use mapping was effective for having the working group and village leaders comprehend the present conditions and possible future of the village. - Aerial photo was an effective tool for making present and future land use map on a village level.
Series of meetings	Planning stage	- Series of meetings and workshops helped the village leaders to come up with the village regulations suitable for the village. Through the process of making the village regulations, the leaders were able to digest the contents of the regulations. - Sufficient length of time should be allocated for socialization of the village regulations to local communities at aldeia level.
Tara Bandu ceremony	Implementation stage	- Involvement of church in Tara Bandu ceremony or endorsement from priest in Tara Bnadu ceremony was effective in giving credence to the village regulation among local communities.
Monitoring and implementation	Planning stage	- Monthly monitoring meeting enhanced the capacity of the village leaders to solve issues in the village. - Monitoring meeting should be organized not only at the suco level but also at the aldeia level. - Coordination with the sub-district office and MAF district office should be made for effective implementation of the village regulations.

**Table 3-2-1 Appropriateness of the Implementation Process**

Objectives	Accomplishments																																																												
Appropriateness of the process	<p>- The members evaluated the process of the sub-program implementation from the viewpoints of satisfaction level of training courses, approaches taken in the sub-program implementation and work relationship with the NGO. The members highly appreciated the sub-program activities as shown below.</p> <p>-</p> <table border="1"> <thead> <tr> <th>Aspect</th> <th>Evaluation by members (Score &lt;1 and level of satisfaction&lt;2)</th> </tr> </thead> <tbody> <tr> <td>Training courses</td> <td><b>4.2</b></td> </tr> <tr> <td>Content</td> <td>Fully-satisfied</td> </tr> <tr> <td>Time frame</td> <td>ditto</td> </tr> <tr> <td>Timin</td> <td>ditto</td> </tr> <tr> <td>Techniques</td> <td>ditto</td> </tr> <tr> <td>Fequency</td> <td>ditto</td> </tr> <tr> <td>Management</td> <td>ditto</td> </tr> <tr> <td>Facilitator</td> <td>ditto</td> </tr> <tr> <td>Food</td> <td>ditto</td> </tr> <tr> <td>Techniques introduced / demonstrated</td> <td><b>4.0</b></td> </tr> <tr> <td>Compost making</td> <td>Fully-satisfied</td> </tr> <tr> <td>Use of A-frame</td> <td>ditto</td> </tr> <tr> <td>Soil conservation measures</td> <td>ditto</td> </tr> <tr> <td>Protein bank</td> <td>ditto</td> </tr> <tr> <td>Control of chromoralena</td> <td>ditto</td> </tr> <tr> <td>Approach taken</td> <td><b>4.0</b></td> </tr> <tr> <td>Participatory planning</td> <td>Fully-satisfied</td> </tr> <tr> <td>Time for planning</td> <td>ditto</td> </tr> <tr> <td>Group organization</td> <td>ditto</td> </tr> <tr> <td>Making regulations</td> <td>ditto</td> </tr> <tr> <td>FFS</td> <td>ditto</td> </tr> <tr> <td>Deployment of staff</td> <td>ditto</td> </tr> <tr> <td>No cash payment</td> <td>ditto</td> </tr> <tr> <td>Work relationship</td> <td><b>3.8</b></td> </tr> <tr> <td>- with local staff of NGO</td> <td>Fully-satisfied</td> </tr> <tr> <td>- with field staff of NGO</td> <td>ditto</td> </tr> <tr> <td>- with MAF</td> <td>ditto</td> </tr> <tr> <td>- with JICA Study Team</td> <td>ditto</td> </tr> <tr> <td>- Church, Health and teacher</td> <td>ditto</td> </tr> </tbody> </table>	Aspect	Evaluation by members (Score <1 and level of satisfaction<2)	Training courses	<b>4.2</b>	Content	Fully-satisfied	Time frame	ditto	Timin	ditto	Techniques	ditto	Fequency	ditto	Management	ditto	Facilitator	ditto	Food	ditto	Techniques introduced / demonstrated	<b>4.0</b>	Compost making	Fully-satisfied	Use of A-frame	ditto	Soil conservation measures	ditto	Protein bank	ditto	Control of chromoralena	ditto	Approach taken	<b>4.0</b>	Participatory planning	Fully-satisfied	Time for planning	ditto	Group organization	ditto	Making regulations	ditto	FFS	ditto	Deployment of staff	ditto	No cash payment	ditto	Work relationship	<b>3.8</b>	- with local staff of NGO	Fully-satisfied	- with field staff of NGO	ditto	- with MAF	ditto	- with JICA Study Team	ditto	- Church, Health and teacher	ditto
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Objectives	Accomplishments
	<p>Source: JICA Study Team (2009)</p> <p>Note: The number of samples is 17, unless specified with “n”.</p> <p>&lt;1: The level of satisfaction was evaluated by using 5-point rating, namely 5=fully satisfied, 4=satisfied, 3=fair, 2=rather unsatisfied, and 1= unsatisfied.</p> <p>&lt;2: The portion of positive answers to the total is also used in evaluation of the satisfaction level. And the classification was given to the range of the portion, such as, 0-20% =unsatisfied, 20-40% =rather unsatisfied, 40-60% =fair, 60-80%= satisfied, and 80-100%=fully satisfied.</p>
Any changes in the sub-program implementation	- None

**Table 3-2-2 Evaluation of the Performance of GCPBWPR-SP (based on the five criteria, such as relevance, effectiveness, efficiency, impact, and sustainability)**

Objectives	Evaluation
1. Relevance	
1.1 Relevance with the needs of the target groups	- Animal diseases caused by the lack of edible grasses or herding places due to expansion of Chlomoraena is one of the major concerns in the village. Furthermore, the lack of herding places is also one of the causes of the extensive free grazing in the village, which often cause the crop damage in the farms. Hence, the aims of sub-program, namely, biological control of Chlomoraena and development of protein bank, have high consistency with the necessity of the community.
1.2 Relevance with the watershed management plan	- Improving the land productivity for animal raising by producing fodder crops/trees and replacing Chlomoraena with edible grasses for animal is effective in reducing the uncontrolled free grazing practices and improving the livelihood conditions by keeping animals healthy. Hence, the intervention of the sub-program will contribute to the achievement of the objectives of the watershed management plan.
2. Effectiveness	
2.1 Achievement of sub-program objectives	- The main aim of the sub-program is to develop a model for reducing free animal grazing by reducing areas with Chlomoraena and producing fodder crops/trees. It is difficult to say that the sub-program was able to develop and demonstrate the model for controlling animal grazing. Time allocated for the pilot project might be too short for the sub-program to show its results clearly. In particular, the biological control, which will take five (5) years or more to show its effect, may not always be accepted by local communities. As shown in the Table 3-2-2, the members apparently have understood the techniques of grazing control through the training sessions.
2.2 Logical relation between the activities and sub-program objectives	- The sub-program comprises of the following activities: <ul style="list-style-type: none"> <li>➤ Hands-on training courses (FFSs)</li> <li>➤ Management of demonstration plots for the protein bank and biological control against Chlomoraena</li> </ul>

Objectives	Evaluation																																				
	<p>➤ Raising public awareness of the need to protect the demonstration plots for the biological control from forest/wildfire. These activities were effective in enhancing the capacities of the groups to implement the grazing control, although the techniques introduced in the sub-programs might be reconsidered to make them applicable/acceptable to local communities.</p>																																				
2.3 Any external factors that affected the project implementation	<p>- Churches at Faturasa as well as the district administrator of Aileu district has encouraged the members to participate in the sub-program activities actively.</p> <p>- The activities of PLUP-SP, such as the preparation of the future land use map and village regulations in the village helped the members to deepen their understandings of the objectives of GCPBWPR-SP.</p> <p>- A shortage of rainfall in the dry season in 2009 negatively affected the growth of fodder trees and crops.</p> <p>-The government projects, so-called 3-dollar-project, affected participation level of members.</p>																																				
<p>3. Efficiency</p> <p>3.1 Inputs made by NGO</p>	<p>- The following table shows the original budget and actual expenses of the sub-program.</p> <table border="1"> <thead> <tr> <th>Cost items</th> <th>Timing</th> <th>Cost</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1. Staff allocation</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>2. Training</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.1 Protein bank</td> <td>Some activities delayed</td> <td>Increased</td> <td> <p>- Training on planting fodder trees and crops was postponed due to the lack of rain.</p> <p>- Training cost increased as the number of participants increased with participation of the members of CBSE-SP.</p> </td> </tr> <tr> <td>2.2 Biological control of chlomoraena</td> <td>Some activities delayed</td> <td>Increased</td> <td> <p>- Training on collection and releasing larvae of fly was delayed due to busyness of the facilitator of MAF.</p> <p>- Training cost increased as the number of participants increased with participation of the members of CBSE-SP.</p> </td> </tr> <tr> <td>3. Provision of materials</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.1 Seeds</td> <td>As planned</td> <td>Twice as much as planned</td> <td>The planting materials of fodder crops/trees were also distributed to the members since they were willing to develop the protein bank in their own plots.</td> </tr> <tr> <td>3.2 Agricultural tools</td> <td>As planned</td> <td>As planned</td> <td></td> </tr> <tr> <td>3.3 Materials for fence making</td> <td>As planned</td> <td>Increased</td> <td>The total length of constructed fences was longer than that in the original plan since the size of demonstration plot was larger</td> </tr> </tbody> </table>	Cost items	Timing	Cost	Remarks	1. Staff allocation	As planned	As planned	-	2. Training				2.1 Protein bank	Some activities delayed	Increased	<p>- Training on planting fodder trees and crops was postponed due to the lack of rain.</p> <p>- Training cost increased as the number of participants increased with participation of the members of CBSE-SP.</p>	2.2 Biological control of chlomoraena	Some activities delayed	Increased	<p>- Training on collection and releasing larvae of fly was delayed due to busyness of the facilitator of MAF.</p> <p>- Training cost increased as the number of participants increased with participation of the members of CBSE-SP.</p>	3. Provision of materials				3.1 Seeds	As planned	Twice as much as planned	The planting materials of fodder crops/trees were also distributed to the members since they were willing to develop the protein bank in their own plots.	3.2 Agricultural tools	As planned	As planned		3.3 Materials for fence making	As planned	Increased	The total length of constructed fences was longer than that in the original plan since the size of demonstration plot was larger
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Objectives	Evaluation				
					based on the strong request from the members.
		3.4 Sign board	As planned	As planned	-
		4. Meetings, e.g., evaluation workshops	As planned	As planned	-
	Source: JICA Study Team (2009)				
3.2 Level of achievement of outputs and sub-program objectives as compared with the inputs	<ul style="list-style-type: none"> <li>- In general, the inputs made by the NGO are considered appropriate and reasonable as compared with the results made by the activities.</li> <li>- Some of the training courses were postponed due to busyness of the trainers and unfavourable climate conditions. However, such delays did not influence the overall sub-program implementation.</li> </ul>				
4. Impact 4.1 Positive impact	<p><u>Impact to the members</u></p> <ul style="list-style-type: none"> <li>-The members could apply the techniques such as contour compost and planting fodder crops/trees to the own farms.</li> <li>- There has been no wild fire caused by carelessness in burning the farms.</li> <li>- Shifting cultivation practice may be replaced with the practice of contour composting.</li> </ul> <p><u>Impact to other community members</u></p> <ul style="list-style-type: none"> <li>- Other community members who have not participated in the sub-program also started to plant fodder crops/trees following the techniques introduced in the demonstration plots.</li> </ul>				
4.2 Negative impact	- Demonstration plots of the biological control of <i>Chlomoraena</i> apparently became a habitat for rodents.				
5. Sustainability 5.1 Government support	- There is no government clear plan to support the sub-program activities after the pilot project. Since the government deployed extensionists at the suco level, the communities in Faturasa might be able to tap the technical support from extensionists. But there has been no coordination made with the extensionist who is in charge of Faturasa.				

