

**Rules and Regulation for Use of Saving as Micro Credit
of woman's group "Feto Buka Moris"
in Fadabloco**

Rule 1

Title

These Rules and Regulation shall be shared among the woman's group "**Feto Buka Moris**" to use their saving properly.

Rule 2

Definition of term

As used in these Rules and Regulation, the following terms shall mean:

- (a) **Micro credit** - a small loans and saving mobilization program exclusively for a woman's group to improve the asset base of household and expand the access to saving of the group. It involves the use of viable alternative credit schemes and saving programs including the extension of small loans, simplified loan application procedures, group character loans, collateral arrangements, alternative loan repayments, minimum requirements for savings, and small denominated instruments.
- (b) In starting stage, NGO **RAEBIA** will support fund management of woman's group "**Feto Buka Moris**" to mobilize saving and stabilize credits. **RAEBIA** is a non-profit organization focusing on improvement of the basic sectors of society by providing advocacy, training on several sectors, community organization, monitoring, research, access to resources and other similar activities.
- (c) Charges on loan shall refer to agreed upon reasonable and conscionable interest rate (6% per year), service charges if necessary, penalty, discount, and such other charges incidental to **Micro Credit** lending activity.
- (d) Debtor shall refer to a borrower or person granted a loan by the woman's group "**Feto Buka Moris**".
- (e) Monetary Assets shall refer to saving from income generating activities such as cassava chips production and black gotukola tea production.
- (f) **Micro credits** – are small loans granted to the basic sectors on the basis of the borrower's cash flow and other loans granted to the members of the woman's group "**Feto Buka Moris**" for their microenterprise and small businesses to enable them to raise their income levels and improve their living standards.

Rule 3

Requirement for Structure

(a) Structure of Micro Credit “Feto Buka Moris”

A **Micro Credit “Feto Buka Moris”** shall have a management committee to operate their activities. The management committee consists of at least five (5) members such as a president, a secretary, a record keeper, a treasurer and a supervisory auditor

- i. Role of president: She is responsible for the **Micro Credit** operation including call a meeting, organizing a meeting, facilitating a meeting and decision making
- ii. Role of secretary: Taking notes (minutes of meeting) and providing the list of participants in every meeting.
- iii. Role of record keeper: Providing individual loan records, calculating interests, monitoring the balance.
- iv. Role of treasurer: Keeping money (less than \$100 from saving) safely, providing transparency to every member in the meeting by providing the report and making sure the balance in every month.
- v. Role of supervisory auditor (REBIA): Examining the business and financial records of **Micro Credit “Feto Buka Moris”**, giving advice how to manage loans and keeping money (Savings over \$100) safely.

Rule 4

Capital

- (a) The **Micro Credit “Fetu Buka Moris”** shall have a minimum seed capital of One Thousand (1,000) Dollars saved from cassava chips production.
- (b) The capital (fund for saving credit) of the **Micro credit** shall be increased later in accordance with the profit from cassava chips and other income generating activities such as black gotukola tea production of woman’s group **“Feto Buka Moris”**. The group members will decide the amount of money and/or percentage of profit to allocate to the capital for **Micro Credit**. (20% for distribution(personal savings): 50% for expansion of income generating activities: 30% for seed money for **Micro Credit**).

Rule 5

Membership Requirement

- (a) All of the membership of the **Micro Credit** shall be members of the woman’s group **“Feto Buka Moris”** in Fadabloco.
- (b) Members of the cassava chips production shall have priority to other members of woman’s group **“Feto Buka Moris”**. Other member can join as a member of micro credit if they can contribute 50% of their income from group activities such as black gotukola production and when their saving reached to \$25.

- (c) Need of co-signer
- (d) Pledge of collateral (Ex. Cow, pig, goat, chicken)

Rule 6

Amount and Charges on Loans

- (a) A **Micro Credit** may grant loans from a low of \$50 to a maximum of \$100 subject to such reasonable and considerable imposable interest rates (6% per year) and charges as may be agreed upon between the **Micro Credit “Feto Buka Moris”** and the debtor:
- (b) In accordance with the Rules and Regulations of the **Micro Credit “Feto Buka Moris”** prior to the consummation of the transaction, the **Micro Credit “Feto Buka Moris”** shall furnish each debtor a disclosure statement, setting forth, to the extent applicable, the following information:
 - i. The principal amount of loan;
 - ii. Rate of interest of the loan;
 - iii. Service or processing fee, if any;
 - iv. Repayment schedule;
 - v. Any penalty charges for late repayment;
 - vi. Collection fee, if any;
 - vii. All other fees in connection with the loan transaction;
 - viii. Description of the collection and lien enforcement procedures; and
 - ix. Method of calculating the total amount of obligation in case of default.

Rule 7

Maintenance of Books of Accounts and Records

- (a) **Micro Credit “Feto Buka Moris”** shall maintain books of capital (saving account) and records of loan.
- (b) Record keeper shall maintain these two books of each member, the saving accounts of each members of woman’s group “Feto Buka Moris” based on the profit distribution from activities and the records of loans based on the micro credit contract.
- (c) Treasurer shall report the transaction and balance of **Micro Credit** in every month.
- (d) Advisory auditor (RAEBIA) shall monitor the correct use of **Micro Credit** and keep money safely.
- (e) If any accident, president shall call an internal meeting to solve the problems.

Rule 8

Effectivity of Rules and Regulations

These Rules and Regulations shall take effect from the day, 26th February, 2015.

Adopted by the Management committee on February 2015, Fadabloco, Remixio, Aileu District,
Timor-Leste

Name of President

Chair person

Name of secretary

Secretary

Name of record keeper

Record keeper

Name of treasurer

Treasurer

Name of Auditor

RAEBIA

Executive director

Xisto Martins

Results of Formation of the Watershed Management Council of the Noru Watershed in the Lacro River Basin

1. Overview of the Progress

The JICA Project Team together with the NGO have had a series of dialogues with key stakeholders concerned with the Noru watershed as listed below.

- a. Initial consultations with the Sub-district Administrator of Remexio and Liquidoe
- b. Introduction of the concept of CB-NRM and the idea on the watershed management council to suco leaders of 12 sucos concerned with the Noru watershed
- c. Study tour to one of the target villages of the JICA CB-NRM Project
- d. Study tour to the Raumoco watershed and meeting with the Raumoco watershed management council
- e. Stakeholder analysis and selection of members of the watershed management council
- f. Situation analysis and envisioning of the future image of the villages/watrsheed
- g. Discussion on draft by-laws, vision, missions, objectivities, and functions of the watershed management council
- h. Finalization of the resolution on the establishment of the Noru watershed management council
- i. Discussions of a draft watershed management plan (present conditions, issues on watershed management, goals and objectives of the watershed management plan, action plans of the watershed management plan, and implementation plan)

Among other things, the processes and results of the activities directly relating to the establishment and institutionalization of the Noru watershed management council are introduced in this chapter.

2. Selection of Members of the Watershed Management Council

2.1 Stakeholder Analysis

Prior to the selection of members of the watershed management council and discussion on the expected roles and responsibilities of members, the leaders of the sub-district administrative offices and 12 sucos concerned with the Noru watershed (hereinafter “the core members”) analyzed relevant stakeholders to watershed management (stakeholder analysis). They identified a total of 15 organizations/groups relevant to management of the Noru watershed and evaluated the importance of the respective stakeholders in terms of watershed management. The results of the discussions are shown below.

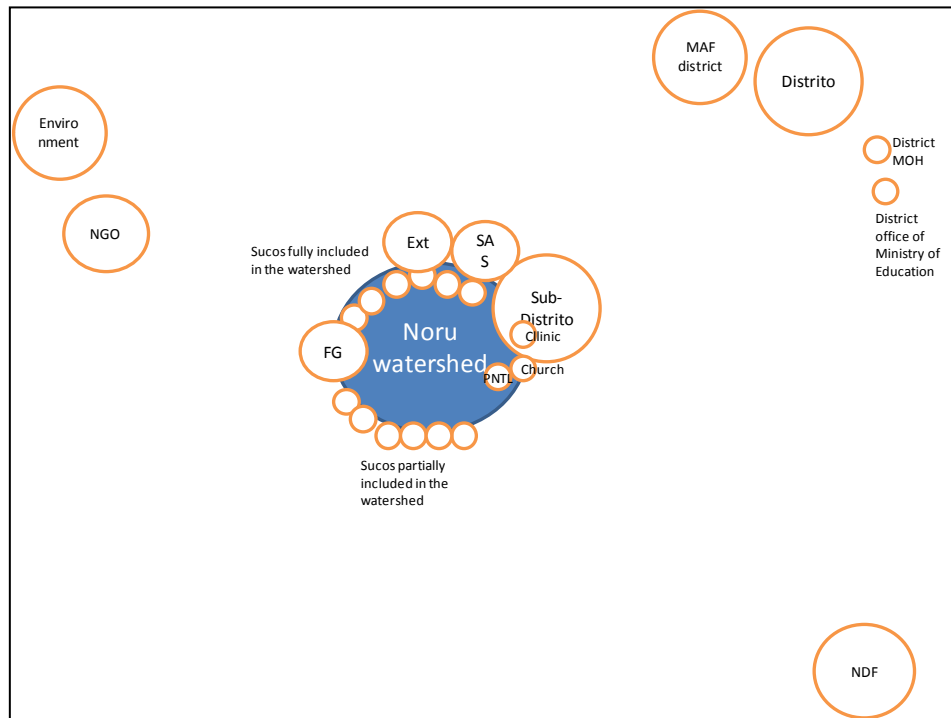
Results of the Stakeholder Analysis

Name	Relevance to (Involvement in) watershed management	Importance in the management of watershed
District Administrative Office	- Not directly involved in watershed management	- Highly important as its tasks are to give approval for the sub-district administrative offices to work on watershed management and to provide guidance for the same on relevant activities for watershed management.
Sub-district offices of Remexio & Liquidoe	- Highly relevant - Directly involved in watershed management because of location	- Highly important as they have authority over activities in the watershed.
Sucos located inside the watershed	- Highly relevant - Directly involved in watershed	- Highly important as chef de suco is responsible for activities at suco level and

Name	Relevance to (Involvement in) watershed management	Importance in the management of watershed
	management because communities in sucos are the landowners of the area.	communities are the actual managers of lands and forests in the watershed.
District MAF/NDF	- Not directly involved in watershed management	- Highly important as District Administrative Office is.
Extensionists	- Highly relevant - Directly involved in watershed management as they work in the watershed.	- Highly important as they work with communities.
Forest Guard	<u>FG in Remexio</u> - Highly relevant - Directly involved in watershed management as he lives in the watershed. <u>FG in Liquidoe</u> - Not directly involved in watershed management as he does not live in the watershed and not easy to commute to the watershed.	- Highly important as they are the ones who orient communities towards sustainable forest and watershed management.
District MOH (Health)	- Less relevant - Not directly involved	- Less important
Clinic	- Less relevant - Likely involved directly.	- Less important
Education	- Less relevant - Not directly involved	- Less important
Teachers/principles	- Less relevant	- Less important
ND for Environment	- Not directly involved as there is no branch office at the sub-district level.	- Highly important as the ND for environment is also working for forest conservation.
PNTL	- Directly involved in watershed management as PNTL is working with communities to prevent illegal activities including forest fires.	- Less important as the watershed management is not the task of PNTL.
SAS sub-district in Remexio & Liquidoe	- Highly relevant as one of SAS tasks is to protect water sources. - Directly involved as the branch offices are located in the respective sub-districts.	- Highly important as SAS would advise and help communities to protect forests and areas around water sources.
Church	- Highly relevant as its task is to orient local communities.	- Less important as Church has nothing to do with watershed management.
NGO (AMAR, WV, Plan, Haburas, RAEBIA)	- Not directly or continuously involved in watershed management as they are not based in the watershed.	- Highly important as the NGOs have implemented some activities relevant to watershed management.

Source: JICA Project Team (2014)

Following the discussions of the stakeholders, the core members were further asked to evaluate the relationship of the above-listed organizations with the Noru watershed using a venn diagram method. As shown in the following drawing, the organizations considered as important for the watershed were indicated as large circles, while those directly relating to the watershed were placed close to the center circle, which indicated the Noru watershed.



Source: JICA Project Team (2014)

Results of Venn Diagram of the Organizations in the Watershed

2.2 Identification/Selection of Members of the Watershed Management Council

Using the results of the stakeholder analysis, the core members further discussed who should be the members of the watershed management council of the Noru watershed. The following organizations were selected as the members of the council.

- ▶ Sub-district administrative offices of Remexio and Liquidoe
- ▶ 12 sucos in Remexio and Liquidoe
- ▶ NDF
- ▶ District MAF
- ▶ District office of National Directorate for Environment (NDE)
- ▶ Sub-district offices of National Directorate for Water Supply and Sanitation (NDWSS) in Remexio and Liquidoe

On the other hand, they decided that the following organizations should be treated as observers at this moment.

- ▶ District representative (District administrator & Focal point)
- ▶ District MOH (Health)
- ▶ Clinic
- ▶ Education
- ▶ Church (Sub-district)
- ▶ NGOs (AMAR, Worldvision, Plan, Haburas, and RAEBIA)

It was also agreed by the core members that the watershed management council was composed of Chair-person, Vice Chair-person, Secretariat, and other members. They allocated the respective tasks to the following organizations.

Framework of the Council and Organizations Appointed to Key Positions

Position	Name of organization
Chair person	Sub-district administrator of Remexio
Vice Chair person	Sub-district administrator of Liquidoe
Council members	12 chefe de sucos Environment (Optional) SAS sub-district in Remexio & Liquidoe (Optional)
Secretariat	NDF /District MAF

Source: JICA Project Team (2014)

2.3 Roles and Responsibilities of the Members

The core members further discussed and determined expected roles and responsibilities of the respective members/positions of the watershed management council as follows.

Roles of Responsibilities of the Members of the Watershed Management Council

Position	Roles/Responsibilities
Chair person (Sub-District Administrator of Remexio)	<ul style="list-style-type: none"> ● Convene the regular meeting and ad hoc meeting by the request from the members; ● Issue an invitation to the members; ● Chair meetings of the council by facilitating and directing discussions, ensuring basic rules in discussions, putting a question to the vote, and announcing decisions. ● Set agenda of meetings in coordination with Secretariat; ● Give guidance and orientation to the members of the council towards sustainable watershed management; ● Encourage the members of the council to keep on making efforts to achieve sustainable watershed conservation and management; and ● Communicate with other agencies, ministries, national directorates, and other organizations for ensuring of proper watershed management.
Vice Chair person (Sub-District Administrator of Liquidoe)	<ul style="list-style-type: none"> ● Support chair person in fulfilling his/her duties; ● Act as chairperson when chairperson is not available; ● Give guidance and orientation to the members of the council towards sustainable watershed management in collaboration with Chairperson; and ● Encourage the members of the council to keep on making efforts to achieve sustainable watershed conservation and management in collaboration with Chairperson.
Secretariat (NDF/District MAF)	<ul style="list-style-type: none"> ● Assist Chairperson/Vice Chairperson in convening the meeting, issuing and delivering invitation letters to members, and handling meetings; ● Draft agenda of meetings in coordination with Chairperson and Vice Chairperson; ● Be responsible for documentation activities, such as note taking, preparation of resolution/decision, etc.; and ● Help Chairperson and Vice Chairperson communicate with other agencies, ministries, national directorates, and organizations for ensuring of proper watershed management.
Council members (Chefs de Sucos)	<ul style="list-style-type: none"> ● Participate in activities arranged by the council, such as meetings and study tours; ● Share ideas and exchange opinions actively in meetings of the council to solve and settle any issues/problems that would obstruct the achievement of sustainable watershed management; ● Follow the rules and regulations agreed upon by the members; ● Guide communities in the respective villages to ensure that they would follow agreements made by the council; and ● Encourage communities in the respective villages to protect and manage forest and natural resources in a sustainable manner.
Council members (Environment)	<ul style="list-style-type: none"> ● Same as the roles and responsibilities for the council members (chefs de sucos); and ● Support communities in the watershed in the conducts of environmental protection activities, such as Tara Bandu ceremony, seedling production & reforestation, and environmental education.
Council members (SAS)	<ul style="list-style-type: none"> ● Same as the role and responsibilities for the council members (chefs de sucos); and ● Support communities in the watershed in the protection of sources of water in the respective villages.
Observer (NGOs, etc.)	<p>Observers can possess rights to:</p> <ul style="list-style-type: none"> ● Participate in meetings/activities organized by the council; ● Give advise/suggestion to the members of the council; and ● Assist the members of the council in carrying out activities related to watershed management. <p>Observers might be able to be a member of the council in the future when the council extends its functions and missions aside from forest and natural resource management in the future. Being a member is subject to approval of the council.</p>

Source: JICA Project Team (2014)

The participants also agreed on the idea that the council could organize a working group/committee with the approval of the majority of the members when needed.

3. Development of Visions of the Watershed Management Council

3.1 Situation Analysis

In order to have the common understanding of current situations of the Noru watershed among the core members, they discussed the current natural and socio-economic conditions in the watershed as well as the respective villages as below.

Results of the Situation Analysis (Natural Conditions) in the Watershed

Suco	Forest	Soil Fertility	Landslide	Water	Others
Asumau	Fully covered with the dense forest in the Portuguese era. Progress of deforestation during the Indonesian times due to large scale tree cutting	Decline of soil fertility due to shifting cultivation	Occurrence of many landslide	Reduction of volume of water	Decrease of wild animals, such as deer and cockatoo
Faturasa	Expansion of dense forests as medium forests have recovered and become dense forest.	Increase of soil fertility because of land conservation	Occurrence of landslide (still)	Increase of water sources and water volume	Same as above
Fahisoi	Reduction of forest coverage in the area	Decline of soil fertility	Increase of occurrence of landslides	No change in terms of volume and quality	No wild animals
Maumeta	Decrease of medium forests in the area	Same as above	Increase of occurrence of landslides due to cutting trees and shifting cultivation	Same as above	Same as above
Hautoho	Expansion of dense forests owing to the village regulations	Same as suco Faturasa	Decrease of landslide because of less tree cutting	Same as above	Same as above
Fadabloco	Same as above.	Same as above	Decrease of landslide	Same as above	Decrease of wild animals
Fahisoi	Increase of forest cover owing to reduction of shifting cultivation	Increase of soil fertility owing to introduction of soil conservation measures introduced by NGOs.	Some landslides	Increase of volume of water volume Good quality of water during the rainy season	Existence of the village regulations developed in 2013 with the one-month support from World Vision
Manucasa	Increase of forest cover	Same as above	Reduction of occurrence of landslide	No change in volume of water in the 10 major sources in the village	Existence of the village regulations developed in 2013 with the support from World Vision and PNTL
Namoleso	Same as above	Some improvement of soil fertility owing to application of soil conservation measures with the support from WV	Occurrence of landslides, which caused damage to the sources of water in the village	There are 7 sources in the village, which are currently used by the communities.	Existence of the village regulations developed in 2009 with the support from World Vision

Suco	Forest	Soil Fertility	Landslide	Water	Others
Bereleu	Decrease of forest cover due to illegal cutting and shifting cultivation	Decline of soil fertility due to no application of soil conservation measures	Occurrence of landslides	Decrease of volume of water	No village regulations
Asubilitoho	Some improvement of forest conditions because of seedlings distributed by MAF	Some improvement of soil fertility	Increase of landslides	No significant change in water in terms of volume and quality	Village regulations were developed this year.
Fatrilau	Decrease of forest cover due to lack of village regulations	Decrease of soil fertility	Occurrence of landslides close to the river,	No significant change in water, but more water facilities are needed	No village regulations

Source: JICA Project Team (2014)

Moreover, the core members discussed how socio-economic conditions would be changed if the CB-NRM mechanism was introduced in the villages. The results of the discussions are summarized below.

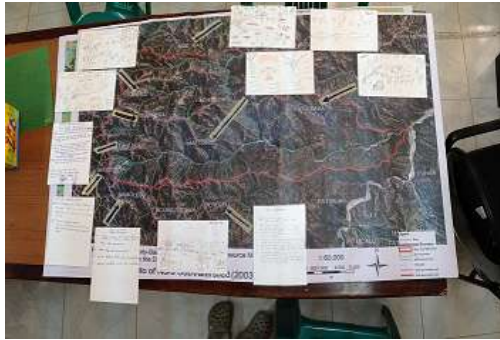
Results of the Situation Analysis (Socio-economic Conditions) in the Watershed

Sub-district	Living condition	Livelihood
Remexio	<ul style="list-style-type: none"> - Improvement of accessibility to the sources of water - Changing of farming practice from shifting cultivation to fixed farming - Less free grazing - Less wild fire 	<ul style="list-style-type: none"> - Reduction of time to fetch water - Increase of crop production - Reduction of the volume of trees cut for animal fences - Reduction of the incidence of landslide - Reduction of villagers' expenditure for farming
Liquidoe	<ul style="list-style-type: none"> - Improvement of living condition owing to the village regulations - Improvement of road conditions which facilitate the access to market - Improvement of accessibility to the sources of water - Reduction of shifting cultivation - Increase of soil fertility because of introduction of terrace - Reduction of the number of violence cases 	<ul style="list-style-type: none"> - Increase in the selling prices of animals - Increase of production of crops owing to soil conservation - Increase of vegetable production - Increase of income from vegetable production

Source: JICA Project Team (2014)

3.2 Envisioning of Future Images of the Villages

Following the situation analysis, the core members envisioned a future image of the respective villages. Each participant either drew a picture or described the statements of the future image of the village. The pictures and statements made by the participants were pasted onto the aerial photo map of the watershed, and the participants explained what they depicted/described as visions of the respective villages and sub-districts.



Aerial Photo Map with Future Visions



Explanation of the visions

3.3 Vision, Missions, Objectives, and Functions of the Watershed Management Council

Based on the results of the situation analysis and envisioning of the future images of the watershed as well as the villages, the participants discussed and finalized the vision, missions, objectives, and functions of the watershed management council as follows.

Vision, Missions, Objectives, and Functions determined by the Core Members

a. Vision Statement

“The Noru watershed management council is a non-profit alliance comprising sucos, sub-district administrative offices, and relevant government agencies with an aim to properly protect and manage forests, lands, and water sources in the Noru watershed for improvement of living conditions and livelihoods of residents in the watershed and contribution to stabilization of water supply to the downstream areas.”

b. Missions

- ◆ *to provide guidance and orientation to village leaders toward sustainable management of natural resources in the watershed;*
- ◆ *to provide leadership in harmonizing the interests and activities of sucos in the watershed to achieve sustainable natural resource management in the watershed;*
- ◆ *to take initiative in planning, implementing, and evaluating a watershed management plan to manage natural resources (e.g., forests, lands, and water) in a proper and sustainable manner while improving local livelihoods in the watershed;*
- ◆ *to help village leaders in the watershed enhance awareness of natural resource management among communities in the respective villages;*
- ◆ *to promote necessary actions for sustainable natural resource management in the watershed in coordination with relevant government and non-government organizations as well as international organizations;*
- ◆ *to help village leader/communities hand over the valuable natural resources to the future generations in the respective villages; and*
- ◆ *to share the experiences in the watershed with local government units (sucos, sub-districts, and districts) in other critical watersheds in Timor-Leste to promote sustainable natural resource management at the watershed level.*

c. Objectives

- ◆ *to reduce the incidence of environmental degradation events, such as forest/wild fire, illegal exploitation, and free grazing in the watershed;*
- ◆ *to improve the conditions of natural resources, namely, forests, lands/soils, and water, in the watershed;*

- ◆ *to maintain and improve livelihoods of local communities in the watershed; and*
- ◆ *to enhance the capacity of village leaders as well as communities in the respective villages to manage natural resources in a proper and sustainable manner.*

d. Functions

- ◆ *to formulate a watershed management plan with the assistance from relevant government and non-government organizations;*
- ◆ *to prepare an annual action plan to implement the watershed management plan at the beginning of the year;*
- ◆ *to monitor and evaluate the implementation of the annual action plan at the end of the year;*
- ◆ *to coordinate the implementation of the watershed management plan with relevant government and non-government organizations;*
- ◆ *to convene a regular meeting every quarter to monitor the situations of the watershed and discuss any issues relevant to natural resource management in the watershed;*
- ◆ *to adopt a resolution that would encourage all the sucos in the watershed to work on sustainable natural resource management in the watershed;*
- ◆ *to call a meeting whenever circumstances require it; and*
- ◆ *to organize a working group (or a committee) to tackle any important issues that would affect the management of the watershed.*

Source: JICA Project Team (2014)

4. Issuance of Resolution of the Watershed Management Council

The results of the discussions described above, namely i) members of the council, ii) roles and responsibilities of the members, and iii) vision, missions, objectives, and functions of the council, were compiled as the resolution of the watershed management council. The resolution was unanimously approved by all the members of the council with the signatures at the 1st regular meeting of the Noru watershed Management Council held on September 30, 2014. The finalized resolution is shown in **Attachment-1** stored in the CD attached to this report.



Signing of the Resolution by the Members

5. Preparation of the Watershed Management Plan

In order for the watershed management council to have guidelines on management of the Noru watershed, the council agreed to develop a watershed management plan with the technical assistance from the JICA Project Team and the NGO. To this end, the council has had three (3) meetings in October and November 2014 and discussed the following topics:

- a. Present conditions of the Noru watershed (Chapter 2);
- b. Causes of deforestation and forest degradation (Chapter 3);
- c. Issues on watershed management (Chapter 3);
- d. Goal and strategic objectives of the watershed management plan (Chapter 4);

- e. Action plans of the watershed management plan (Chapter 5); and
- f. Implementation plan (Chapter 6).

The JICA Project Team and the NGO made presentations of the outlines of the respective topics using the powerpoint materials. After some discussions made between the members of the watershed management council and the Team for clarification, it was agreed by the members of the council that the watershed management plan be prepared on the basis of discussions and presentations made in the meetings.

The outlines of the watershed management plan are summarized below.