Objectives	Evaluation																								
5.2 Capacity of the groups	<p>- According to the Table 3-2-2, almost all the members judged that they could apply the grazing control techniques, namely, protein bank and biological control of Chlomoraena.</p> <p>- The members showed their willingness to continue the activities of grazing control as shown below.</p> <table border="1"> <thead> <tr> <th>Willingness</th> <th>Rate &lt;1</th> <th>Why willing to continue</th> <th>Why not willing to continue</th> <th>Any hindrance</th> <th>Necessary assistance</th> </tr> </thead> <tbody> <tr> <td>to apply protein bank in the own farms</td> <td>4.2</td> <td>To use for individual animal grazing can save food for animal for long term period, good way to replicate, gives additional income, reduce the existing Chlomoraena</td> <td>N.A.</td> <td>N.A.</td> <td>N.A.</td> </tr> <tr> <td>to manage the demonstration plot for biological control</td> <td>3.8</td> <td>To kill Chlomoraena</td> <td>N.A.</td> <td>N.A.</td> <td>N.A.</td> </tr> <tr> <td>to apply the biological control measure to the own farms</td> <td>3.6</td> <td>N.A.</td> <td>N.A.</td> <td>N.A.</td> <td>N.A.</td> </tr> </tbody> </table> <p>Note: N.A. : Data not available The number of sample is 5. &lt;1: The level of impact was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= no impact Source: JICA Study Team (2009)</p> <p>- Although the members are willing to continue the sub-program activities, it would be difficult for them to continue the activities without any external support, especially without the provision of materials such as seeds and seedlings of fodder crops/trees.</p>	Willingness	Rate <1	Why willing to continue	Why not willing to continue	Any hindrance	Necessary assistance	to apply protein bank in the own farms	4.2	To use for individual animal grazing can save food for animal for long term period, good way to replicate, gives additional income, reduce the existing Chlomoraena	N.A.	N.A.	N.A.	to manage the demonstration plot for biological control	3.8	To kill Chlomoraena	N.A.	N.A.	N.A.	to apply the biological control measure to the own farms	3.6	N.A.	N.A.	N.A.	N.A.
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5.3 Coordination with the NGO	<p>- The NGO, USC Canada Timor-Leste, was committed to continuing its assistance to the beneficiary groups even after the end of the pilot project. In fact, the NGO already programmed the post-pilot project activities in its work plan in 2009. Hence, the groups can still have technical assistance from the NGO.</p>																								
5.4 Coordination with other organizations	<p>- The NGO has been coordinating with NDRSS of MAF for biological control of Chlomoraena in the organization of exposure visit, preparation of materials for awareness raising, and provision of training.</p>																								
5.5 Financial aspect	<p>- It would be difficult for the members to continue the activities of the sub-program without external support especially for procurement of materials such as seeds and seedlings of fodder crops/trees until they can secure enough seeds for next cropping season.</p>																								

**Table 3-2-3 Lessons learned**

<b>Lessons learned</b>	<b>Stage</b>	<b>Descriptions</b>
Selection of techniques introduced	Planning stage	-It is necessary to consider the time scale required for the introduced techniques to show its effect in the selection of techniques introduced for controlling Chlomoraena.
Preparation of work plan	Planning stage	- The work plan should be developed in due consideration of busyness of the members (availability of members) and traditional / customary activities in the village, so that the planned activities could be implemented as planned.
Exposure visit	Planning stage	-The exposure visit to the similar project sites should be organized prior to the implementation of the sub-program so that the members could get a clear picture of the outputs from the sub-program.
Design of training	Planning stage	- The biological control may not always be acceptable to local communities, since it would take more or less five (5) years to show its visible results. The introduction of this technical option should be determined after due consideration of the situation of the village, such as land availability, relationship with MAF or NGOs, and severity of Chlomoraena issue.
Combination with the PLUP-SP	Implementation	- As mentioned in Table3-2-4, PLUP-SP was effective in raising awareness of the effectiveness of the sub-program activities among members as well as the necessity to control wild fire in the village.
Management of the sub-program	Implementation	- The progress of the sub-program should be reviewed annually or biannually in a participatory manner. The more involved they are in planning and monitoring of the sub-program, the more clearly they could understand the sub-program.



**Table 3-3-1 Appropriateness of the Implementation Process**

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Appropriateness of the process	<p>- The members evaluated the process of the sub-program implementation from the viewpoints of satisfaction level of training courses, approaches taken in the sub-program implementation and work relationship with the NGO. 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1272 991">Farm management</td> <td>ditto</td> <td></td> </tr> <tr> <td>Harvest and post-harvest</td> <td>ditto</td> <td></td> </tr> <tr> <td>Storage of seeds</td> <td>ditto</td> <td>n=1</td> </tr> <tr> <td>Approach taken</td> <td><b>4.1</b></td> <td></td> </tr> <tr> <td>Participatory planning</td> <td>Fully-satisfied</td> <td></td> </tr> <tr> <td>Time for planning</td> <td>ditto</td> <td></td> </tr> <tr> <td>Group organization</td> 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data-bbox="1756 1347 1895 1374"></td> </tr> <tr> <td>- with local staff of NGO</td> <td>Fully-satisfied</td> <td></td> </tr> <tr> <td>- with field staff of NGO</td> <td>ditto</td> <td></td> </tr> <tr> <td>- with MAF</td> <td>ditto</td> <td></td> </tr> <tr> <td>- with JICA Study Team</td> <td>ditto</td> <td>n=16</td> </tr> </tbody> </table>	Aspect	Evaluation by members (Score <1 and % of Positive Ans.<2)	Note	Training courses	<b>4.1</b>		Content	Fully-satisfied		Time frame	ditto		Timing	ditto		Techniques	ditto		Frequency	ditto		Management	ditto		Facilitator	ditto		Food	ditto		church, health and education	ditto	n=2	Techniques introduced / demonstrated	<b>4.0</b>		Compost making	Fully-satisfied		Use of A-frame	ditto		Soil conservation measures	ditto		Land preparation	ditto		Selection of seeds	ditto		Mono-cropping in line	ditto		Farm management	ditto		Harvest and post-harvest	ditto		Storage of seeds	ditto	n=1	Approach taken	<b>4.1</b>		Participatory planning	Fully-satisfied		Time for planning	ditto		Group organization	ditto		Making regulations	ditto		FFS	ditto		Deployment of staff	ditto		No cash payment	ditto		Church and health	ditto	n=1	Work relationship	<b>4.2</b>		- with local staff of NGO	Fully-satisfied		- with field staff of NGO	ditto		- with MAF	ditto		- with JICA Study Team	ditto	n=16
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Objectives	Accomplishments
	<p>- Local authority, church and health</p> <p style="text-align: center;">ditto</p> <p style="text-align: right;">n=5</p> <p>Note: The number of samples is 17, unless specified with “n”. &lt;1: The level of satisfaction was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= was not satisfied. &lt;2: The portion of positive answers to the total is also used in evaluation of the satisfaction level. And the classification was given to the range of the portion, such as, 0-20% =unsatisfied, 20-40% =rather unsatisfied, 40-60% =fair, 60-80%= satisfied, and 80-100%=fully satisfied. Source: JICA Study Team (2009)</p>
Any changes in the sub-program implementation	- None

**Table 3-3-2 Evaluation of the Performance of CBSE-SP (based on the five criteria, such as relevance, effectiveness, efficiency, impact, and sustainability)**

Objectives	Evaluation
1. Relevance	
1.1 Relevance with the needs of the target groups	- Low productivity of upland staple crops is one of the major concerns in the village. It has forced them to live on a subsistence level and made them vulnerable to environmental changes. Hence, the aim of the sub-program, which is to increase and stabilize the productivity of the major upland crops through introduction of the improved seeds and the improved farming techniques, is highly consistent with the communities’ needs.
1.2 Relevance with the watershed management plan	- Limited livelihood caused by low agricultural productivity is considered one of the factors that have accelerated shifting cultivation and firewood collection in the target watersheds. Shifting cultivation and firewood collection are considered direct causes of deforestation as well as land degradation, and more importantly, they often cause forest fires which result in severe forest degradation. Hence, the improvement of livelihoods of local communities through increase and stabilization of upland crops can minimize human pressure on forests in the watershed.
2. Effectiveness	
2.1 Achievement of sub-program objectives	<p>- The main aim of the sub-program is to increase the productivity of upland staple crops in the village through introduction of the improved seeds of the major crops as well as the improved farming practices. As described in Tables 3-3-1 and 3-3-2, the yields of the crops produced by the members in the last rainy season were significantly higher than those produced by non-members and they are confident of replicating the farming techniques introduced in the demonstration plots.</p> <p>- Although the sub-program just benefited the members of the sub-program, it is judged that the sub-program was able to achieve its objective on a certain level. In order to fully achieve the original objective, there is a need to involve non-members in the hands-on training and to develop a scheme to distribute the improved seeds among local communities.</p>
2.2 Logical relation between the activities and sub-program objectives	<p>- The sub-program comprised of the following activities:</p> <ul style="list-style-type: none"> <li>➤ Hands-on training courses (FFSs)</li> <li>➤ Provision of the improved seeds with farm tools</li> <li>➤ Assistance to the group members to apply the techniques which they learnt at FFSs at their farms</li> <li>➤ Establishment of rules / regulations on the use of corn mill</li> </ul>

Objectives	Evaluation																																
	They are logically related to one another in the framework for improving the productivity of upland crops produced by the members of the beneficiaries' groups.																																
2.3 Any external factors that affected the project implementation	<ul style="list-style-type: none"> <li>- Church at Faturasa as well as district administrator of Aileu district has encouraged the members to participate in the sub-program activities actively.</li> <li>- The interview by the community radio program gave the members of the groups incentive to actively participate in the sub-program activities.</li> <li>- A shortage of rainfall or fluctuated rainfall in the last cropping season affected the growth of upland crops.</li> <li>- The government projects, so-called 3-dollar-project, negatively affected the members' participation in the sub-program activities.</li> </ul>																																
3. Efficiency 3.1 Inputs made by NGO	<p>- The following table shows the original budget and actual expenses of the sub-program.</p> <table border="1"> <thead> <tr> <th>Cost items</th> <th>Timing</th> <th>Cost</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1. Staff allocation</td> <td>As planned</td> <td>As planned</td> <td></td> </tr> <tr> <td>2. Training</td> <td>Some trainings delayed</td> <td>Higher than planned</td> <td>Some training course were delayed or rescheduled.</td> </tr> <tr> <td>3. Tools/materials provided</td> <td></td> <td></td> <td></td> </tr> <tr> <td>  3.1 Seeds/seedlings</td> <td>Delayed</td> <td>Higher than planned</td> <td>Procurement of seeds was delayed due to the delay of procurement.</td> </tr> <tr> <td>  3.2 Agricultural tools</td> <td>As planned</td> <td>Slightly higher than planned</td> <td>-</td> </tr> <tr> <td>  3.3 Corn sheller</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>4. Workshops organized</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> </tbody> </table> <p style="text-align: center;">Source: JICA Study Team (2009)</p> <ul style="list-style-type: none"> <li>- In general, the inputs made by the NGO are considered appropriate and reasonable as compared with the results made by the activities.</li> <li>- Some of the training courses were postponed due to the difficulty of procurement of necessary materials. However, such delays did not influence the overall sub-program implementation.</li> </ul>	Cost items	Timing	Cost	Remarks	1. Staff allocation	As planned	As planned		2. Training	Some trainings delayed	Higher than planned	Some training course were delayed or rescheduled.	3. Tools/materials provided				3.1 Seeds/seedlings	Delayed	Higher than planned	Procurement of seeds was delayed due to the delay of procurement.	3.2 Agricultural tools	As planned	Slightly higher than planned	-	3.3 Corn sheller	As planned	As planned	-	4. Workshops organized	As planned	As planned	-
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3.2 Level of achievement of outputs and sub-program objectives as compared with the inputs	<ul style="list-style-type: none"> <li>- Hands-on training was considered effective in enhancing the knowledge and skills of the members.</li> <li>- Deployment of local staff was also considered effective in facilitating members' participation in the sub-program activities.</li> </ul>																																
4. Impact 4.1 Positive impact	<p><u>Impact to the members</u></p> <ul style="list-style-type: none"> <li>- The members were able to increase the produce of upland crops and obtain enough harvests for self consumption and next cropping as well.</li> <li>- The members learned to improve the productivity of upland crops by applying the soil conservation measures as well as the improved farming practices, such as line sowing, application of compost, and application of liquid fertilizer. Some of the techniques were already applied in the individual farms by the members.</li> </ul> <p><u>Impact to other community members</u></p> <ul style="list-style-type: none"> <li>- Other community members who have not participated in the sub-program also started to replicate some techniques, such as contour</li> </ul>																																

Objectives	Evaluation																														
	composting, introduced in the demonstration plots.																														
4.2 Negative impact	- The members lost their opportunities to engage in other economic activities by spending much time for the sub-program.																														
5. Sustainability																															
5.1 Government support	- There is no clear government plan to support the sub-program activities after the pilot project. Since the Government deployed extension workers (so-called extensionists) to each suco in 2008, local communities in Faturasa might be able to tap the technical assistance from extensionists. However, there has been no connection or support made by extensionists so far.																														
5.2 Capacity of the groups	<p>- The members judged that they were able to understand the techniques introduced by the sub-program and it would not be difficult for them to apply them in their own farms.</p> <p>- The questionnaire survey done by the JICA Study Team in August 2009 also revealed that they were willing to continue the farming practices, namely, compost making, application of soil conservation measures, mono cropping (line sowing), and use of improved varieties, as shown below.</p> <table border="1"> <thead> <tr> <th>Willingness</th> <th>Rate &lt;1</th> <th>Why willing to continue</th> <th>Why not willing to continue</th> <th>Any hindrance</th> <th>Necessary assistance</th> </tr> </thead> <tbody> <tr> <td>Continuation of compost making</td> <td>4.1</td> <td>Increase of productivity</td> <td>N.A.</td> <td>N.A.</td> <td>N.A.</td> </tr> <tr> <td>Application of soil conservation measures</td> <td>4.1</td> <td>Increase of productivity, efficient use of the land</td> <td>N.A.</td> <td>N.A.</td> <td>N.A.</td> </tr> <tr> <td>Continuation of using improved varieties</td> <td>3.9</td> <td>Increase of productivity</td> <td>N.A.</td> <td>N.A.</td> <td>N.A.</td> </tr> <tr> <td>Continuation of mono cropping</td> <td>4.1</td> <td>Easiness to manage farms</td> <td>N.A.</td> <td>N.A.</td> <td>N.A.</td> </tr> </tbody> </table> <p>Note:            The number of samples targeted is 17 while “n” means the number of samples actually collected.            N.A. means “no answer.”            &lt;1: The level of impact was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= no impact            Source: JICA Study Team (2009)</p> <p>- However, the JICA Study Team judges that they still need technical and material support for them to continue the sub-program activities.</p>	Willingness	Rate <1	Why willing to continue	Why not willing to continue	Any hindrance	Necessary assistance	Continuation of compost making	4.1	Increase of productivity	N.A.	N.A.	N.A.	Application of soil conservation measures	4.1	Increase of productivity, efficient use of the land	N.A.	N.A.	N.A.	Continuation of using improved varieties	3.9	Increase of productivity	N.A.	N.A.	N.A.	Continuation of mono cropping	4.1	Easiness to manage farms	N.A.	N.A.	N.A.
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5.3 Coordination with the NGO	- The NGO, USC Canada Timor-Leste, was committed to continuing its assistance to the beneficiary groups even after the end of the pilot project. In fact, the NGO already programmed the post-pilot project activities in its work plan in 2009. Hence, the groups can still have technical assistance from the NGO.																														
5.4 Coordination with other organizations	- The NGO has been coordinating with MAF and Seeds of Life in the procurement of the improved seeds.																														
5.5 Financial aspect	- Although the members of the beneficiaries’ groups were able to secure the improved seeds for the next cropping, it is still too small for them to share the seeds with non-members in the village. The same assistance should be continued to enable the members as well as non-members to achieve the reasonable production of upland crops sustainably.																														