Outlines of the Draft Watershed Management Plan of the Noru Watershed

Topic	Summary										
Goal and strategic objectives	1. Goal of the watershed management plan “To attain sustainable and integrated watershed management by balancing proper land and forest management with improvement of local livelihoods in the watershed”										
	2. Strategic objectives <ul style="list-style-type: none"> - Maintenance of the function of the watershed - Improvement of livelihoods of local communities - Introduction of the CB-NRM mechanism in the concerned sucos - Establishment of a collaborative framework for watershed management 										
	3. Guidelines on land use and management in the watershed The following guidelines should be used as principle rules on land management in the watershed.										
	<table border="1" style="width: 100%;"> <thead> <tr> <th style="background-color: #cccccc;">Zone</th> <th style="background-color: #cccccc;">Description</th> </tr> </thead> <tbody> <tr> <td>P-Zone</td> <td>Areas that have crucial functions of the watershed and high environmental values shall be protected as Protection zone. (P-zone). Dense forests and steep sloping areas (over 55 %) but not used for coffee plantation are classified into P-zone. In the area under P-zone, any economic use and activities except those allowed by the government regulations (i.e., UNTEAT No. 19) shall not be allowed. Such areas shall be basically managed/protected as protected forests.</td> </tr> <tr> <td>SM-Zone</td> <td>Medium forests and areas with slopes between 40% and 55% are categorized as Special Management Zone (SM-Zone). Coffee plantations with more than 55% slopes are also classified under this zone. The areas under SM-zone can be used for production purposes but shall be simultaneously managed as forest lands to prevent adverse effect on lands and water sources. Hence, forest-based land uses, such as i) coffee plantation, ii) mixed forests of timber and fruit trees, iii) natural forests used for collection of NTFPs, are recommended for the areas under this zone.</td> </tr> <tr> <td>SU-Zone</td> <td>Areas with slopes ranging from 15% to 40% or those covered with sparse forests are categorized under Sustainable Use Zone (SU-Zone). The basic idea of this zone is to use the areas for production purposes while maintaining land productivity. Hence, the areas can be used for farming but shall be managed in a proper manner by applying soil conservation measures or introducing agroforestry techniques.</td> </tr> <tr> <td>C-Zone</td> <td>Areas that do not belong to the above-mentioned zones are categorized into Production/Community Zone (C-Zone). In general, areas in C-Zone have flat to gentle slopes and less vegetation cover (bushes, grasslands, and bare lands). Because of these features, the areas can be used for economic and social development purposes by local communities with a few restrictions. Upland farms, grazing lands, and paddy fields, to name a few, are possible land uses in this zone.</td> </tr> </tbody> </table>	Zone	Description	P-Zone	Areas that have crucial functions of the watershed and high environmental values shall be protected as Protection zone. (P-zone). Dense forests and steep sloping areas (over 55 %) but not used for coffee plantation are classified into P-zone. In the area under P-zone, any economic use and activities except those allowed by the government regulations (i.e., UNTEAT No. 19) shall not be allowed. Such areas shall be basically managed/protected as protected forests.	SM-Zone	Medium forests and areas with slopes between 40% and 55% are categorized as Special Management Zone (SM-Zone). Coffee plantations with more than 55% slopes are also classified under this zone. The areas under SM-zone can be used for production purposes but shall be simultaneously managed as forest lands to prevent adverse effect on lands and water sources. Hence, forest-based land uses, such as i) coffee plantation, ii) mixed forests of timber and fruit trees, iii) natural forests used for collection of NTFPs, are recommended for the areas under this zone.	SU-Zone	Areas with slopes ranging from 15% to 40% or those covered with sparse forests are categorized under Sustainable Use Zone (SU-Zone). The basic idea of this zone is to use the areas for production purposes while maintaining land productivity. Hence, the areas can be used for farming but shall be managed in a proper manner by applying soil conservation measures or introducing agroforestry techniques.	C-Zone	Areas that do not belong to the above-mentioned zones are categorized into Production/Community Zone (C-Zone). In general, areas in C-Zone have flat to gentle slopes and less vegetation cover (bushes, grasslands, and bare lands). Because of these features, the areas can be used for economic and social development purposes by local communities with a few restrictions. Upland farms, grazing lands, and paddy fields, to name a few, are possible land uses in this zone.
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	P-Zone	Areas that have crucial functions of the watershed and high environmental values shall be protected as Protection zone. (P-zone). Dense forests and steep sloping areas (over 55 %) but not used for coffee plantation are classified into P-zone. In the area under P-zone, any economic use and activities except those allowed by the government regulations (i.e., UNTEAT No. 19) shall not be allowed. Such areas shall be basically managed/protected as protected forests.									
SM-Zone	Medium forests and areas with slopes between 40% and 55% are categorized as Special Management Zone (SM-Zone). Coffee plantations with more than 55% slopes are also classified under this zone. The areas under SM-zone can be used for production purposes but shall be simultaneously managed as forest lands to prevent adverse effect on lands and water sources. Hence, forest-based land uses, such as i) coffee plantation, ii) mixed forests of timber and fruit trees, iii) natural forests used for collection of NTFPs, are recommended for the areas under this zone.										
SU-Zone	Areas with slopes ranging from 15% to 40% or those covered with sparse forests are categorized under Sustainable Use Zone (SU-Zone). The basic idea of this zone is to use the areas for production purposes while maintaining land productivity. Hence, the areas can be used for farming but shall be managed in a proper manner by applying soil conservation measures or introducing agroforestry techniques.										
C-Zone	Areas that do not belong to the above-mentioned zones are categorized into Production/Community Zone (C-Zone). In general, areas in C-Zone have flat to gentle slopes and less vegetation cover (bushes, grasslands, and bare lands). Because of these features, the areas can be used for economic and social development purposes by local communities with a few restrictions. Upland farms, grazing lands, and paddy fields, to name a few, are possible land uses in this zone.										
The following flowchart should be used for classifying areas in the watershed into land management zones described above.											

Topic	Summary				
	<p>Watersheds</p> <p>↓</p> <p>Protected area < 1 Yes → Protection Zone (P-Zone)</p> <p>↓ No Yes → Protection Zone (P-Zone)</p> <p>Dense forest Yes → Protection Zone (P-Zone)</p> <p>↓ No Yes → Protection Zone (P-Zone)</p> <p>Over 55 % slope Yes → Special Management Zone (SM-Zone)</p> <p>↓ No Yes → Special Management Zone (SM-Zone)</p> <p>40 % - 55 % slope Yes → Special Management Zone (SM-Zone)</p> <p>↓ No Yes → Special Management Zone (SM-Zone)</p> <p>Medium forest Yes → Special Management Zone (SM-Zone)</p> <p>↓ No Yes → Sustainable Use Zone (SU-Zone)</p> <p>15 % - 40 % slope Yes → Sustainable Use Zone (SU-Zone)</p> <p>↓ No Yes → Production/Community Zone (C-Zone)</p> <p>Sparse forest Yes → Production/Community Zone (C-Zone)</p> <p>Coffee plantation Yes → Special Management Zone (SM-Zone)</p> <p>No → Production/Community Zone (C-Zone)</p> <p>< 1 Protected areas: the area is designated as a protected area by communities.</p>				
Action plan	<p>The action plan is composed of six (6) programs, which are further composed of 11 sub-programs. The composition of the action plan of the watershed management plan is shown below.</p> <p style="text-align: center;">Land Use Guidelines/Principles</p> <p style="text-align: center;">Land Use Program Participatory Land Use Planning Sub-Program</p> <p style="text-align: center;">↓</p> <p>Land Management-related Programs</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p>Farm & Livestock Management Program</p> <ul style="list-style-type: none"> ◆ Sustainable Upland Farming with Community-Based Seed Multiplication Sub-program ◆ Vegetable Production Sub-Program ◆ Animal Feed Production with Stall Feeding System Sub-Program </td> <td style="width: 50%; padding: 5px;"> <p>Reforestation & Forest Management Program</p> <ul style="list-style-type: none"> ◆ Reforestation Sub-Program ◆ Critical Area Rehabilitation Sub-Program ◆ Forest Fire Fighting Sub-Program </td> </tr> </table> <p style="text-align: center;">↓</p> <p>Supporting Programs</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p>Livelihood Improvement Program</p> <ul style="list-style-type: none"> ◆ Livelihood Development/Income Generating Sub-Program ◆ Improved Cooking Stove Promotion Sub-Program </td> <td style="width: 50%; padding: 5px;"> <p>Public Awareness Raising Program</p> <ul style="list-style-type: none"> ◆ Public Awareness Campaign Sub-Program </td> </tr> </table> <p style="text-align: center;">↓</p> <p>Overall Supporting Component</p> <p style="text-align: center;">Institutional Strengthening Program</p> <ul style="list-style-type: none"> ◆ Assistance in convening the regular and ad hoc meetings, Arrangement of exchange visits/study tours, and Provision of opportunities to develop the members' capacity for CB-NRM 	<p>Farm & Livestock Management Program</p> <ul style="list-style-type: none"> ◆ Sustainable Upland Farming with Community-Based Seed Multiplication Sub-program ◆ Vegetable Production Sub-Program ◆ Animal Feed Production with Stall Feeding System Sub-Program 	<p>Reforestation & Forest Management Program</p> <ul style="list-style-type: none"> ◆ Reforestation Sub-Program ◆ Critical Area Rehabilitation Sub-Program ◆ Forest Fire Fighting Sub-Program 	<p>Livelihood Improvement Program</p> <ul style="list-style-type: none"> ◆ Livelihood Development/Income Generating Sub-Program ◆ Improved Cooking Stove Promotion Sub-Program 	<p>Public Awareness Raising Program</p> <ul style="list-style-type: none"> ◆ Public Awareness Campaign Sub-Program
<p>Farm & Livestock Management Program</p> <ul style="list-style-type: none"> ◆ Sustainable Upland Farming with Community-Based Seed Multiplication Sub-program ◆ Vegetable Production Sub-Program ◆ Animal Feed Production with Stall Feeding System Sub-Program 	<p>Reforestation & Forest Management Program</p> <ul style="list-style-type: none"> ◆ Reforestation Sub-Program ◆ Critical Area Rehabilitation Sub-Program ◆ Forest Fire Fighting Sub-Program 				
<p>Livelihood Improvement Program</p> <ul style="list-style-type: none"> ◆ Livelihood Development/Income Generating Sub-Program ◆ Improved Cooking Stove Promotion Sub-Program 	<p>Public Awareness Raising Program</p> <ul style="list-style-type: none"> ◆ Public Awareness Campaign Sub-Program 				
Implementation plan	<p>The implementation plan indicates: i) implementation process, ii) selection of the sub-programs based on the conditions of suco, iii) institutional framework for implementation of the action plan, iv) necessary support and arrangements for implementation, and v) implementation schedule.</p> <p>The budget necessary for implementation of the watershed management plan was not discussed with the members of the watershed management council to avoid unnecessary expectation among the members of the council.</p>				

Source: JICA Project Team (2014)

In January and February 2015, the members of the watershed management council reviewed the draft watershed management plan with the assistance of the NGO and the

JICA Project Team. The watershed management plan was revised and finalized by referring the comments and suggestions given by the members in March 2015 as shown in **Attachment-2** stored in the CD attached to this report.

6. Submission of the Watershed Management Plan

It was agreed by the members of the watershed management council that the watershed management plan should be submitted to the following organizations with a resolution of the council to seek assistance in the implementation of the watershed management plan in April/May 2015.

- ▶ National Directorate of Forest and Watershed Management
- ▶ National Directorate of Environment
- ▶ Municipality Government in Aileu
- ▶ JICA Timor-Leste

**Resolution
of
the Watershed Management Council of the Noru Watershed**

Whereas, the Noru watershed is one of the watersheds which constitute the Laclo river basin and has an important role in the watershed management of the same basin owing to its forest cover and topographic conditions;

Whereas, three (3) sucos in the Noru watershed have developed a mechanism to manage and protect forests and forest-related resources in a sustainable manner with the assistance from a joint project between the Ministry of Agriculture and Fisheries (MAF) and the Japan International Cooperation Agency (JICA);

Whereas, MAF/NDF and Sub-district Administrators of Remexio and Liquidoe have realized that forests and forests-related resources in the Noru watershed should be properly protected and managed by introducing and disseminating the same mechanism in all the sucos concerned with the watershed;

Whereas, All the 12 sucos of which territories fully or partly overlap with the coverage of the Noru watershed have confirmed with each other that sustainable management of forest and forest-related resource management, as well as watershed management are common goal of communities in the respective sucos; and

Whereas, Sub-district Administrators of Remexio and Liquidoe and village leaders of the same 12 sucos have agreed to establish a watershed management council to achieve the aforementioned goal for the future generations of the villages.

NOW, THEREFORE, BE IT RESOLVED by the members of the Watershed Management Council of the Noru Watershed as follows:

Section 1: The following persons are selected as members of the Watershed Management Council until their respective successors are appointed and qualified or until their earlier resignations:

- a. Sub-district Administrator of Sub-district Remexio
- b. Sub-district Administrator of Sub-district Liquidoe
- c. Chef de Suco of Suco Faturasa, Sub-district Remexio
- d. Chef de Suco of Suco Fadabloco, Sub-district Remexio
- e. Chef de Suco of Suco Hautoho, Sub-district Remexio
- f. Chef de Suco of Suco Maumeta, Sub-district Remexio
- g. Chef de Suco of Suco Fahisoi, Sub-district Remexio
- h. Chef de Suco of Suco Asumau, Sub-district Remexio
- i. Chef de Suco of Suco Fahisoi, Sub-district Liquidoe
- j. Chef de Suco of Suco Fatrilau, Sub-district Liquidoe
- k. Chef de Suco of Suco Bereleu, Sub-district Liquidoe
- l. Chef de Suco of Suco Acubili Toho, Sub-district Liquidoe
- m. Chef de Suco of Suco Namcleso, Sub-district Liquidoe
- n. Chef de Suco of Suco Manucasa, Sub-district Liquidoe

- o. Head of Department for Reforestation / Head of Department for Watershed Management, NDF
- p. District Director of MAF District Office in Aileu of MAF
- q. District Officer of National Directorate for Environment in Aileu
- r. Sub-district Officer of National Directorate for Water Supply and Sanitation (NDWSS) in Sub-district Remexio
- s. Sub-district Officer of NDWSS in Sub-district Liquidoe

Section 2: The members of the Watershed Management Council hereby declare and share the vision, missions, objectives, and functions of the Council as presented hereto as **“Vision Statement, Missions, Objectives, and Functions of the Watershed Management Council”** in **Appendix-1**.