**Table 3-3-3 Lessons learned**

<b>Lessons learned</b>	<b>Stage</b>	<b>Descriptions</b>
Preparation of work plan	Planning	<ul style="list-style-type: none"> <li>- The work plan should be developed in due consideration of the busyness of the members (availability of members) and the traditional/customary activities in the village, so that the planned activities could be implemented as planned.</li> <li>- The exposure visit to similar project sites should be organized prior to the implementation so that the members could get a clear picture of the outcomes of the sub-program.</li> </ul>
Selection of location for demonstration plots	Planning	<ul style="list-style-type: none"> <li>- Accessibility to the demonstration plot should be considered in determination/identification of the site for the demonstration plot.</li> </ul>
Land preparation	Implementation	<ul style="list-style-type: none"> <li>- Introduction of soil conservation measures, such as bench terracing and contour composting, should be considered when the demonstration plot is developed in sloping land.</li> </ul>
Materials for compost making	Implementation	<ul style="list-style-type: none"> <li>- It may be difficult to collect animal manure for compost making in the site. Other materials available in the locality, such as leaves, branches, top soils, etc. should be used as substituted materials so that local communities can produce by themselves.</li> </ul>
Application of the techniques learnt to the individual farms	Implementation	<ul style="list-style-type: none"> <li>- Demonstration plots applied techniques shown in the training is useful for the members to remind what they learned to apply the techniques at their own farms.</li> </ul>
Management of the sub-program	Implementation	<ul style="list-style-type: none"> <li>- The progress of the sub-program should be reviewed annually or biannually in a participatory manner. The more involved they are in planning and monitoring of the sub-program, the more clearly they could understand the sub-program.</li> <li>- In the meeting, the members shall review their performance and accomplishments made in the past 12 or 6 months and discuss improvements/action to be taken for the next 12 or 6 months. Then, the participants shall prepare an/a annual or bi-annual work plan based on the discussions.</li> <li>- The work plan should be flexibly revised whenever necessary. At the same time, the work plan should be flexibly implemented on the basis of the situation of the village.</li> </ul>

**Table 4-1-1 Appropriateness of the Implementation Process**

Objectives	Accomplishments		
Appropriateness of the process	<p>- The members of the beneficiaries' groups of the sub-program evaluated the process of the sub-program implementation from the viewpoints of satisfaction level of training courses, approaches taken in the sub-program implementation and work relationship with the NGO. The members highly appreciated the sub-program activities as shown below.</p>		
	<b>Aspect</b>	<b>Evaluation by members (Score &lt;1 and answers&lt;2)</b>	<b>Note</b>
	Training courses	4.5	
	Content	Fully satisfied	
	Time frame	ditto	
	Timing	ditto	
	Techniques	ditto	
	Frequency	ditto	
	Management	ditto	
	Facilitator	ditto	
	Food	ditto	
	Techniques introduced / demonstrated	4.5	
	Compost making	Fully satisfied	
	Use of A-frame	ditto	
	Application of bench terrace	ditto	
	Application of contour composting	ditto	
	Land preparation	ditto	
	Selection of seeds	ditto	
	Mono-cropping in line	ditto	
	Farm management	ditto	
	Harvest and post-harvest	ditto	
	Storage of seeds	ditto	
	Approach taken	4.3	
	Participatory planning	Fully satisfied	
	Time for planning	ditto	n=23
	Group organization	ditto	n=23
	Making regulations	ditto	n=23
	FFS	ditto	n=23
	Deployment of staff	ditto	n=23
	No cash payment	ditto	n=23
	Work relationship	4.8	
	- with local staff of NGO	Fully satisfied	

Objectives	Accomplishments												
	<table border="1"> <tr> <td>- with field staff of NGO</td> <td>ditto</td> <td></td> </tr> <tr> <td>- with MAF</td> <td>ditto</td> <td></td> </tr> <tr> <td>- with JICA Study Team</td> <td>ditto</td> <td></td> </tr> <tr> <td>-University</td> <td>ditto</td> <td>n=6</td> </tr> </table> <p>Note:            The number of samples is 17, unless specified with “n”.            &lt;1: The level of satisfaction was evaluated by using 5-point rating, namely 5=fully satisfied, 4=satisfied, 3=fair, 2=rather unsatisfied, and 1= unsatisfied.            &lt;2: The portion of positive answers to the total is also used in evaluation of the satisfaction level. And the classification was given to the range of the portion, such as, 0-20% =unsatisfied, 20-40% =rather unsatisfied, 40-60% =fair, 60-80%= satisfied, and 80-100%=fully satisfied.            Source: JICA Study Team (2009)</p>	- with field staff of NGO	ditto		- with MAF	ditto		- with JICA Study Team	ditto		-University	ditto	n=6
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- with MAF	ditto												
- with JICA Study Team	ditto												
-University	ditto	n=6											
Any changes in the sub-program implementation	-None												

**Table 4-1-2 Evaluation of the Performance of SUFP-SP (based on the five criteria, such as relevance, effectiveness, efficiency, impact, and sustainability)**

Objectives	Evaluation
1. Relevance	
1.1 Relevance with the needs of the target groups	- Faming in slope land is the common practice in suco Batara. It is hard for them to work and difficult to stabilize the crop productivity due to constant soil surface loss. Although shifting cultivation is one of the ways to maintain the soil fertility as well as farm production for them, the practice is too laborious and vulnerable to environmental changes. In fact, a shortage of food caused by low productivity of staple crops (e.g., corn, cassava, beans) is the main concern in the village. Hence, the stabilization of agricultural production by introduction of the sustainable upland farming techniques, such as bench terracing and contour composting practices, is in line with the needs of local communities.
1.2 Relevance with the watershed management plan	- Farming in slope land without application of soil conservation measures is one of the direct causes of land degradation. Continuous surface soil erosion in farmland has often caused a lowering in land productivity and eventually resulted in a food shortage. Furthermore, a shortage of food has forced rural households to open and convert existing forests into upland farms for their subsistence. Hence, the aim of the sub-program, which is to enhance the capacity of local communities to introduce the sustainable upland farming techniques (or soil conservation measures) in their own farms to produce upland crops in the same lands in a sustainable manner, is highly consistent with the goal of the watershed management plan.
2. Effectiveness	
2.1 Achievement of sub-program objectives	- The objective of the sub-program is to expand the areas/farms with soil conservation measures through developing a model of the sustainable upland farming techniques and enhancing the capacities of the members to apply the techniques in their own farms. Given the fact that a total of 12 bench terrace farms and 32 contour composting farms have been developed by the members as of August 2009, the Study Team judges that the sub-program was able to develop a model of the

Objectives	Evaluation																												
	sustainable upland farming techniques and to enhance the capacity of the members at a certain level in the given period of time.																												
2.2 Logical relation between the activities and sub-program objectives	<ul style="list-style-type: none"> <li>- The sub-program comprised of the following activities:               <ul style="list-style-type: none"> <li>➤ Hands-on training courses (FFSs)</li> <li>➤ Development and management of demonstration plots for sustainable upland farming techniques</li> <li>➤ Assistance to the group members to apply the techniques which they learnt through FFSs at their farms</li> </ul> </li> <li>- These activities were effective in enhancing the capacities of the groups to apply soil conservation measures in their own farms.</li> </ul>																												
2.3 Any external factors that affected the project implementation	<ul style="list-style-type: none"> <li>- Church at Batara as well as sub-district administrator of Laclubar have encouraged the members to actively participate in the sub-program.</li> <li>- Crops planted in the demonstration plots were damaged by strong winds and rodents.</li> <li>- The government projects, so-called 2-dollar-project, negatively affected the participation of the members.</li> </ul>																												
3. Efficiency																													
3.1 Inputs made by NGO	<p>- The following table shows the original budget and actual expenses of the sub-program.</p> <table border="1"> <thead> <tr> <th>Cost items</th> <th>Timing</th> <th>Cost</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1. Staff allocation</td> <td>As planned</td> <td>As planned</td> <td></td> </tr> <tr> <td>2. Training</td> <td>Some training sessions were delayed.</td> <td>Reduced</td> <td>Some training courses were delayed.</td> </tr> <tr> <td>3. Tools/materials provided</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.1 Agricultural tools</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>3.2 Seeds/seedlings</td> <td>As planned</td> <td>Higher than planned</td> <td>Additional species of seedlings such as clove, rambutan, etc, which were not included in the original plan, were procured in response to the request from the community.</td> </tr> <tr> <td>4. Meetings, e.g., evaluation workshops</td> <td>As planned</td> <td>Slightly higher than planned</td> <td>Evaluation workshops took longer than expected.</td> </tr> </tbody> </table> <p>Source: JICA Study Team (2009)</p> <ul style="list-style-type: none"> <li>- In general, the inputs made by the NGO are considered appropriate and reasonable as compared with the results made by the activities.</li> <li>- Some of the training courses were not conducted as scheduled. Some were postponed due to the difficulty in procurement of materials, while some needed to wait for an appropriate opportunity for training. However, such delays did not influence the overall sub-program implementation.</li> </ul>	Cost items	Timing	Cost	Remarks	1. Staff allocation	As planned	As planned		2. Training	Some training sessions were delayed.	Reduced	Some training courses were delayed.	3. Tools/materials provided				3.1 Agricultural tools	As planned	As planned	-	3.2 Seeds/seedlings	As planned	Higher than planned	Additional species of seedlings such as clove, rambutan, etc, which were not included in the original plan, were procured in response to the request from the community.	4. Meetings, e.g., evaluation workshops	As planned	Slightly higher than planned	Evaluation workshops took longer than expected.
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3.2 Level of achievement of outputs and sub-program objectives as compared with the inputs	<ul style="list-style-type: none"> <li>- Hands-on training was considered effective in enhancing the knowledge and skills of the members.</li> <li>- Deployment of local staff was also considered effective in facilitating members' participation in the sub-program activities.</li> </ul>																												
4. Impact																													
4.1 Positive impact	<p><u>Impact to the members</u></p> <ul style="list-style-type: none"> <li>- A total of 32 members applied the contour composting technique at their own farms.</li> </ul>																												



Objectives	Evaluation																														
	<ul style="list-style-type: none"> <li>- Some members also made and applied natural pesticide in their farms.</li> <li>- Some of the members who introduced the soil conservation measures intended to change their farming practices from shifting cultivation to fixed farming.</li> </ul> <p><u>Impact to other community members</u></p> <ul style="list-style-type: none"> <li>- Other community members who have not participated in the sub-program also tried to apply the techniques following what they have observed in the demonstration plots.</li> </ul>																														
4.2 Negative impact	<ul style="list-style-type: none"> <li>- The members may have lost opportunity to engage in other income generating activities.</li> <li>- The members were not able to spend enough time for other activities due to the work of the sub-program.</li> <li>- Land preparation and terrace making techniques introduced by the sub-program were time consuming as compared to the conventional land preparation method.</li> </ul>																														
5. Sustainability 5.1 Government support	<ul style="list-style-type: none"> <li>- There is no clear government plan to support the sub-program activities after the pilot project. Local communities might be able to tap technical assistance from the extensionist who was deployed in Laclubar (Orlalan and Batará) in 2008, though there has been no significant contact made by the extensionist so far.</li> </ul>																														
5.2 Capacity of the groups	<ul style="list-style-type: none"> <li>- About one third of the members have applied the soil conservation measures in their sloping farms. Technically speaking, the groups are considered capable of using A-frame and develop a farm with contour composting. However, they need more practices for them to be able to develop bench terraces by themselves.</li> <li>- On the other hand, the members are willing to apply the soil conservation measures as well as the improved farming practices (i.e., compost making and line planting) in their own farms.</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 25%;">Willingness</th> <th style="width: 10%;">Rate &lt;1</th> <th style="width: 20%;">Why willing to continue</th> <th style="width: 10%;">Why not willing to continue</th> <th style="width: 15%;">Any hindrance</th> <th style="width: 20%;">Necessary assistance</th> </tr> </thead> <tbody> <tr> <td>Making and use of compost</td> <td>4.3</td> <td>To improve soil and production</td> <td>Nil</td> <td>lack of materials and employment</td> <td>EM4, manure</td> </tr> <tr> <td>to apply bench terrace in the own farms</td> <td>4.0</td> <td>Easy to maintain, increase production and keep soil</td> <td>Nil</td> <td>Limited employment</td> <td>Build small group for harosan</td> </tr> <tr> <td>to apply contour composting in the own farms</td> <td>4.2</td> <td>Easy to maintain &amp; increase production Protect from erosion</td> <td>Nil</td> <td>Lack of seeds, Limited staff &amp; many activity from church project &amp; cultural</td> <td>Build small group for Harosan</td> </tr> <tr> <td>apply "mono-cropping in line" in the own farms</td> <td>4.1</td> <td>Get many species of crop, to increase production</td> <td>Nil</td> <td>Natural factor</td> <td>Motivation &amp; technique</td> </tr> </tbody> </table>	Willingness	Rate <1	Why willing to continue	Why not willing to continue	Any hindrance	Necessary assistance	Making and use of compost	4.3	To improve soil and production	Nil	lack of materials and employment	EM4, manure	to apply bench terrace in the own farms	4.0	Easy to maintain, increase production and keep soil	Nil	Limited employment	Build small group for harosan	to apply contour composting in the own farms	4.2	Easy to maintain & increase production Protect from erosion	Nil	Lack of seeds, Limited staff & many activity from church project & cultural	Build small group for Harosan	apply "mono-cropping in line" in the own farms	4.1	Get many species of crop, to increase production	Nil	Natural factor	Motivation & technique
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5.3 Coordination with the NGO	<ul style="list-style-type: none"> <li>- The NGO, USC Canada Timor-Leste, was committed to continuing assistance to the beneficiary groups even after the end of the pilot project. In fact, the NGO already programmed the post-pilot project activities in its work plan in 2009. Hence, the groups can still have technical assistance from the NGO.</li> </ul>																														
5.4 Coordination with other	<ul style="list-style-type: none"> <li>- No coordination has been made for this sub-program so far.</li> </ul>																														

Objectives	Evaluation
organizations	
5.5 Financial aspect	- Development of bench terraces is too laborious or time consuming for one farmer to develop his/her own farm. Many of the members can not afford to hire farm labor for development of bench terraces. Therefore, it would be difficult for them to expand bench terrace farms unless a functional collective work system is developed and accepted by the members.

**Table 4-1-3 Lessons learned**

Lessons learned	Stage	Descriptions
Organization of beneficiaries	Planning stage	- The size of beneficiaries' group should be appropriate so that the group leaders and core members can manage it. - Organization of sub-groups or small groups under the beneficiaries' groups should be examined based on the existing collective working system so that the members could cooperate with each other for application of the soil conservation measures in their respective farms.
Preparation of work plan	Planning stage	- The work plan should be developed in due consideration of busyness of the members (availability of members) and the traditional/customary activities in the village, so that the planned activities could be implemented as planned. - The exposure visit to similar project sites should be organized prior to the implementation of the sub-program activities so that the members could get a clear picture of the outputs from the sub-program.
Selection of location for demonstration plots	Implementation stage	- Accessibility to the demonstration plot should be considered in determination/identification of the site for the demonstration plot.
Management of demonstration plots	Implementation	- Development of live fence can not prevent animal intrusion in the demonstration plots. It is necessary to develop and introduce the village regulations with the revival of Tara Bandu to regulate free grazing in the village.
Follow-up trainings	Implementation	- Continuous support or follow-up training is necessary for the members to acquire the techniques that they have never practiced before, such as application of the soil conservation measures.
Management of the sub-program	Implementation	- The progress of the sub-program should be shared among the members periodically, so that each member could enhance their understandings of the sub-program.

**Table 4-2-1 Appropriateness of the Implementation Process**

Objectives	Accomplishments																																																																					
Appropriateness of the process	<p>- The members evaluated the process of the sub-program implementation from the viewpoints of satisfactory level of training courses, approaches taken in the sub-program implementation and work relationship with the supporting entities. The members highly appreciated the sub-program activities as shown below.</p> <p style="text-align: center;"><b>Level of Satisfaction with Training Courses, Approach taken, and work relationships</b></p> <table border="1"> <thead> <tr> <th>Aspect</th> <th>Evaluation (Score &lt;1 and % of Positive Ans.&lt;2)</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>Training courses</td> <td style="text-align: center;">4.7</td> <td></td> </tr> <tr> <td>- Contents of training</td> <td style="text-align: center;"><b>Fully satisfied</b></td> <td></td> </tr> <tr> <td>- Timeframe of training</td> <td style="text-align: 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style="text-align: center;"><b>Fully satisfied</b></td> <td></td> </tr> <tr> <td>Approaches taken</td> <td style="text-align: center;">4.7</td> <td></td> </tr> <tr> <td>- Participatory planning</td> <td style="text-align: center;"><b>Fully satisfied</b></td> <td></td> </tr> <tr> <td>- Sufficient time allocation for planning</td> <td style="text-align: center;"><b>Fully satisfied</b></td> <td></td> </tr> <tr> <td>- Organization of beneficiaries' groups</td> <td style="text-align: center;"><b>Fully satisfied</b></td> <td></td> </tr> <tr> <td>- Formulation of group regulations</td> <td style="text-align: center;"><b>Fully satisfied</b></td> <td></td> </tr> <tr> <td>- Field Farmers' School (FFS)</td> <td style="text-align: center;"><b>Fully satisfied</b></td> <td></td> </tr> <tr> <td>- Deployment of staff to the village</td> <td style="text-align: center;"><b>Fully satisfied</b></td> <td></td> </tr> <tr> <td>- No cash payment / Voluntary work</td> <td style="text-align: center;"><b>Fully satisfied</b></td> <td></td> </tr> <tr> <td>Work relationship</td> <td style="text-align: center;">4.9</td> <td></td> </tr> <tr> <td>- 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Source: JICA Study Team (2009)         </p> <p style="text-align: center;"><b>Level of Satisfaction with Techniques introduced / demonstrated</b></p>	Aspect	Evaluation (Score <1 and % of Positive Ans.<2)	Note	Training courses	4.7		- Contents of training	<b>Fully satisfied</b>		- Timeframe of training	<b>Fully satisfied</b>		- Timing of training	<b>Fully satisfied</b>		- Techniques introduced	<b>Fully satisfied</b>		- Frequency of training	<b>Fully satisfied</b>		- Management of training	<b>Fully satisfied</b>		- Food provided	<b>Fully satisfied</b>		Approaches taken	4.7		- Participatory planning	<b>Fully satisfied</b>		- Sufficient time allocation for planning	<b>Fully satisfied</b>		- Organization of beneficiaries' groups	<b>Fully satisfied</b>		- Formulation of group regulations	<b>Fully satisfied</b>		- Field Farmers' School (FFS)	<b>Fully satisfied</b>		- Deployment of staff to the village	<b>Fully satisfied</b>		- No cash payment / Voluntary work	<b>Fully satisfied</b>		Work relationship	4.9		- with local staff of NGO	<b>Fully satisfied</b>		- with field staff of NGO	<b>Fully satisfied</b>		- with MAF	<b>Fully satisfied</b>		- with JICA Study Team	<b>Fully satisfied</b>		- Others(with university)	<b>Fully satisfied</b>	n=2
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		<b>Vegetable farming</b>	<b>Evaluation (Score &lt;1 and % of Positive Ans.&lt;2)</b>	<b>Note</b>	<b>Tais Making</b>	<b>Evaluation (Score &lt;1 and % of Positive Ans.&lt;2)</b>	<b>Note</b>
		Techniques	4.6		Techniques	4.6	
		Compost	<b>Fully satisfied</b>		Making weaving tools	<b>Fully satisfied</b>	n=7
		Land preparation	<b>Fully satisfied</b>		Spinning	<b>Fully satisfied</b>	
		Seeding / Nursery	<b>Fully satisfied</b>		Color coordination	<b>Fully satisfied</b>	
		Transplanting	<b>Fully satisfied</b>		Rolling	<b>Fully satisfied</b>	
		Maintenance	<b>Fully satisfied</b>		Designing of letters	<b>Fully satisfied</b>	
		Natural pesticide	<b>Fair</b>		Designing of others	<b>Fully satisfied</b>	
		Harvest / Seed Collection	<b>Fully satisfied</b>		Material setting	<b>Fully satisfied</b>	
		<b>Sewing machine</b>	<b>Evaluation</b>	<b>Note</b>	<b>Food processing</b>	<b>Evaluation</b>	<b>Note</b>
		Techniques	4.6		Techniques	4.6	
		checking machine	<b>Fully satisfied</b>		Cassava chips	<b>Fully satisfied</b>	
		Threading	<b>Fully satisfied</b>		Steam cassava	<b>Fully satisfied</b>	
		Initial seesawing	<b>Fully satisfied</b>		Taro chips	<b>Fully satisfied</b>	
		Measuring & Cutting	<b>Fully satisfied</b>		Sweet potato chips	<b>Fully satisfied</b>	
		Sewing	<b>Fully satisfied</b>		Banana chips	<b>Fully satisfied</b>	
		Fixing	<b>Fully satisfied</b>		Peanut with eggs	<b>Fully satisfied</b>	
		Others (design)	0%	n=1	Fried mach potato	<b>Fully satisfied</b>	
		Others (No of participants)	0%	n=1	Salted mustard	<b>Fully satisfied</b>	
		Any changes in the sub-program implementation	-				

Note:

The number of sample is 8 for each activity unless specified with “n.”