Section 3: The members of the Watershed Management Council hereby approve the By-laws of the Council, in the form attached hereto as **Appendix-2**.

Section 4: These resolutions shall take effect immediately.

Dated: September 30, 2014

Chairperson

Vice Chairperson

XXXXXXXXXX

 Sub-district
 Administrator of
 Remexio

XXXXXXXXXX

 Sub-district
 Administrator of
 Liquidoe

Secretariat

XXXXXXXXXX

 District Director of
 MAF District Office
 in Aileu

XXXXXXXXXX

 Chief of Department
 of Reforestation,
 NDF

XXXXXXXXXX

 Chief of Department
 of Soil and Water
 Conservation, NDF

Members

XXXXXXXXXX

 Chef de Suco
 Asumau

XXXXXXXXXX

 Chef de Suco
 Fadabloco

XXXXXXXXXX

 Chef de Suco
 Fahiso

XXXXXXXXXX

Chef de Suco
Faturasa

XXXXXXXXXX

Chef de Suco
Hautoho

XXXXXXX

Chef de Suco
Maumeta

XXXXXXXXXX

Chef de Suco
Acubili

XXXXXXXXXX

Chef de Suco
Bereleu

XXXXXXX

Chef de Suco
Fahisoi

Alberto Henrique
Chef de Suco
Fatrilau

Manuel Mendonca
Chef de Suco
Manucasa

Aleixo da Costa
Chef de Suco
Namcleso

XXXXXXXXXX

Representative
District Office of
NDE in Aileu

XXXXXXXXXX

Representative
Sub-district Office of
NDWSS in Remexio

XXXXXXX

Representative
Sub-district Office of
NDWSS in Liquidoe

Vision, Missions, Objectives, and Functions of the Watershed Management Council of the Noru Watershed

Section 1: Vision Statement

The Noru watershed management council is a non-profit alliance comprising sucos and sub-district administrative offices concerned and relevant government agencies with an aim to properly protect and manage forests, lands, and water resources in the Noru watershed to improve living conditions and livelihoods of residents in the watershed and stabilize water supply to the downstream areas.

Section 2: Missions

The missions of the Watershed Management Council are set as follows:

- 2-1 to provide guidance and orientation to village leaders in the sucos concerned toward sustainable management of forests and forest-related natural resources (e.g., NTFPs, lands, and water) in the watershed;
- 2-2 to provide leadership in harmonizing the interests and activities of sucos in the watershed to achieve sustainable forests and forest-related natural resource management in the watershed;
- 2-3 to take initiative in planning, implementing, and evaluating a watershed management plan to manage forests and forest-related natural resources in a proper and sustainable manner while improving local livelihoods in the watershed;
- 2-4 to help village leaders in the sucos concerned enhance awareness of sustainable forest and forest-related natural resource management among communities in the respective sucos;
- 2-5 to promote necessary actions for sustainable forest and forest-related natural resource management in the watershed in coordination with relevant government and non-government organizations as well as international organizations;
- 2-6 to help village leaders in the sucos concerned hand over the valuable forests and forest-related natural resources to the future generations in the respective villages; and
- 2-7 to share the experiences in the watershed with local government units (sucos, sub-districts, and districts) in other watersheds in Timor-Leste to promote sustainable forest and forest-related natural resource management at the watershed level.

Section 3: Objective

The Watershed Management Council shall fulfill the missions listed in the preceding section to achieve the following objectives:

- 3-1 to reduce the incidence of environmental degradation events, such as forest/wild fire, illegal exploitation, and free grazing in the watershed;
- 3-2 to improve the conditions of forests and forest-related natural resources, namely, forests, lands/soils, and water, in the watershed;

Vision, Missions, Objectives, and Functions of the Noru Watershed Management Council

- 3-3 to maintain and improve livelihoods of local communities in the watershed; and
- 3-4 to enhance the capacity of village leaders as well as communities in the respective villages to manage forests and forest-related natural resources in a proper and sustainable manner.

Section 4: Functions

The Watershed Management Council shall perform the following functions necessary for proper management of the Noru watershed.

- 4-1 to formulate a watershed management plan with the assistance from relevant government and non-government organizations;
- 4-2 to prepare an annual action plan to implement the watershed management plan at the beginning of the year;
- 4-3 to monitor and evaluate the implementation of the annual action plan at the end of the year;
- 4-4 to coordinate the implementation of the watershed management plan with relevant government and non-government organizations;
- 4-5 to convene a regular meeting every quarter to monitor the situations of the watershed and discuss any issues relevant to sustainable management of forests and forest-related natural resources in the watershed;
- 4-6 to adopt a resolution that would encourage all the sucos in the watershed to work on sustainable forest and forest-related natural resource management in the watershed;
- 4-7 to call a meeting whenever circumstances require it; and
- 4-8 to organize a working group (or a committee) to tackle any important issues that would affect the management of the watershed.

**By-Laws
of
the Watershed Management Council of the Noru Watershed**

Section 1: Name of the Council

- 1.1 The name of the watershed management council of the Noru watershed shall be “the Noru Watershed Management Council.”

Section 2: Scope and Definition

- 2.1 The Watershed Management Council shall be a non-profit alliance which comprises sub-district administrative offices and sucos whose jurisdictions fully or partly overlap with the coverage of the Noru watershed located in Sub-district Remexio and Liquidoe, District Aileu.
- 2.2 The following terms used in this document, unless otherwise specified herein, shall have the meanings described below.
- (1) “CB-NRM” stands for community-based natural resource management, which is an approach introduced by the JICA and MAF joint project to sustainable forest and forest-related natural resource management in Timor-Leste;
 - (2) “Chef de Suco” means the person officially elected as a head of village according to Decree No. 20/II on the Community Leadership and the Election;
 - (3) “Chair-person” means the person who shall be in charge of meetings of the Council and give directions to the members of the Council.
 - (4) “Forest-related natural resources” means the natural resources closely relating to forests, such as water, lands, and non-timber forest products.
 - (5) “Secretariat” means the person or a group of people which shall function to serve as a secretary for the Council.
 - (6) “Watershed” means the hydrological boundaries of the secondary or tertiary tributary of the main river.

Section 3: Membership

- 3.1 All the sucos of which territories overlap with the coverage of the Noru watershed shall be the members of the Noru Watershed Management Council.
- 3.2 Sub-district Administrators of Remexio and Liquidoe and the district/sub-district branches of the relevant National Directorates, namely the National Directorate of Forestry (NDF), the National Directorate of Environment (NDE), and the National Directorate of Water Supply and Sanitation (NDWSS), should be involved in the Council as the members.
- 3.3 The Council shall be composed of the following members:
- (1) Sub-district Administrators of Sub-districts Remexio and Liquidoe;
 - (2) Chef de Suco of Sixx (6) Susos in Sub-district Remexio;
 - (3) Chef de Suco of Sixx (6) Susos in Sub-district Liquidoe;

- (4) Representative of the National Directorates of Forestry (NDF), MAF;
 - (5) Representative of the District Office in District Aileu, MAF;
 - (6) Representative of the District Office of National Directorate of Environment (NDE) in District Aileu; and
 - (7) Representatives of Sub-District Offices of National Directorate of Water Supply and Sanitation (DNWSS) in Sub-district Remexio and Liquidoe.
- 3.4 When any of the members are replaced with the successors as a result of suco election and organizational changes in the Government of Timor-Leste, The membership shall be renewed in response to the changes.
- 3.5 If Anyone deemed to be relevant to or have a stake in management and protection of forests and forest-related resources in the Noru watershed express an interest in being a member of the Watershed Management Council, the Council shall examine his/her eligibility and decide if the membership should be granted.

Section 4: Organization

4.1 The Watershed Management Council shall be composed of one (1) Chair-person, one (1) Vice Chair-person, one (1) Secretariat and other members. The organizational structure of the Council is shown in **Figure 1**.

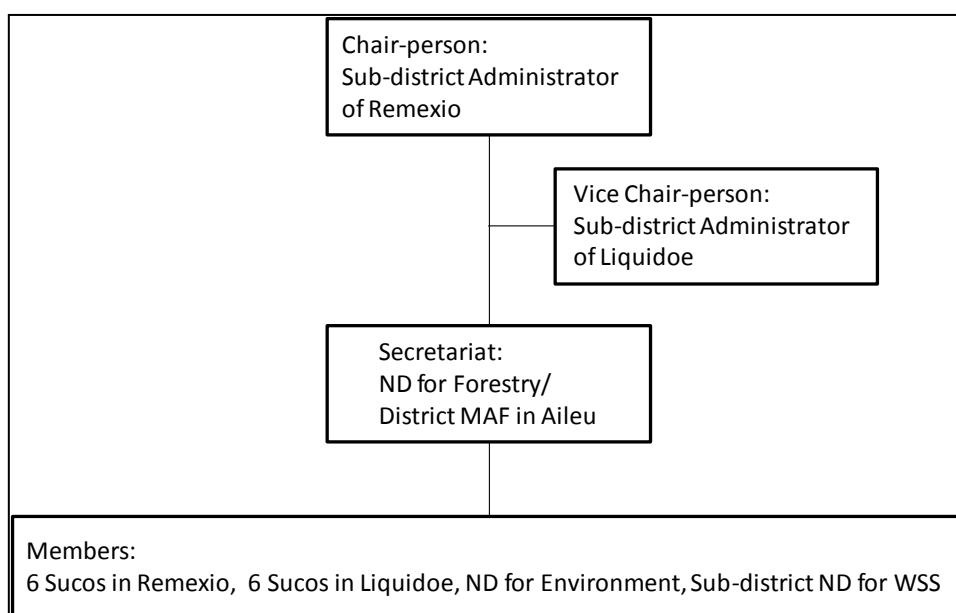


Figure 1 Organizational Structure of the Noru Watershed Management Council

- 4.2 Sub-district Administrator of Remexio shall function as a chair person of the Council, while Sub-district Administrator of Liquidoe shall function as a vice chair person of the same.
- 4.3 NDF and MAF, or its district office in Aileu, shall perform as a secretariat of the Council.
- 4.4 Chefs de Suco of the 12 sucos (e.g., six (6) sucos in Remexio and another six (6) sucos in Liquidoe), sub-district branch offices of NDWSS, and district branch office of NDE shall be other members of the Council.
- 4.5 In case Chair-person cannot fulfill his/her responsibilities for any reason, Vice

Chair-person shall take over its roles.

- 4.6 All members of the Council shall fulfill the roles and responsibilities of the designated positions to which they are appointed. The roles and responsibilities of the respective positions of the Watershed Management Council are presented in **Table 1**.

Table 1 Roles of Responsibilities of the Members of the Watershed Management Council

Position	Roles/Responsibilities
Chair person (Sub-District Administrator of Remexio)	<ul style="list-style-type: none"> ● Convene the regular meeting and ad hoc meeting by the request from the members; ● Issue an invitation to the members; ● Chair the meeting of the council by facilitating and directing discussions, ensuring basic rules in discussions, putting a question to the vote, and announcing decisions. ● Set agenda of the meeting in coordination with Secretariat; ● Give guidance and orientation to the members of the council towards sustainable watershed management; ● Encourage the members of the council to keep on making efforts to achieve sustainable watershed conservation and management; and ● Communicate with other agencies, ministries, national directorates, and other organizations for ensuring of proper watershed management.
Vice Chair person (Sub-District Administrator of Liquidoe)	<ul style="list-style-type: none"> ● Support chair person in fulfilling his/her duties; ● Act as chairperson when chairperson is not available; ● Give guidance and orientation to the members of the council towards sustainable watershed management in collaboration with Chairperson; and ● Encourage the members of the council to keep on making efforts to achieve sustainable watershed conservation and management in collaboration with Chairperson.
Secretariat (NDF/District MAF)	<ul style="list-style-type: none"> ● Assist Chairperson/Vice Chairperson in convening the meeting, issuing and delivering invitation letters to members, and handling the meeting; ● Draft agenda of the meeting in coordination with Chairperson and Vice Chairperson; ● Be responsible for documentation activities, such as note taking, preparation of resolution/decision, etc.; and ● Help Chairperson and Vice Chairperson communicate with other agencies, ministries, national directorates, and organizations for ensuring of proper watershed management.
Council members (Chefs de Sucos)	<ul style="list-style-type: none"> ● Participate in activities arranged by the council, such as meetings and study tours; ● Share ideas and exchange opinions actively in the meetings of the council to solve and settle any issues/problems that would obstruct the achievement of sustainable watershed management; ● Follow the rules and regulations agreed upon by the members; ● Guide communities in the respective villages to ensure that they would follow agreements made by the council; and ● Encourage communities in the respective villages to protect and manage forest and natural resources in a sustainable manner.
Council members (Environment)	<ul style="list-style-type: none"> ● Same as the roles and responsibilities for the council members (chefes de sucos); and ● Support communities in sucos in the watershed in the conducts of environmental protection activities, such as Tara Bandu ceremony, seedling production & reforestation, and environmental education.
Council members (SAS)	<ul style="list-style-type: none"> ● Same as the role and responsibilities for the council members (chefes de sucos); and ● Support communities in sucos in the watershed in the protection of sources of water in the respective villages.

- 4.7 The Council, or Secretariat specifically, can be assisted by any competent organizations, such as NGOs, in the operations of the Council.

- 4.8 No member of the Council shall receive any compensation for the performance of his/her duties under the Council.

Section 5: Meetings

- 5.1 The meetings of the Council shall be held at the Sub-district Administrative Offices in Remexio or Liquidoe alternately in principle. The members at the preceding meeting of the Council shall decide and agree with where the next meeting shall be convened.
- 5.2 The Council shall hold the following meetings with its members on a regular basis.
 - (1) Quarterly Meeting
 - (2) Annual Meeting
- 5.3 The quarterly meeting shall be held every quarter of the year (e.g., at the beginning of March, June, September, and December). At the meeting, the members of the Council shall discuss any issues and concerns to be addressed to properly manage forests and forest-related natural resources in the watershed and protect livelihoods of communities living in the same.
- 5.4 The annual meeting shall be held at the end of the year or beginning of the year (e.g., at the middle/end of December or beginning of January). At the meeting, the members of the Council shall review and evaluate the situation of the watershed and the activities conducted by the Council for a year.
- 5.5 Special meetings of the Council may be called at any time by Chairperson or a majority of the members if he/they deem/s it necessary to do for the interest of the members as well as the Council.
- 5.6 Notices of the meetings shall be distributed to all members at least one (1) week before the date set for the meetings. The notice shall state the objectives/purposes, time and venue of the meetings.
- 5.7 In case any of the members is not able to attend the meeting, he/she shall designate a proxy for the meeting.
- 5.8 At the meetings, the presence of more than 50% (or more than 9 persons) of the members and their proxies shall be necessary and sufficient to constitute a quorum for official discussions of the Council in addition to the presence of either Chairperson or Vice Chairperson. If the quorum is not present at any meeting, it may be adjourned by the members.

Section 6: Decision Making

- 6.1 Resolutions and any decisions of the Council shall be made, adopted, and effective with the approval of more than 50 % (more than 9 persons) of the official members of the Council at the meeting sufficient to constitute a quorum and duly convened with the presence of Chairperson or Vice Chairperson.
- 6.2 Any decision made without the presence of Chairperson or Vice Chairperson shall be deemed invalid.

Section 7: Committee

- 7.1 The Council, by resolution adopted by a majority of the members, may create a special committee which shall work on specific tasks delegated to it. The members of the special committee shall be appointed by the members of the Council in the meeting.

- 7.2 Meetings of the committee shall be held at such times and places as shall be fixed by the respective committee chairperson or by consensus of a majority of the members of the committee. Prior notice shall be given to all members of the committee before each meeting.
- 7.3 Unless otherwise provided by resolution of the Council, more than half of the official members of the committee shall constitute a quorum for discussions of the committee.
- 7.4 Any decision of the committee shall be made with approval of a majority of the official members of the committee.

Section 8: Amendments

- 8.1 These bylaws may be altered, amended, repealed or added to with the approval of not more than 50 % of the official members..

**Watershed Management Plan
for the Noru Watershed in District Aileu,
Timor-Leste**

January 2015

Noru Watershed Management Council
with the Assistance with
**The Project for Community-Based Sustainable Natural Resource
Management jointly implemented by JICA and MAF**

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Chapter 1 Introduction

1.1 Background

Forest degradation/deforestation has rapidly progressed in Timor-Leste. The recent study made by NDF with the assistance from JICS in 2013 indicates that approximately 184,000 ha of forests have been disappeared for the last decade. The same study also reports that about 170,000 ha of dense forests have been degraded into sparse forests for the same period. The rapid forest degradation and deforestation have caused the natural disasters, such as soil erosion, landslides and flash floods, and therefore, further affected the lives of people in the country, especially those living in the critically degraded river basins.

The Laclo river basin is one of the crucially deteriorated watersheds due to the prevalence of wildfire, illegal cutting, fuel wood collection, and cattle grazing in the upper part of the watershed. As it has a crucial function as a source of water to one of the major rice production areas in the country, the restoration of watershed's functions, namely, reduction of sedimentation and stabilization of river flow, is requisite to maintaining rice production in the country. Under such circumstances, the Government of Timor-Leste (GoTL), particularly the Ministry of Agriculture and Fisheries (MAF), has implemented a joint project to reduce the tendency of deforestation and degradation of forests introducing an approach of community-based forest/natural resource management with technical assistance from Japan International Cooperation Agency (JICA) since 2011.

MAF and JICA Project Teams selected the Noru watershed, which is a catchment of one of the 10 tributaries of the Lalco river, as one of the target watersheds for the project because of its importance for maintenance of river flow/water quality in the main stream of the Laclo river. The Project Teams have worked on development of a model for sustainable forest and natural resource management in collaboration with local communities in three (3) sucos located in the Noru watershed in partnership with the NGO, namely RAEBIA-Timor Leste.

Having confirmed that the model has been able to reduce the incidence of wildfire and illegal exploitation of forest resources in the three (3) villages; the MAF and JICA Project Teams decided to further assist other sucos concerned with the Noru watershed in the introduction of the same model in the respective villages to protect forests and natural resources in the watershed.

In May 2014, the MAF and JICA team started consultations with the parties concerned (i.e., sub-district administrative offices, sucos, and district offices in the relevant sectors) about the formation of the watershed management council of the Noru watershed. As a result of a series of discussions, the framework of the Noru Watershed Management Council, which consisted of its vision, missions, functions, and by-laws of the council, was finalized and resolved by the member organizations.

In order to protect and manage forests and its related natural resources in the Noru watershed in a proper and sustainable manner, the Noru watershed management council decided to develop a watershed management plan. The watershed management council with the assistance from the Project Teams and NGO has assessed the present natural and socio-economic conditions, especially vulnerability of the area to climate changes, and

causes of deforestation and forest degradation in the area. The council has also discussed the basic concepts of the watershed management plan, guiding principles for proper watershed management, and activities necessary for watershed management. In the end, the council formulated the watershed management plan described in this document.

1.2 Objectives of the Document

The main objective of this document is to introduce and describe the watershed management plan with necessary actions to be taken and optimum procedures and system for implementation of the plan, so that the plan can be further used as a proposal to be submitted to the GoTL as well as any other funding institutions for financial and technical support in the future.

1.3 Scope of the Watershed Management Plan

The plan targets the Noru watershed, which extends over about 12,000 ha in Sub-districts Remexio and Liquidoe in District Aileu. The main aim of the watershed management plan is to protect and manage forests and forest-related natural resources in a proper manner; therefore, its focus is put on agriculture and forestry works rather than engineering ones for sediment control/river control.

1.4 Composition of the Watershed Management Plan

The Noru watershed management plan is composed of the following six (6) chapters:

- Chapter 1: Introduction
- Chapter 2: Present Conditions of the Noru Watershed
- Chapter 3: Current Issues on Watershed Management
- Chapter 4: Goal, Objectives, and Basic Approaches
- Chapter 5: Action plan
- Chapter 6: Procedures for and System of Implementation

As shown above, Chapter 1 introduces the background and overall scope of the watershed management plan. Chapter 2 describes the current situations of the watershed including its vulnerability to climate changes. Major difficulties in management of the watershed are analyzed in Chapter 3. Chapter 4 explain the overall framework of the watershed management plan (i.e., goal, objectives, and approaches to be taken), while Chapter 5 proposes the necessary actions/interventions to be taken for achievement of the goal of the watershed management plan. The last chapter, Chapter 6, give details of how the plan should be implemented.

Chapter 2 Present Conditions of the Noru Watershed

2.1 Location and Administrative Situations of the Watershed

The Noru river is one of the tributaries of the Laclo river. It starts from the borders between Sub-district Aileu and Sub-districts Remexio as well as Liquidoe and flows along the border between Sub-district Remexio and Liquidoe up to the conjunction with another tributary of the Laclo river, the Eraibanaubere river, which is located at the border with Sub-district Laclo/Laclubar as shown in Figure 2-1. The total length of the Noru river is approximately 25 km and its catchment covers about 12,852 ha of the area.



Figure 2-1 Location of the Noru Watershed

Administratively, the catchment extends a total of 12 sucos in two (2) sub-districts, namely six (6) sucos in Sub-district Remexio and another six (6) sucos in Sub-district Liquidoe as tabulated below.

Table 2-1 Sucos related to the Watershed

Sub-district	Sucos	Total Area	Area under the watershed
Remexio	Acumau	3,875 ha	742 ha
	Fadabloco	1,766 ha	1,766 ha
	Fahisoi	1,404 ha	1,200 ha
	Faturasa	4,819 ha	3,334 ha
	Hautoho	1,528 ha	1,528 ha
	Maumeta	533 ha	533 ha
Liquidoe	Acubilitoho	1,272 ha	361 ha
	Belereu	2,685 ha	411 ha
	Fahisoi	803 ha	713 ha
	Faturilau	7,791 ha	1,700 ha
	Manucasa	784 ha	215 ha
	Nameloso	1,045 ha	338 ha
Remexio/Liquidoe	Others (Suco Saboria, etc)		11 ha
Total		28,316 ha	12,852 ha

Source:

2.2 Natural Conditions

2.2.1 Climate (Rainfalls and Temperature)

Like in other parts in Timor-Leste, the watershed is under the monsoon type climate characterized by clear distinction between wet and dry seasons. Northwest monsoon winds prevail from November to March, (4~5 months) bringing the principal wet season to the area. The dry season is caused by southeast trade winds which prevail from May until October (7~8 months).

As no rainfall measurement has been made in the area, even in the Indonesian time, there is no data of rainfalls in the watershed. The rainfall data collected at the stations in the vicinity of the watershed, namely Dili, Aileu, and Manatutu, are used for characterization of the rainfall pattern in the area.

Table 2-2 Monthly Rainfall Distribution and Annual Average at District Capital

(Unit: mm)

District central	Jan	Feb	Mar	April	May	June	July	Aug	Sept.	Oct.	Nov	Dec	Average	Elevation (m)
Dili	156	125	147	115	74	43	22	17	15	26	70	138	940	0~100
Aileu	326	248	179	108	3	33	7	8	5	190	184	225	1,514	900
Manatutu	116	118	84	57	38	23	12	1	6	11	27	80	573	0~60

Source: ALGIS, based on the data between 1962 and 1974 except for Dili (1953-1999) and Aileu (2004-2005).

Although there is available rainfall data at the rainfall stations of MAF between 2006 and 2009, it was not taken into consideration due to lack of reliability.

The data can suggest that the watershed might have the following characteristics in its rainfall pattern:

- ▶ The average annual rainfall may be more or less 1,000 mm ranging from 600 mm to 1,000 mm;
- ▶ The higher the elevation in the area is, the higher the rainfall has;
- ▶ The lower part close to the conjunction with the Eraibanaubere river may be the driest part in the watershed; and
- ▶ The rainfalls mainly concentrate on five (5) months from December to April.

Likewise, there is no other climate data collected in the area. The average temperature in the watershed is assumed rather hotter than the one in Aileu town, which is 21 °C, but lower than the one in Dili, which is 26 °C.

2.2.2 Slopes

As the watershed is located in the upper to middle part of the Lacro river basin, the steep lands which have more than 25 % occupy more than 60 % of the total area of the watershed. The slope composition of the watershed is summarized as follows.

Table 2-3 Degree of Slopes in the Noru Watershed

Sloping ranges	Area (ha)	Ratio (%)
0-8 %	372	2.9
8-15%	990	7.7
15-25%	2,817	21.9
25-40%	5,122	39.9
40-55%	2,560	19.9
> 55%	991	7.7
Total	12,852	100.0

Source: JICA Study Team

Figure 2-2 shows the distribution of sloping areas in the watershed.

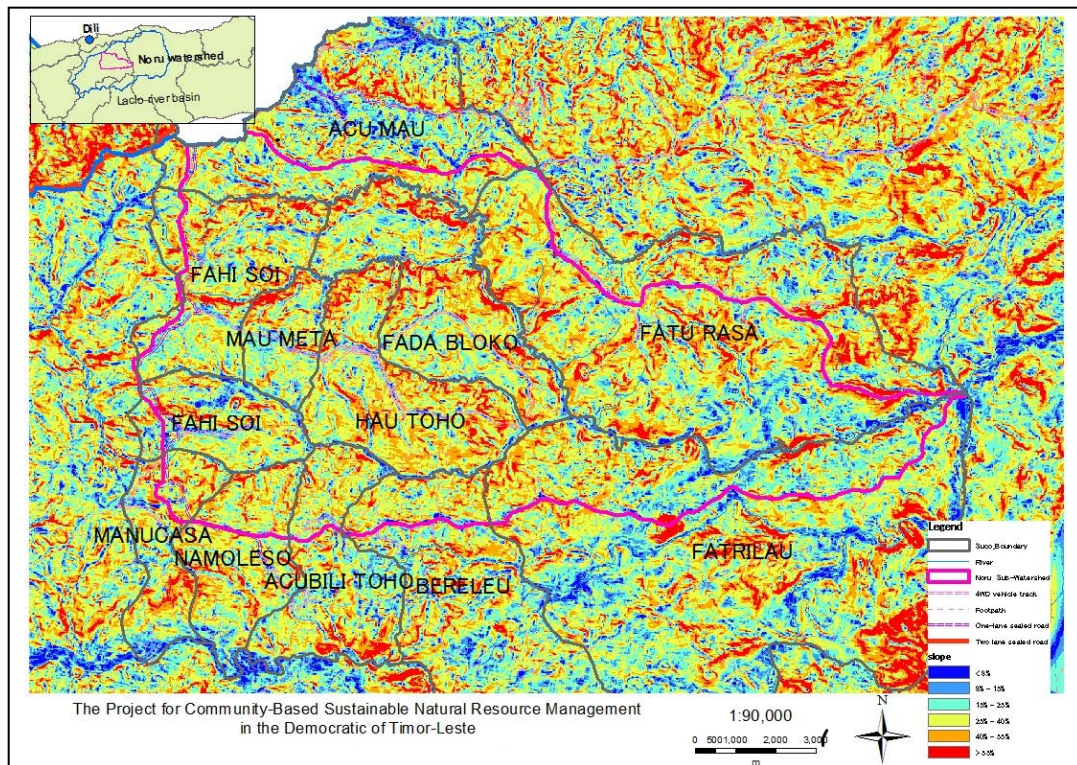


Figure 2-2 Slope Map of the Noru Watershed

2.2.3 Elevation

The elevation of the Noru watershed ranges from 330 m to 1,500 m above sea level. The ridge of the watershed runs along the borders between Sub-district Aileu and the two sub-districts, Remexio and Liquidoe, while the lowest part is located at the confluence of the Noru and Eraibanaubere rivers at the east end of Suco Faturasa (Remexio) and Faturirau (Liquidoe).