<1: The level of satisfaction was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= was not satisfied.

<2: The proportion of the positive answer against the total number of the positive and negative answers.

Source: JICA Study Team (2009)

**Table 4-2-2 Evaluation of the Performance of IG/CS-SP (based on the five criteria, such as relevance, effectiveness, efficiency, impact, and sustainability)**

Objectives	Evaluation
<p>1. Relevance</p> <p>1.1 Relevance with the needs of the target groups</p> <p>1.2 Relevance with the watershed management plan</p>	<p>- The income generating activities assisted by the sub-program are closely related to the daily concerns of the members and are generally categorized as women’s tasks in the village. Therefore, the training courses conducted by the sub-program were effective in developing the capacity of the members.</p> <p>- Increase and stabilization of cash income is the most concerned topics for the members as well as local communities in the village. Hence, the techniques and skills that could produce marketable commodities and/or save expenditures from purchase of such commodities are highly consistent with the needs of the members.</p> <p>- One of the major constraints on forest and watershed protection is the limited livelihood opportunities in hilly and mountainous areas. Due to the lack of livelihood opportunities combined with limited knowledge of sustainable farming methods, local communities tend to heavily explore forest resources and/or practice shifting cultivation in an unsustainable manner. Hence, the improvement of livelihoods of local communities can help local communities to break out of the vicious cycle of poverty and environmental degradation as shown right.</p>
<p>2. Effectiveness</p> <p>2.1 Achievement of sub-program objectives</p>	<p>- The main objective of the sub-program is to enhance the capacity of the members to introduce and develop some livelihood development activities so as to earn cash income and/or save expenditures. As described in Table 4-2-2, the members judged that they have learned almost all the techniques and skills introduced by the sub-program. Furthermore, the women’s groups have earned US\$ 87 ~ 163 from their livelihood activities supported by the sub-program, not to mention the cost-saving effects.</p> <p>- Though there is still a need to provide technical and managerial support to the women’s groups to ensure that they can continue the sub-program activities and manage the earnings in a proper manner, it is judged that the sub-program was able to achieve its main objectives.</p>
<p>2.2 Logical relation between the activities and sub-program objectives</p>	<p>- The sub-program comprised of the following activities:</p> <ul style="list-style-type: none"> <li>➤ Hands-on training courses (FFSs)</li> <li>➤ Market research</li> <li>➤ Training on business and financial management</li> <li>➤ Assistance in the daily operations of the income generating activities</li> </ul> <p>These activities were effective in enhancing the capacities of the women’s groups to implement the livelihood activities</p>

Objectives	Evaluation																																																								
	<p>and manage the group fund in a proper and transparent manner.</p> <ul style="list-style-type: none"> <li>- All the members expressed their willingness to continue the sub-program activities as a group. The groups function not only as a venue for training but also as a safety net for the members in case of emergencies, since they have operated micro credits and kiosks using the earnings from the sub-program activities.</li> </ul>																																																								
2.3 Any external factors that affected the project implementation	<ul style="list-style-type: none"> <li>- Church at Laclubar has encouraged the members to participate in the sub-program activities actively. Church has also been the main buyer of vegetables since it has hired workers for construction of the dorms.</li> <li>- A shortage of rainfall in the dry season in 2009 negatively affected the growth of vegetables. In fact, the group of Werlulun has not been able to crop vegetables from August 2009.</li> </ul>																																																								
<p>3. Efficiency</p> <p>3.1 Inputs made by NGO</p>	<p>- The following table shows the original budget and actual expenses of the sub-program.</p> <table border="1"> <thead> <tr> <th>Inputs</th> <th>Timing</th> <th>Cost</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1. Staff allocation</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>2. Training</td> <td></td> <td></td> <td></td> </tr> <tr> <td>    2.1 Vegetables farming</td> <td>As planned</td> <td>Beyond the planned budget</td> <td>Training on maintenance work needed more number of days than planned.</td> </tr> <tr> <td>    2.2 Tais making</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>    2.3 Use of sewing machine</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>    2.4 Food processing</td> <td>As planned</td> <td>Slightly less than planned</td> <td>Training period was shorter than planned</td> </tr> <tr> <td>    2.5 Others (Business management)</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>3. Provision of materials</td> <td></td> <td></td> <td></td> </tr> <tr> <td>    3.1 Vegetables farming</td> <td>As planned</td> <td>Beyond the planned budget</td> <td>Installation of water facilities was not included in the original plan.</td> </tr> <tr> <td>    3.2 Tais making</td> <td>As planned</td> <td>As planned</td> <td></td> </tr> <tr> <td>    3.3 Use of sewing machine</td> <td>As planned</td> <td>Beyond the planned budget</td> <td>Unit prices of materials were changed.</td> </tr> <tr> <td>    3.4 Food processing</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>    3.5 Others</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <p>Source: JICA Study Team (2009)</p> <ul style="list-style-type: none"> <li>- In general, the inputs made by the NGO are considered appropriate and reasonable as compared with the results made by the activities.</li> <li>- The training courses for the use of sewing machine, tais making, and food processing, should have been divided into two to three batches in consideration of the number of participants and availability of trainers as well as equipment/facilities for training.</li> <li>- Some of the training courses were postponed due to the busyness of the members and delay in arrangement for training. However, such delays did not influence the overall sub-program implementation.</li> </ul>	Inputs	Timing	Cost	Remarks	1. Staff allocation	As planned	As planned	-	2. Training				2.1 Vegetables farming	As planned	Beyond the planned budget	Training on maintenance work needed more number of days than planned.	2.2 Tais making	As planned	As planned	-	2.3 Use of sewing machine	As planned	As planned	-	2.4 Food processing	As planned	Slightly less than planned	Training period was shorter than planned	2.5 Others (Business management)	As planned	As planned	-	3. Provision of materials				3.1 Vegetables farming	As planned	Beyond the planned budget	Installation of water facilities was not included in the original plan.	3.2 Tais making	As planned	As planned		3.3 Use of sewing machine	As planned	Beyond the planned budget	Unit prices of materials were changed.	3.4 Food processing	As planned	As planned	-	3.5 Others	-	-	-
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Objectives	Evaluation																																																												
3.2 Level of achievement of outputs and sub-program objectives as compared with the inputs	<ul style="list-style-type: none"> <li>- Hands-on training courses were considered effective in enhancing members' knowledge and skills.</li> <li>- Deployment of a local staff was also considered effective in facilitating the members' participation in the sub-program activities.</li> </ul>																																																												
4. Impact																																																													
4.1 Positive impact	<p><u>Economic and socio-economic impact to the members</u></p> <ul style="list-style-type: none"> <li>- According to the interview with the members, the sub-program activities contributed to the increase of income and reduction of expenditures on purchasing vegetables, clothes and groceries as shown below.</li> <li>- The members can eat a variety of vegetables three times a day at present, while they had previously taken only watercress and cassava leaves.</li> <li>- The members can tap the micro credit schemes run by the groups and borrow money from the schemes with low interest.</li> </ul> <p><u>Impact to other community members</u></p> <ul style="list-style-type: none"> <li>- Other community members who have not participated in the sub-program started vegetable farming following the techniques demonstrated in the demonstration plots.</li> </ul> <table border="1"> <thead> <tr> <th>Positive Impacts reported</th> <th>Ratio of Positive Answer</th> <th>Range/levels reported</th> <th>Positive Impacts reported</th> <th>Ratio</th> <th>Range/levels reported</th> </tr> <tr> <th>1) Vegetable Farming</th> <td></td> <td></td> <th>2) Tais Making</th> <td></td> <td></td> </tr> </thead> <tbody> <tr> <td>Increase of income</td> <td>100% (n=4)</td> <td>NA</td> <td>Increase of income</td> <td>100% (n=7)</td> <td>Making and selling</td> </tr> <tr> <td>Increase of intakes of vegetables</td> <td>100% (n=4)</td> <td>NA</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Confidence</td> <td>100% (n=4)</td> <td>NA</td> <td>Confidence</td> <td>100% (n=7)</td> <td>Making tais with various motif</td> </tr> <tr> <td>Reduction of expenses</td> <td>100% (n=4)</td> <td>NA</td> <td>Reduction of expenses</td> <td>100% (n=7)</td> <td>NA</td> </tr> <tr> <td>Mutual Help</td> <td>100% (n=4)</td> <td>NA</td> <td>Mutual Help</td> <td>100% (n=7)</td> <td>NA</td> </tr> <tr> <td>Expansion of income generating opportunities</td> <td>100% (n=4)</td> <td>NA</td> <td>Expansion of income generating opportunities</td> <td>100% (n=7)</td> <td>NA</td> </tr> <tr> <td>Acquisition of new techniques</td> <td>100% (n=4)</td> <td>NA</td> <td>Acquisition of new techniques</td> <td>100% (n=7)</td> <td>NA</td> </tr> <tr> <td>Others (Food security)</td> <td>100% (n=1)</td> <td>NA</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Positive Impacts reported	Ratio of Positive Answer	Range/levels reported	Positive Impacts reported	Ratio	Range/levels reported	1) Vegetable Farming			2) Tais Making			Increase of income	100% (n=4)	NA	Increase of income	100% (n=7)	Making and selling	Increase of intakes of vegetables	100% (n=4)	NA				Confidence	100% (n=4)	NA	Confidence	100% (n=7)	Making tais with various motif	Reduction of expenses	100% (n=4)	NA	Reduction of expenses	100% (n=7)	NA	Mutual Help	100% (n=4)	NA	Mutual Help	100% (n=7)	NA	Expansion of income generating opportunities	100% (n=4)	NA	Expansion of income generating opportunities	100% (n=7)	NA	Acquisition of new techniques	100% (n=4)	NA	Acquisition of new techniques	100% (n=7)	NA	Others (Food security)	100% (n=1)	NA			
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Objectives	Evaluation					
	<b>3) Sewing Machine</b>			<b>4) Food Processing</b>		
	Increase of income	100%	Sewing new clothes, repairing	Increase of income	100% (n=7)	NA
	Confidence	100%	Sewing various types of cloth	Confidence	100% (n=6)	processed local commodity to become useful snack for selling
	Reduction of expenses	100%	NA	Reduction of expenses	100% (n=6)	NA
	Mutual Help	100%	NA	Mutual Help	100% (n=6)	NA
	Expansion of income generating opportunities	100%	NA	Expansion of income generating opportunities	100% (n=6)	NA
	Acquisition of new techniques	100%	NA	Acquisition of new techniques	100% (n=6)	NA
	Note: The number of samples is 8 for each activity unless specified with “n”. Source: JICA Study Team (2009).					
4.2 Negative impact	- The volume of water distributed to the demonstration plot in Werlulun has become scarce as vegetable farms have expanded in Balurin recently.					
5. Sustainability						
5.1 Government support	- There is no government clear plan to support the sub-program activities after the pilot project. Since the government deployed one extensionist for Batara and Orlalan in 2008, they might be able to obtain some assistance from him. However, there has been no substantial support made by him as of August 2009.					
5.2 Capacity of the groups	<ul style="list-style-type: none"> <li>- Almost all the members are apparently able to apply the vegetable farming techniques except natural pesticide application, while some of the members seem to have still difficulties in tais making and sewing machine operations.</li> <li>- Technically speaking, the groups are considered capable of applying techniques that they have learned through the sub-program. But they still need further assistance in the management of group fund and operations of micro credit schemes as well as kiosks.</li> <li>- The following table shows the levels of their willingness to continue the activities. Most of them are willing to continue the activities, while expressing their concerns over the lack of materials.</li> </ul>					