2.2.4 Land Use and Vegetation Covers

The results of the assessment made by the JICA and MAF joint study named “the Study on Community-Based Integrated Watershed Management in the Lacleo and Comoro River Basins,” which had been implemented from 2005 to 2010, were fully referred to determine the present land use and vegetation cover of the Noru watershed. The assessment of the said study was made by using the Landsat imageries taken in the different two seasons in 2003, which were further supplemented by the aerial photos taken in 2003. The results reveal that the vegetation cover and land use of the Noru watershed can be classified into the following eight (8) classes.

Table 2-4 category of Vegetation and Land Use

Category of Vegetation and Land use	Criteria of categorization
1. Forests	
1-1: Closed forest (natural)	Canopy closure : > 70%
1-2: Medium forest (natural)	Canopy closure : 30 - 70 %
1-3: Woodland (natural)	Canopy closure : 15 - 30 %
2. Shrub land	Dominated by shrubs
3. Grassland (including grazing lands and upland farms)	Dominated by grass (No woody vegetation)
4. Coffee plantation	Coffee with shade tree (Casuarina/Falcata)
5. Bare land (including grazing lands and upland farms)	No vegetation or burned grassland
6. Sandbar/River bed	

Source: Final Report of the Study on Community-Based Integrated Watershed Management in the Laclo and Comoro River Basins, JICA, March 2010

Figure 2-3 shows the present land use and vegetation map covering the watershed. Areas distributed to each land use/vegetation class in the respective villages as well as the watershed are presented in **Table 2-5**.

Table 2-5 Areas of Each Land Use Class in the Watersheds

Land use class	Noru watershed	
	(ha)	(%)
1. Forests	5,005.4	38.9
1-1: Closed forest (natural)	600.5	4.7
1-2: Medium forest (natural)	2,705.3	21.1
1-3: Woodland (natural)	1,699.6	13.2
2. Shrub land	4,898.3	38.1
3. Grassland	1,065.4	8.3
4. Coffee plantation	95.1	0.7
5. Bare land	1,685.0	13.1
6. Sandbar/River bed	101.5	0.8
Total	12,851.3	100.0

Source: Final Report of the Study on Community-Based Integrated Watershed Management in the Laclo and Comoro River Basins, JICA, March 2010

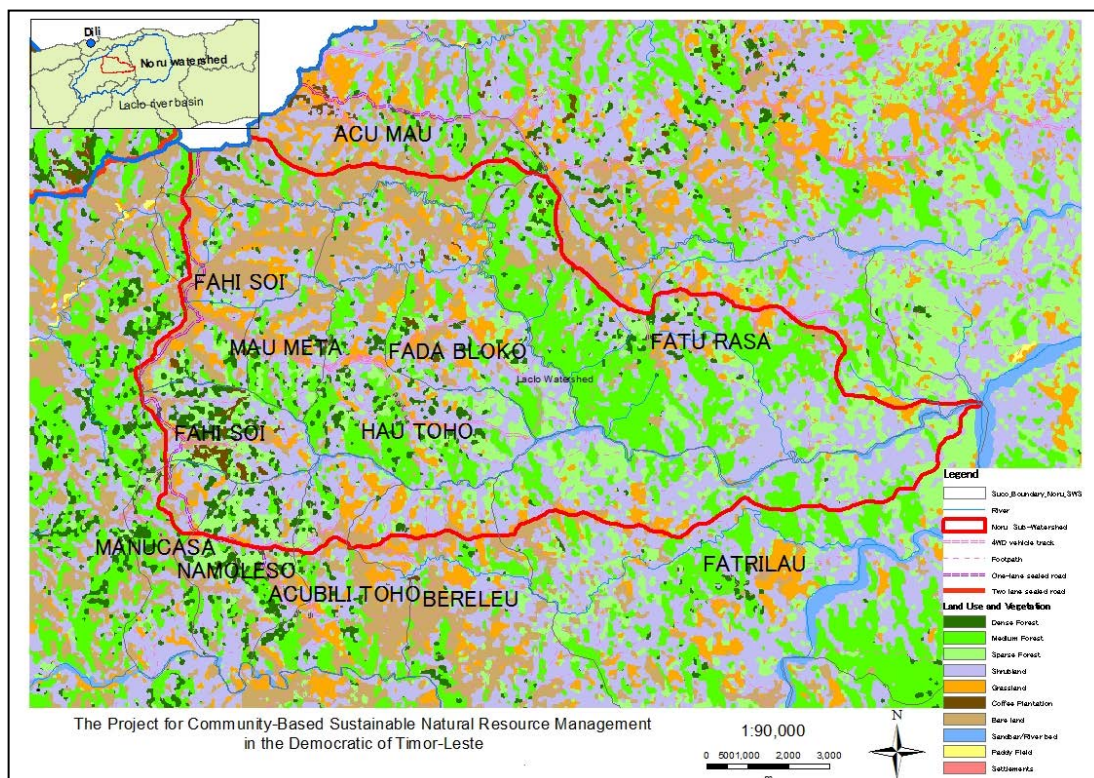


Figure 2-3 Present Land Use and Vegetation Map of the Noru Watershed

2.2.5 Potential of Soil Erosion

The same study made by JICA and MAF also assessed the potentials of soil erosion in the Laclo and Comoro river basins using the method of USEL. The study classified the villages in the river basins into five (5) grades based on the severity of potential risk, namely i) Severe, ii) High, iii) Moderate, iv) Low, and v) Very low. The following table shows the potential risks of soil erosion in the 12 sucos related to the Noru watershed.

Table 2-6 Potentials of Soil Erosion in the Watersheds

Part of Sucos	V. Low		Low		Moderate		High		Sever		Total	
	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%
Remexio	388	52%	19	3%	22	3%	23	3%	291	39%	742	100%
	1,029	58%	21	1%	26	1%	34	2%	657	37%	1,766	100%
	594	49%	26	2%	32	3%	38	3%	510	43%	1,200	100%
	1,587	48%	87	3%	108	3%	117	4%	1,434	43%	3,334	100%
	822	54%	22	1%	26	2%	35	2%	624	41%	1,528	100%
	296	56%	14	3%	23	4%	32	6%	168	31%	533	100%
Liquidoe	193	54%	10	3%	13	3%	16	4%	130	36%	361	100%
	221	54%	11	3%	15	4%	16	4%	148	36%	411	100%
	482	68%	24	3%	24	3%	28	4%	155	22%	713	100%
	921	54%	47	3%	60	4%	68	4%	604	36%	1,700	100%
	132	61%	7	3%	8	4%	8	4%	60	28%	215	100%
	199	59%	7	2%	10	3%	14	4%	108	32%	338	100%
	6,864	53%	295	2%	367	3%	429	3%	4,889	38%	12,841	100%
Total	388	52%	19	3%	22	3%	23	3%	291	39%	742	100%

Source: Final Report of the Study on Community-Based Integrated Watershed Management in the Laclo and Comoro River Basins, JICA, March 2010

As shown above, about 41 % of the watershed are considered highly susceptible to surface soil erosion. The watershed and the concerned sucos might be severely affected if forest degradation progresses as it is and the area has heavy rains during the rainy season.

2.3 Soico-Economic Conditions

2.3.1 Demography

It is difficult to identify the exact number of households and population living within the watershed, since no inventory survey focusing exclusively on the watershed has been made. However, the demographic data of the 12 sucos can be substituted for those of the watershed. The following table shows the demographic conditions of the 12 sucos related to the watershed in 2004 and 2010.

Table 2-7 Population in the Sub-District in and around the Noru Watershed

Sub-district	Suco	2004 Census <1		2010 Census <2		Population Increase (%)
		No. of family	Population	No. of family	Population	
Remexio	Acumau	315	1,775	357	2,491	6.72
	Fadabloco	186	927	323	2,214	23.14
	Fahisoi	249	1,265	184	1,190	-0.99
	Faturasa	295	1,538	148	1,083	-4.93
	Hautoho	302	1,555	137	931	-6.69
	Maumeta	87	362	87	500	6.35
	Sub-total		1,434	7,422	1,236	8,409
Liquidoe	Acubilitoho	228	975	206	839	-2.32
	Belereu	151	685	179	1,153	11.39
	Fahisoi	325	1,464	187	1,216	-2.82
	Faturilau	136	668	98	672	0.10
	Manucasa	103	443	92	440	-0.11
	Nameloso	279	1,209	187	1,072	-1.89

Sub-district	Suco	2004 Census <1		2010 Census <2		Population Increase (%)
		No. of family	Population	No. of family	Population	
	Sub-total	1,222	5,444	949	5,392	-0.16
Total	13 Sub-districts	2,656	12,866	2,185	13,801	1.21

Source: <1: The 2004 Census of Population and Housing (2004), DNS

<2: The Population and Housing Census (2010), NSD and UNEPA

As indicated in the table above, the population of the area has increased by 1.21 % per annum. If the population increase will be maintained as it is, the total population in the watershed would be twice for 58 years. Hence, the importance of proper land management would increase, as the population pressure on lands and forests will be also increasingly heightened

2.3.2 Agricultural Production

(1) Production of crop

There is no data specifically showing the agricultural production in the watershed as well as the 12 sucos concerned. As the homogeneity of agricultural conditions is high among the sucos in the watershed, the results of the household interview survey conducted by the JICA-MAF CB-NRM Project in three (3) sucos (i.e., Sucos Faturasa, Fadaboco, and Hautoho) in 2011 are used for clarification of the agricultural conditions in the watershed.

The major crops produced in the watershed are maize, cassava, sweet potato, and beans, which are generally planted in the same farm in a mixed planting manner. The average cropped area for the major crops is estimated at about 1 ha, while the average productivity of maize is less than 1 ton/ha. The average cropped areas and yields of the major crops in the three (3) sucos are shown below.

Table 2-8 Average Cropped Areas and Volumes of Production of the Major Crops per Household in Three (3) Sucos (i.e., Suco Faturasa, Fadabloco, and Hautoho)

Suco	Maize <1		Cassava <1		Sweet potato <1		Peanut / Beans <2		Coffee	
	Cropped area	Producti-on	Cropped area	Producti-on	Cropped area	Producti-on	Cropped area	Producti-on	Cropped area	Producti-on
Faturasa	(ha/HH) 1.0	(ton/HH) 0.50	(ha/HH) 1.0	(ton/HH) 0.50	(ha/HH) 1.0	(ton/HH) 0.40	(ha/HH) 1.0	(ton/HH) 0.10	(ha/HH) 0.6	(ton/HH) 0.12
Fadabloco	1.0	0.50	1.0	0.40	0.9	0.27	0.3	0.03	0.9	0.18
Hautoho	1.0	0.50	1.1	0.66	1.1	0.55	0.4	0.04	0.9	0.18

Source: The Project for Community-Based Sustainable Natural Resource Management, November 2013, JICA

Note: <1 They are planted in the same plot in a mixed cropping way.

<2 Peanut is generally planted separately from other crops, while other beans such as red beans are generally mixed with other crops such as maize.

(2) Farming practices

In general, households in the watershed have one (1) or two (2) farm/s which is/are used for crop production every year and several farms which are used on a rotation basis. In some farms in the watershed, especially those in the said three (3) sucos, soil conservation measures, such as stone terraces, bench terraces, and contour compost terraces, have been already applied to parts of the permanent farms. However, the same techniques have not been introduced to the majority of the existing farms in the watershed.

Although the improved farming system has been introduced in the said three (3) sucos, the majority of farmers in the watershed have still followed the conventional way of farming. The following table explains the key features of both conventional and improved farming systems.

Table 2-9 Comparison between Conventional Practice and Improved Farming System

Farming practices	Conventional practice	Improved farming system
Clearing	◆ Slash and burning	◆ Slashing ◆ Collection of grasses for making compost or putting them into contour ditches
Compost application	◆ None	◆ Preparation of compost using grasses and animal dung
Land preparation	◆ No tillage (No plowing) ◆ Male holes for planting ◆ No application of compost	◆ Plowing (by manual) ◆ Application of compost as basal fertilizer
Seeding/planting	◆ Random sowing ◆ mix planting of several crops	◆ Line sowing ◆ Mix planting of two to three crops
Maintenance	◆ Weeding (Once) ◆ No additional fertilization	◆ Weeding (a few times) ◆ Application of liquid fertilizer
Post harvesting	◆ Hanging of maize cobs on trees	◆ Shelling grains after drying and storage of grains into a jerry can

Source: JICA Project Team

2.3.3 Animal Production

Livestock animals are literarily considered as assets which can be used as offerings for ceremonial evens (e.g., marriage, funeral, and ancestral worship) and for any emergent expenditures. Almost all the families in the watershed own some livestock animals, especially pigs and goats. Some families, especially those in Suco Faturasa, hold a number of heads of cattle and buffalo, but the majority of them hold a few heads of cattle/buffalo in addition to pigs/goats.

2.3.4 Food Security

The household interview survey made by the CB-NRM Project in Sucos Faturasa, Fadabloco, and Hautoho indicated that the majority of communities in the sucos have faced a seasonal shortage of food between November/December and February/March. The main reasons for food insecurity are considered low productivity, limited cropping area, high loss during storing, and lack of opportunities to earn cash income. This tendency seems to prevail almost all the hilly and mountainous areas in Timor-Leste, **as the assessment report made by FAO/WFP in 2007 indicates that more than 40 % of population was considered as food insecure or highly vulnerable as shown below.**

Table 2-10 Food Security Classification among People in Timor-Leste (FAO/WFP, 2007)

Category	Descriptions	Estimated ratio of households
Food insecurity	Households with generally poor or borderline food consumption and very weak food access; or households with weak or very weak access and poor consumption.	20 %
Highly vulnerable	Food-access and/or food-consumption are so insufficient that these households are close to being food insecure.	23 %
Moderately vulnerable	Food-access and/ or consumption are not good enough to categorize them as food secure.	21 %
Moderately vulnerable	In general, fairly good to good food consumption and medium to good food access, includes also “good access + borderline consumption” and “good consumption	36 %
Food security	In general, fairly good to good food consumption and medium to good food access, includes also “good access + borderline consumption” and “good consumption	100 %

Source: Special Report by FAO/WFP Crop and Food Supply Assessment Mission to Timor-Leste (June 2007)

The following table shows the results of the assessment on the food balance in Timor-Leste in 2007.

Table 2-11 Assessment of the Food Balance in Timor-Leste in 2007 (FAO/WFP, 2007)

Items	Maize	Rice <1	Cassava & root crops <4	Total
1. Total Availability	70,820	26,740	26,909	124,469
1-1 Opening stocks	1,000	0	0	1,000
1-2 Production	69,820	26,740	26,909	123,469
2. Total Utilization	70,821	113,104	26,909	210,833
2-1 Food Use	89,902	74,918	14,984	179,803
2-2 Seed, Feed & Losses	18,974	2,249	807	22,030
2-3 Closing Stocks	1,000	8,000	0	9,000
2-4 Cross-commodity substitution	39,055	27,937	11,118	0
3. Import Requirements	0	86,364	0	86,364
3-1 Anticipated Commercial Imports	0	71,000	0	71,000
4. Uncovered deficit <3	0	15,364	0	15,364

Note: <1 Milling rate of paddy to rice is estimated at 60 percent.

<2 By Ministry of Development for Strategic Reserve

<3 Uncovered (through food aid)

<4 In cereal equivalent.

Source: Special Report by FAO/WFP Crop and Food Supply Assessment Mission to Timor-Leste (June 2007)

Communities in the watershed have taken the following strategies to cope with the shortage of food:

- i) reduction of the number of meals;
- ii) reduction of the amount of food;
- iii) consumption of alternative crops (e.g., cassava and sweet potato); and
- iv) consumption of emergency crops (e.g., kontas and wild yam).

2.3.5 Estimated Income Level

The interview survey made by the CB-NRM Project also estimated the average annual income per family in Suco Faturasa, Fadabloco, and Hautoho at US\$ 829, 954, and 760, respectively. These data suggest that the economic conditions in the watershed area are likely in poor conditions as compared to the national average. The household income and expenditure survey conducted by the National Directorate of Statistics in 2011 on a nationwide scale reported that the average monthly income per family in the rural area was estimated at about US\$ 310 including the saving of food expenditures. Both data can not necessarily be compared with one another directly as the targets of the surveys were different, but the data could suggest the tendency of the watershed as described above.

2.4 Vulnerability to Climate Changes

2.4.1 Projected Climate Changes

Climate change is considered as a foreseeable threat even in Timor-Leste. Recently the rainfall patterns not only in the watershed but also on a national level have varied from year to year; therefore, the agricultural production has drastically fluctuated. The climate condition seems to have been predictable in the country.

National Adaptation Programme of Action (NAPA) on Climate Change submitted by the GoTL to UNFCCC in December 2010 projected the climate changes in Timor-Leste for the next 30 years as outlined below.

Table 2-12 Projected Climate Changes for the Next 30 Years

Parameter	Changes																																	
Temperature	<p>Overall, the temperature will increase without significant variability across the seasons. Extreme temperature events are expected to increase in intensity and length. The following table shows the projected changes in temperature for the next 30 years.</p> <table border="1"> <thead> <tr> <th rowspan="2">Period</th> <th colspan="3">Projected changes (°C)</th> </tr> <tr> <th>2020</th> <th>2050</th> <th>2080</th> </tr> </thead> <tbody> <tr> <td>Annual</td> <td>+0.8</td> <td>+1.5</td> <td>+2.2</td> </tr> <tr> <td>Dec.- Feb.</td> <td>+0.7</td> <td>+1.5</td> <td>+2.2</td> </tr> <tr> <td>Mar. - May</td> <td>+0.8</td> <td>+1.5</td> <td>+2.2</td> </tr> <tr> <td>Jun. – Aug.</td> <td>+0.7</td> <td>+1.5</td> <td>+2.1</td> </tr> <tr> <td>Sep. – Nov.</td> <td>+0.9</td> <td>+1.5</td> <td>+2.1</td> </tr> </tbody> </table> <p>Source: Timor-Leste National Adaptation Programme of Action to Climate Change</p>	Period	Projected changes (°C)			2020	2050	2080	Annual	+0.8	+1.5	+2.2	Dec.- Feb.	+0.7	+1.5	+2.2	Mar. - May	+0.8	+1.5	+2.2	Jun. – Aug.	+0.7	+1.5	+2.1	Sep. – Nov.	+0.9	+1.5	+2.1						
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Rainfall	<p>The following changes are predicted in rainfalls in Timor-Leste.</p> <ul style="list-style-type: none"> - The mean annual rainfalls are expected to increase; - Dry season is expected to become drier; and - The intensity of extreme rainfall events is expected to increase, but the frequency of the events will decline. <p>Projected changes in rainfalls in the country for the next 30 years are tabulated below.</p> <table border="1"> <thead> <tr> <th rowspan="2">Period</th> <th colspan="3">Amount of rainfalls</th> <th rowspan="2">Rainfall intensity projections</th> </tr> <tr> <th>2020</th> <th>2050</th> <th>2080</th> </tr> </thead> <tbody> <tr> <td>Annual</td> <td>+ 2%</td> <td>+ 4%</td> <td>+ 6%</td> <td>+ 1-2%</td> </tr> <tr> <td>Dec.- Feb.</td> <td>+ 3%</td> <td>+ 5%</td> <td>+ 6%</td> <td>+ 2-4%</td> </tr> <tr> <td>Mar. - May</td> <td>+ 4%</td> <td>+ 5%</td> <td>+ 5%</td> <td>+ 2-4%</td> </tr> <tr> <td>Jun. – Aug.</td> <td>0%</td> <td>0%</td> <td>- 5%</td> <td>+ 6-8%</td> </tr> <tr> <td>Sep. – Nov.</td> <td>0%</td> <td>0%</td> <td>- 1%</td> <td>+ 4-6%</td> </tr> </tbody> </table> <p>Source: Timor-Leste National Adaptation Programme of Action to Climate Change</p>	Period	Amount of rainfalls			Rainfall intensity projections	2020	2050	2080	Annual	+ 2%	+ 4%	+ 6%	+ 1-2%	Dec.- Feb.	+ 3%	+ 5%	+ 6%	+ 2-4%	Mar. - May	+ 4%	+ 5%	+ 5%	+ 2-4%	Jun. – Aug.	0%	0%	- 5%	+ 6-8%	Sep. – Nov.	0%	0%	- 1%	+ 4-6%
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Tropical cyclones	<p>The frequency and length of the event are expected to decrease, but its intensity is expected to become high.</p>																																	

Source: National Adaptation Programme of Action (NAPA) on Climate Change, GoTL, 2010

Hence, the climate conditions of the watershed are also expected to change in the following ways:

- ▶ In the dry season, the temperature might become high, while the precipitation in might become less;
- ▶ In the rainy season, the intensity of rainfalls, such as hourly rainfall intensity, might become high, and the length of rainfalls might be prolonged;
- ▶ The strength of wind might become high; and
- ▶ The rainfall patterns will fluctuate from year to year.

2.4.2 Potential Impacts on Communities in the Watershed

Considering the possible climate changes in the watershed, the Noru Watershed Management Council assessed the potential impacts on the living and economic conditions in the watershed as follows.

Table 2-13 Potential Impacts on the Living and Economic Condition of Communities in the Watershed

Sector	Potential Impacts caused by Climate Changes <1
Agriculture	<ul style="list-style-type: none"> ◆ The yield of maize may be drastically reduced by high temperature effects on pollination and kernel set. ◆ The yield of cassava may be increased as cassava requires high temperature and high solar radiation for optimal leaf development. ◆ Warmer temperature may increase the incidence of pest and disease damage. ◆ Crop damage caused by storm and strong wind might increase. ◆ Some farms may be eroded due to the expansion of gully erosion during the rainy season. ◆ The productivity of livestock animal may be reduced due to limited sources of food and lack of water during the dry season. ◆ Soil fertility may drastically decline due to the progress of decomposition of soil organic matters during the dry season and frequent surface erosion during the rainy season.
Forest and Agroforest	<ul style="list-style-type: none"> ◆ The incidence of forest fires may increase during the rainy season. ◆ The incidence of landslides may increase especially in steep lands. ◆ Some species may not grow well in the watershed due to the increase of temperature. ◆ The growth of coffee and orange may be affected due to high heat in the dry season. ◆ Forests along small streams may be washed out due to heavy rains during the rainy season.
Infrastructure	<ul style="list-style-type: none"> ◆ Rural road networks may be damaged by heavy rainfalls and/or storms. ◆ Natural springs being used as sources of water may be damaged by strong and heavy rains during the rainy season. ◆ Risk of damage to houses and other infrastructure may increase due to the occurrence of strong wind/typhoons and increase of incidence of wildfires and landslides.
Water, Sanitation, and Health	<ul style="list-style-type: none"> ◆ The access to water may be reduced as some existing sources may be dried up. ◆ The volume of water may be reduced during the dry season, while the quality of water may be affected by contamination during the rainy season. ◆ The incidence of respiratory and associated infections may increase in the dry season. ◆ The incidence of water-borne diseases and infections may increase during the rainy season. ◆ Risk of food contamination and poisoning may increase during the rainy season. ◆ Risk of injuries and deaths by accidents caused by natural events may increase.

Note: The potential impacts were first identified by the MAF and JICA Project Teams based on the “Timor-Leste National Adaptation Programme of Action to Climate Change (2010)” and “Climate Change and Population Growth in Timor-Leste: Implications for Food Security (2012)” and the identified potentials were reviewed and confirmed by the watershed management council.

2.4.3 Vulnerability of the Watershed to Climate Changes

As described above, the living and socio-economic conditions of communities in the watershed are considered highly vulnerable to climate changes. It is, therefore, necessary to strengthen the resilience of communities in the watershed, who heavily rely on conventional farming on sloping lands as their main livelihoods, use natural springs as main sources of drinking water, and have high risks of natural disasters and associated events, such as typhoons, strong winds, wildfires, and landslides.

Chapter 3 Current Issues on Watershed Management and Stakeholders relevant to Watershed Management

3.1 Issues on Watershed Management

3.1.1 History of Forest Degradation

Based on the discussions on the current situations of the Noru watershed among the members of the Noru watershed management council and the results of the village profile surveys conducted in some of the sucos concerned with the Noru watershed, it is judged that severe deforestation and forest degradation started in the Indonesian occupation and have continued until today as summarized below.