Objectives	Evaluation					
	Sustainability/Willingness	Rate <1	Why willing to continue	Why not willing to continue	Any hindrance	Necessary assistance
	<b>Vegetable Farming</b>					
	to continue vegetable farming in dry season by group	4.1	To increase group income	less availability of water	Lack of techniques and equipment	Implements, seeds, water tank, and pesticides
	to continue vegetable farming in wet season by group	2.4	Nil	not growing well	Lack of seeds and material	water tank and implements
	to continue vegetable farming in dry season by individuals	4.5	To increase individual income	less availability of water	Lack of seeds and material	Implements, seeds, water tank, and pesticides
	to continue vegetable farming in wet season by individuals	3 (n=6)	Nil	not growing well		
	<b>Tais Making</b>					
	to continue tais making as a group	4.1	To increase group income	NA	Lack of raw materials and tools	materials (string and ropes)
	to continue tais making as a private business	4.0 (n=7)	To increase income	Difficult to make it by myself	Lack of raw materials and understanding of techniques	materials (string and ropes) and additional training
	to continue tais making for family	4.1	To reduce expenses	Difficult to make it by myself	Lack of raw materials and understanding of techniques	materials (string and ropes) and additional training
	<b>Sewing machine</b>					
	to continue making/repairing clothes as a group activity	4.6	To increase group income	NA	Lack of materials and funds	materials (e.g. Cloth, Strings, roll and oils)
	to continue making/repairing clothes as a private business	4.5	To reduce expenses	Nil	Lack of materials	materials (e.g. Cloth, Strings, roll and oils)
	to continue making/repairing clothes for family	4.8	To reduce expenses	Nil	Lack of materials	materials (e.g. Cloth, Strings, roll and oils)

Objectives	Evaluation					
	<b>Food Processing</b>					
	to continue making/repairing clothes as a group activity	4.3	To increase group income	NA	Lack of materials (not completed) and funds	materials (e.g. Steamer pan, knife, big spoon)
	to continue making/repairing clothes as a private business	4.1	To increase income	No fund	Lack of materials	materials (e.g. Steamer pan, knife, big spoon)
	to continue making/repairing clothes for family	4.3 (n=7)	To reduce expenses	No fund	Lack of materials (not completed)	materials (e.g. Steamer pan, knife, big spoon)
Note: The number of samples is 8 for each activity unless specified with "n". <1: The level of impact was evaluated by using 5-point rating, namely 5=very well 4=well, 3=fair, 2=less, and 1= no impact Source: JICA Study Team (2009)						
5.3 Coordination with the NGO	- The NGO, USC Canada Timor-Leste, was committed to continuing assistance to the women's groups even after the end of the pilot project. In fact, the NGO has already programmed the post-pilot project activities in its work plan in 2009. Hence, the groups can still have technical assistance from the NGO.					
5.4 Coordination with other organizations	- There is no coordination or linkage with other organizations made so far.					
5.5 Financial aspect	- As long as the women's groups have technical assistance from the NGO, they are expected to keep gaining a certain level of income and running their micro credit schemes and kiosks. However, it would take more several years for the women's groups to be able to manage their funds and be self-reliant in terms of financial aspects.					

Table 4-2-3 Lessons learned

Lessons learned	Stage	Descriptions
Preparation of work plan	Planning stage	<ul style="list-style-type: none"> <li>- The work plan should be developed in due consideration of the busyness of the members (availability of members) and traditional/customary activities in the village, so that the planned activities could be implemented as planned.</li> <li>- Participatory planning is effective in enabling the members to gain clear ideas of the sub-program activities prior to the implementation of the sub-program.</li> </ul>
Design of training	Planning stage	- The design of training should be determined in consideration of facilities/materials and trainers available and the number of target participants. A total of 10 participants seem to be the maximum number of trainees to be handled in one training course if all the participants should make trial in the session. One training session is not necessarily enough to capacitate all the participant to learn the techniques when a new technique is introduced in the training.

Lessons learned	Stage	Descriptions
		<ul style="list-style-type: none"> <li>- Hands-on training or Field Farmers Schools (FFSs) should be adopted as the main tool for developing the capacities of the group members.</li> </ul>
Group organization	Implementation	<ul style="list-style-type: none"> <li>- The regulations of the group should be developed prior to the implementation of the income generating activities. They are crucial in maintaining the solidarity of the group even after gaining some earnings from the activities. The regulations should be reviewed and revised whenever necessary.</li> <li>- Monthly meeting should be organized with participation of the village leaders (Chef de Suco and Chef de Aldeia) and the NGO to solve any issues and conflicts among the group.</li> <li>- The latest financial status of the group should be shared in the monthly meeting if the group already started earning cash income from the activities.</li> </ul>
Management of the sub-program	Implementation	<ul style="list-style-type: none"> <li>- The progress of the sub-program should be reviewed annually or biannually in a participatory manner. The more involved they are in planning and monitoring of the sub-program, the more clearly they could understand the sub-program.</li> <li>- In the meeting, the members shall review their performance and accomplishments made in the past 12 or 6 months and discuss improvements/action to be taken for the next 12 or 6 months. Then, the participants shall prepare an/a annual or bi-annual work plan based on the discussions.</li> <li>- The work plan should be flexibly revised whenever necessary. At the same time, the work plan should be flexibly implemented on the basis of the situation of the members as well as the site.</li> </ul>

**Table 5-1-1 Appropriateness of the Implementation Process**

Objectives	Accomplishments																																																												
Appropriateness of the process	<p>- The members of the beneficiaries' groups of the sub-program evaluated the process of the sub-program implementation from the viewpoints of satisfaction level of workshops and approaches taken in the sub-program implementation. The members highly appreciated the sub-program activities as shown below.</p> <p>1) Children</p> <table border="1"> <thead> <tr> <th>Aspect</th> <th>Evaluation by adult members (Score &lt;1 and answers &lt;2)</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>Management of Activities</td> <td>4.25</td> <td></td> </tr> <tr> <td>Content</td> <td>Satisfied</td> <td></td> </tr> <tr> <td>Duration</td> <td>ditto</td> <td></td> </tr> <tr> <td>Frequency</td> <td>ditto</td> <td></td> </tr> <tr> <td>Facilitation</td> <td>ditto</td> <td></td> </tr> <tr> <td>Food</td> <td>ditto</td> <td></td> </tr> <tr> <td>Picture show</td> <td>4.3</td> <td></td> </tr> <tr> <td>Story of picture book</td> <td>Satisfied</td> <td></td> </tr> <tr> <td>Discussions after presentation of picture book</td> <td>ditto</td> <td></td> </tr> <tr> <td>Drawing festival</td> <td>4.4</td> <td></td> </tr> <tr> <td>Drawing picture</td> <td>Satisfied</td> <td>Also, some children were satisfied with the materials distributed, such as color pencils.</td> </tr> <tr> <td>Preparation of description card</td> <td>ditto</td> <td></td> </tr> <tr> <td>Presentation of the drawings to the adults</td> <td>4.4</td> <td></td> </tr> <tr> <td>Exhibition tour</td> <td>Satisfied</td> <td></td> </tr> <tr> <td>Presentation of the drawings to the adults</td> <td>ditto</td> <td></td> </tr> <tr> <td>Discussion with adults</td> <td>ditto</td> <td>Also, some children were satisfied to hear commitments from adults to protect natural resources in the village.</td> </tr> <tr> <td>Participation in the Tara-bandu ceremony</td> <td>4.3</td> <td></td> </tr> <tr> <td>Explanation of village regulation by adults</td> <td>Satisfied</td> <td></td> </tr> <tr> <td>Presentation of the drawings by the children</td> <td>ditto</td> <td></td> </tr> </tbody> </table> <p> <b>Note:</b>            The number of samples is 12,            &lt;1: The level of satisfaction was evaluated by using 5-point rating, namely 5=fully satisfied, 4=satisfied, 3=fair, 2=rather unsatisfied, and 1=unsatisfied.            &lt;2: The portion of positive answers to the total is also used in evaluation of the satisfaction level. 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Any changes in the sub-program implementation	- None																																													

**Table 5-1-2 Evaluation of the Performance of PAC-SP (based on the five criteria, such as relevance, effectiveness, efficiency, impact, and sustainability)**

Objectives	Evaluation
<p>1. Relevance</p> <p>1.1 Relevance with the needs of the target groups</p>	<ul style="list-style-type: none"> <li>- The RRA survey conducted by the Study Team in 2007 revealed major problems on natural resource management in the village, such as forest fire, no regulation/rules on cutting trees, lack of dense forest, and water shortage especially during the dry season. Some of the problems are caused as results of intervention by the villagers possibly due to lack of awareness of proper natural resource management and consensus among the villagers on natural resource management at their locality.</li> <li>- In order to realize sustainable natural resource management, it is essential to raise awareness not only among adults but among children since the children are the ones who will have decision making on the use of natural resources in the future. But it was difficult to implement environmental education programme at the primary school of the village since there was lack of material and skills of the teachers to conduct the activities.</li> <li>- Therefore, awareness raising activities on natural resource management which target mainly children in the primary school with involvement of adult members in the village have high consistency with the necessity of the community.</li> <li>- Through the workshops organized by the sub-program, the members enhanced effectively the understanding and awareness of importance and measures to be taken for natural resource management.</li> </ul>
<p>1.2 Relevance with the watershed management plan</p>	<p>- Enhancement of public awareness about the importance of watershed management plays a vital role in the implementation of the watershed management plan. Without changing the ideas and understandings of rural communities and households who actually decide land/resource use in the watersheds, it would be quite difficult to shift the environmentally downward trend to an environmentally sound one. Since there is no legal base that allows MAF/NDF to control the current activities of rural households at present, the enhancement of public awareness is the sole means that can encourage rural households to regulate their life style. Hence, the introduction of public awareness raising activities is one of the crucial issues to be addressed to improve watershed environment.</p>
<p>2. Effectiveness</p> <p>2.1 Achievement of sub-program objectives</p> <p>2.2 Logical relation between the activities and sub-program objectives</p>	<ul style="list-style-type: none"> <li>- The main aim of the sub-program is to foster awareness among villagers on sustainable natural resources management. Due to the limited implementation period of the workshops under the sub-program, it seemed to be difficult to expect the change of awareness among the target groups. However, the Table 5-2 implied that the target children apparently changed positively their perception about future image of forest and water resources in the village after implementation of the sub-program.</li> <li>- The sub-program comprises of the following activities: <ul style="list-style-type: none"> <li>➤ Assessment Survey</li> <li>➤ Material preparation</li> <li>➤ Implementation of workshops at the village</li> </ul> </li> </ul> <p>These activities were effective in enhancing the awareness of the groups about the sustainable natural resource management in proper way.</p>
<p>2.3 Any external factors</p>	<p>- Teachers of the primary school of suco Samalete with acknowledgement of the sub-program by the Ministry of Education</p>

Objectives	Evaluation																												
that affected the project implementation	and its district office have been involved in the activities from the beginning, which enabled to keep high participation level of the target children throughout the sub-program implementation.																												
3. Efficiency 3.1 Inputs made by NGO	<p>- The following table shows the original budget and actual expenses of the sub-program.</p> <table border="1"> <thead> <tr> <th>Cost items</th> <th>Timing</th> <th>Cost</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1. Staff allocation</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>2. Workshops</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>3. Tools/materials provided</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.1 Picture books</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> <tr> <td>3.2 Calendar</td> <td>As planned</td> <td>Lower than planned</td> <td>The specification of the calendar was changed for practical use by the villagers.</td> </tr> <tr> <td>4. Meetings, e.g., evaluation workshops</td> <td>As planned</td> <td>As planned</td> <td>-</td> </tr> </tbody> </table> <p>Source: JICA Study Team (2009)</p> <p>- In general, the inputs made by the Study Team are considered appropriate and reasonable as compared with the results made by the activities.</p>	Cost items	Timing	Cost	Remarks	1. Staff allocation	As planned	As planned	-	2. Workshops	As planned	As planned	-	3. Tools/materials provided				3.1 Picture books	As planned	As planned	-	3.2 Calendar	As planned	Lower than planned	The specification of the calendar was changed for practical use by the villagers.	4. Meetings, e.g., evaluation workshops	As planned	As planned	-
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3.2 Level of achievement of outputs and sub-program objectives as compared with the inputs	<p>- Workshops implemented were considered effective in enhancement of members' understanding.</p> <p>- Coordination with teachers, chefe de suco and the local staffs of NGO dispatched at the village helped to keep high participation level at the workshops.</p>																												
4. Impact 4.1 Positive impact	<p><u>Impact to the members</u></p> <p>Basically, the followings are synergetic impacts made by the sub-program and the village regulation developed in 2008 under TPP-SP.</p> <ul style="list-style-type: none"> <li>- The members seemingly have more interest in assisting TPP-SP.</li> <li>- Number of case of cutting trees in fun along the road by the children was reduced.</li> </ul> <p><u>Impact to non-members</u></p> <ul style="list-style-type: none"> <li>- Through the presentation of the drawings by the children at the Tara-bandu ceremony and distribution of the calendar, non-members also could share the future vision of the village.</li> <li>- Teachers of the primary school of the village plan to replicate the sub-program in other village.</li> </ul>																												
4.2 Negative impact	<ul style="list-style-type: none"> <li>- The frequency of the workshops affected the curriculum, especially preparation of examination for the children.</li> </ul>																												
5. Sustainability 5.1 Government support	<ul style="list-style-type: none"> <li>- There is no government clear plan to support the sub-program activities after the pilot project.</li> </ul>																												

Objectives	Evaluation												
5.2 Capacity of the groups	<p>- According to the Table 5-2, almost all the members are apparently understood the importance of natural resource management at their locality.</p> <p>- As tabulated below, almost all the members expressed that they have willingness to continue the activities.</p> <table border="1"> <thead> <tr> <th>Willingness to continue the sub-program activities</th> <th>Rate &lt;1</th> <th>Why willing to continue</th> <th>Why not willing to continue</th> </tr> </thead> <tbody> <tr> <td>Willingness among children</td> <td>4.3</td> <td>- To know more about protection of natural resources for future - To understand more about environment also to raise awareness among adults</td> <td>Nil</td> </tr> <tr> <td>Willingness among adults</td> <td>4.3</td> <td>-To learn more about natural resources -To disseminate information to the other community members - To increase capacity to protect natural resources in suco</td> <td>Nil</td> </tr> </tbody> </table> <p>Note &lt;1: The level of willingness was evaluated by using 5-point rating, namely 5=very high, 4=high, 3=fair, 2=low, and 1= very low.</p> <p>-With respect to the reasons to continue the activities by the children and adults, it is found that some of members were interested to disseminate information to others. It implies that the some of target members can be used as resource person to disseminate information to other members in succeeding awareness raising activities in the village.</p>	Willingness to continue the sub-program activities	Rate <1	Why willing to continue	Why not willing to continue	Willingness among children	4.3	- To know more about protection of natural resources for future - To understand more about environment also to raise awareness among adults	Nil	Willingness among adults	4.3	-To learn more about natural resources -To disseminate information to the other community members - To increase capacity to protect natural resources in suco	Nil
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5.3 Coordination with the NGO	- Although there was coordination with NGOs in implementation of the activities under the sub-program, there is no plan to continue the activities after the sub-program by the NGOs.												
5.4 Coordination with other organizations	-The teachers of Suco Samalete are interested in disseminating activities in their neighbouring schools in coordination with the teachers of neighbouring schools.												
5.5 Financial aspect	-If they have material support as picture book, it is possible for the community to continue the similar activities at school led by teachers.												

**Table 5-1-3 Lessons learned**

Lessons learned	Stage	Descriptions
Preparation of work plan	Planning stage	- It would be better to take enough periods for implementation of the workshops since the tight schedule can affect the curriculum. The workshops organized at the school should be less than two (2) times per month.
Selection of type of PAC materials	Planning stage	- Since the suco offices have televisions with DVD-players, the multi-media materials can be developed in further awareness raising activities at the communities.
Involvement of teachers	Planning-Implementation stage	- In case the PAC activities target children, it is essential to involve teachers to organize the children groups and improve skills of the teachers to conduct PAC activities since they can continue implementation of the



Lessons learned	Stage	Descriptions
		activities at the village after the sub-program.
Implementation of the workshops	Implementation stage	<ul style="list-style-type: none"> <li>- If the PAC activities organise discussion session between adults and children, it is important to focus on the upper grades with proper guidance by the facilitator.</li> <li>- In organizing workshops targeting children, it is crucial to consider method and way of facilitation, such as ice-breaking activities, so as to make children feel at ease in expressing their own ideas freely.</li> </ul>
Further information dissemination in the village	Follow-up	<ul style="list-style-type: none"> <li>- In order to disseminate information to the non-members, additional sessions can be organized where the members can be resource person to explain to the non-members what they learnt about importance of natural resource management in the previous workshops.</li> </ul>