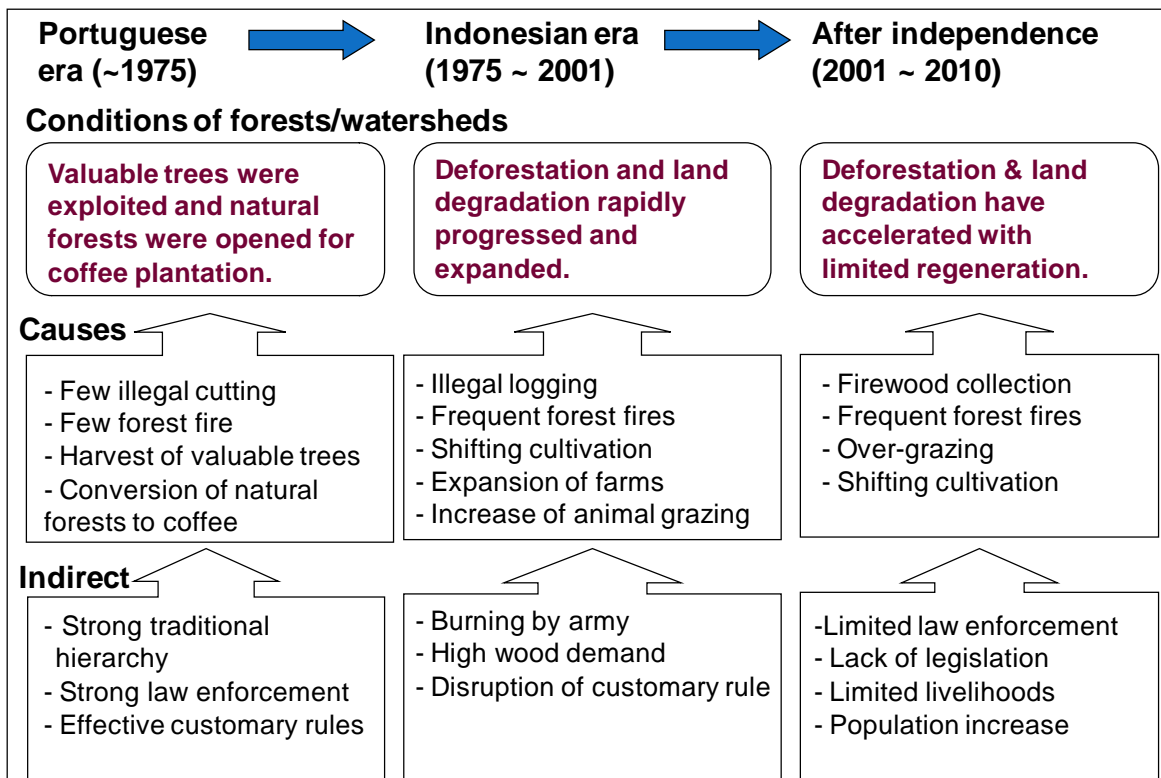


Figure 3-1: History of Forest Degradation in the Watershed

In the Portuguese era, the environmentally destructive activities, such as shifting cultivation and illegal exploitation, were not prevailing in the area because the tara bandu system was effective in regulating people's activities as the system was linked to the strong law enforcement. The effectiveness of the tara bandu system had gotten weak after the country was ruled by Indonesia from 1975. Deforestation has been further accelerated by the Indonesian army and logging companies during the same period. Since then, many people in the watershed have kept practicing the destructive activities.

3.1.2 Current Issues in the Watershed

At present, the occurrence of forest fires caused by shifting cultivation and animal grazing is the major cause of deforestation and forest degradation in the watershed. Shifting cultivation has also led to surface soil erosion which has further caused land degradation of

farmlands. The cause and effect relationship on forest degradation in the watershed is summarized below.

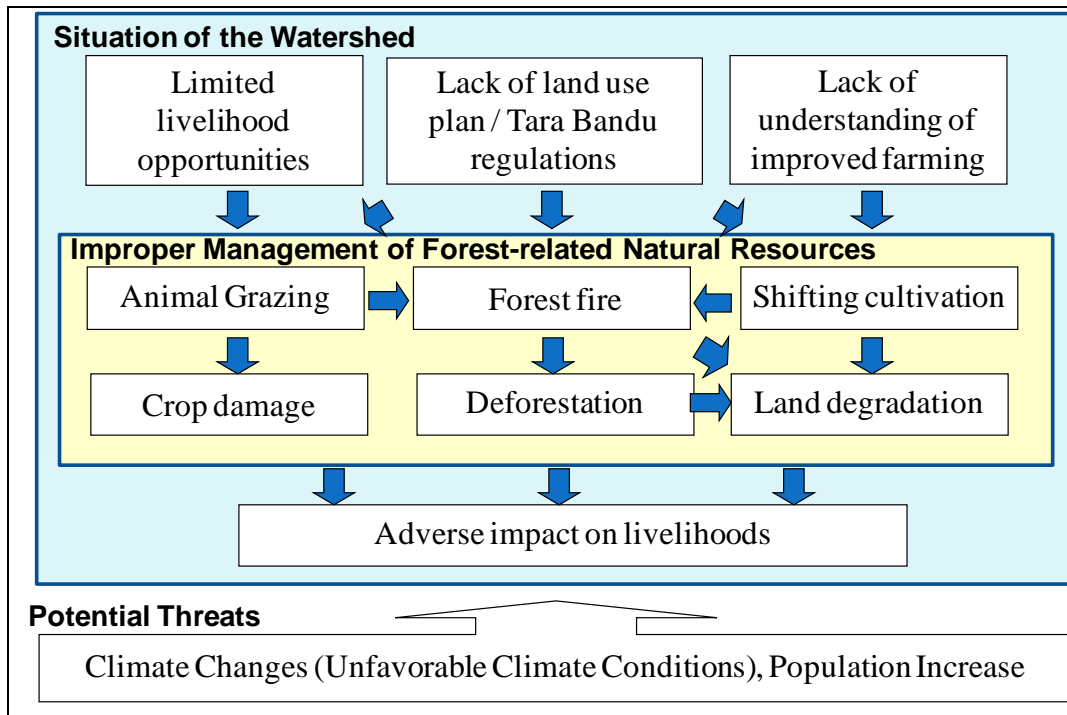


Figure 3-2: Cause and Effect Relationship on Forest Degradation

Deforestation and land degradation have adversely influenced livelihoods of local communities as shown above. The situation might get worse in case that the climate conditions will change unfavorably and the number of households who use lands in the sucos will increase as population increases.

3.2 Stakeholders related to the Noru Watershed

3.2.1 Major Stakeholders

The following organizations and groups of people are considered as key stakeholders relating to the management of the Noru watershed.

- ▶ District Administrative Office
- ▶ Sub-district offices of Remexio & Liquidoe
- ▶ Sucos located inside the watershed
- ▶ District MAF/NDF
- ▶ Extension officers
- ▶ Forest Guard
- ▶ ND for Environment
- ▶ PNTL
- ▶ SAS sub-district in Remexio & Liquidoe
- ▶ Church
- ▶ NGO (AMAR, WV, Plan, Haburas, RAEBIA)

The importance of the stakeholders and their relationship to watershed management are analyzed as follows.

Table 3-1: Results of the Stakeholder Analysis

No.	Name	Importance in the management of watershed	Relevance to (Involvement in) watershed management
1.	District Administrative Office	- Highly important as its tasks are to give approval for the sub-district administrative offices to work on watershed management and to provide guidance for the same on relevant activities for watershed management.	- Not directly involved in watershed management
2.	Sub-district offices of Remexio & Liquidoe	- Highly important as they have authority over activities in the watershed.	- High relevant - Directly involved in watershed management because of location
3.	Sucos located inside the watershed	- High important as chef de suco is responsible for activities at suco level and communities are the actual managers of lands and forests in the watershed.	- High relevant - Directly involved in watershed management because communities in sucos are the landowners of the area.
4.	District MAF/NDF	- Highly important as District Administrative Office is.	- Not directly involved in watershed management
5.	Extensionists	- Highly important as they work with communities.	- High relevant - Directly involved in watershed management as they work in the watershed.
6.	Forest Guard	- Highly important as they are the ones who orient communities towards sustainable forest and watershed management.	- High relevant - Directly involved in watershed management, but it is difficult for one of them to commute regularly as he does not live in the watershed.
7.	ND for Environment	- Highly important as the ND for environment is also working for forest conservation.	- Not directly involved as there is no branch office at the sub-district level.
8.	PNTL	- Less important as the watershed management is not the task of PNTL.	- Directly involved in watershed management as PNTL is working with communities to prevent illegal activities including forest fires.
9.	SAS sub-district in Remexio & Liquidoe	- Highly important as SAS would advise and help communities to protect forests and areas around water sources.	- High relevant as one of SAS tasks is to protect water sources. - Directly involved as the branch offices are located in the respective sub-districts.
10.	Church	- Less important as Church has nothing to do with watershed management.	- High relevant as its task is to orient local communities.
11.	NGOs (AMAR, WV, Plan, Haburas, RAEBIA)	- High important as the NGOs have implemented some activities relevant to watershed management.	- Not directly or continuously involved in watershed management as they are not based in the watershed.

3.2.2 Noru Watershed Management Council

(1) Vision and Missions of the Watershed Management Council

The Noru Watershed Management Council was established in August 2014 with the assistance of the JICA-MAF Joint Project named “the Project for Community-Based Sustainable Natural Resource Management.” The members of the Council unanimously agreed that the vision of the Council is to properly protect and manage forests, lands, and water resources in the Noru watershed to improve living conditions and livelihoods of residents in the watershed and stabilize water supply to the downstream areas.

Specifically, the Council further approved the following missions to achieve the vision.

- to provide guidance and orientation to village leaders in the sucos concerned toward sustainable management of forests and forest-related natural resources (e.g., NTFPs, lands, and water) in the watershed;

- to provide leadership in harmonizing the interests and activities of sucos in the watershed to achieve sustainable forests and forest-related natural resource management in the watershed;
 - to take initiative in planning, implementing, and evaluating a watershed management plan to manage forests and forest-related natural resources in a proper and sustainable manner while improving local livelihoods in the watershed;
 - to help village leaders in the sucos concerned enhance awareness of sustainable forest and forest-related natural resource management among communities in the respective sucos;
- to promote necessary actions for sustainable forest and forest-related natural resource management in the watershed in coordination with relevant government and non-government organizations as well as international organizations;
- to help village leaders in the sucos concerned hand over the valuable forests and forest-related natural resources to the future generations in the respective villages; and
 - to share the experiences in the watershed with local government units (sucos, sub-districts, and districts) in other watersheds in Timor-Leste to promote sustainable forest and forest-related natural resource management at the watershed level.

(2) Members of the Watershed Management Council

The Council is composed of one (1) Chair-person, one (1) Vice Chair-person, one (1) Secretariat and other members as shown below.

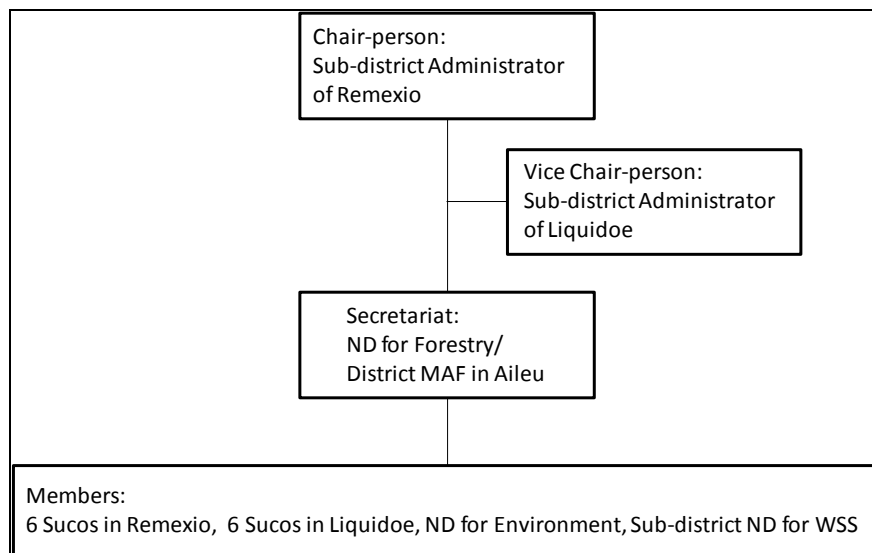


Figure 3-3: Organizational Structure of the Noru Watershed Management Council

Sub-district Administrator of Remexio is to function as a chair person of the Council, while Sub-district Administrator of Liquidoe functions as a vice chair person of the same. NDF and MAF, or its district office in Aileu, are to play a role as a secretariat of the Council. Chefs de Suco of the 12 sucos (e.g., six (6) sucos in Remexio and another six (6) sucos in Lequidoe), sub-district branch offices of NDWSS, and district branch office of NDE constitute the members of the Watershed Management Council.

(3) Functions of the Watershed Management Council

To achieve its vision and fulfill its missions, the Watershed Management Council is expected to perform the following functions:

- to formulate a watershed management plan with the assistance from relevant government and non-government organizations;
- to prepare an annual action plan to implement the watershed management plan at the beginning of the year;
- to monitor and evaluate the implementation of the annual action plan at the end of the year;
- to coordinate the implementation of the watershed management plan with relevant government and non-government organizations;
- to convene a regular meeting every quarter to monitor the situations of the watershed and discuss any issues relevant to sustainable management of forests and forest-related natural resources in the watershed;
- to adopt a resolution that would encourage all the sucos in the watershed to work on sustainable forest and forest-related natural resource management in the watershed;
- to call a meeting whenever circumstances require it; and
- to organize a working group (or a committee) to tackle any important issues that would affect the management of the watershed.

Chapter 4 Goal and Strategic Objectives of the Watershed Management Plan

4.1 Goal and Strategic Objectives

The main objective of the watershed management plan is to attain sustainable and integrated watershed management by balancing proper land and forest management with improvement of local livelihoods in a watershed. In order to achieve the main objective, four (4) strategic objectives are established as follows:

- a. Improvement and maintenance of the functions of watershed;
- b. Improvement of livelihoods of local communities;
- c. Introduction of the community-based natural resource management (CB-NRM) mechanism in the concerned sucos; and
- d. Establishment of a collaborative framework for watershed management.

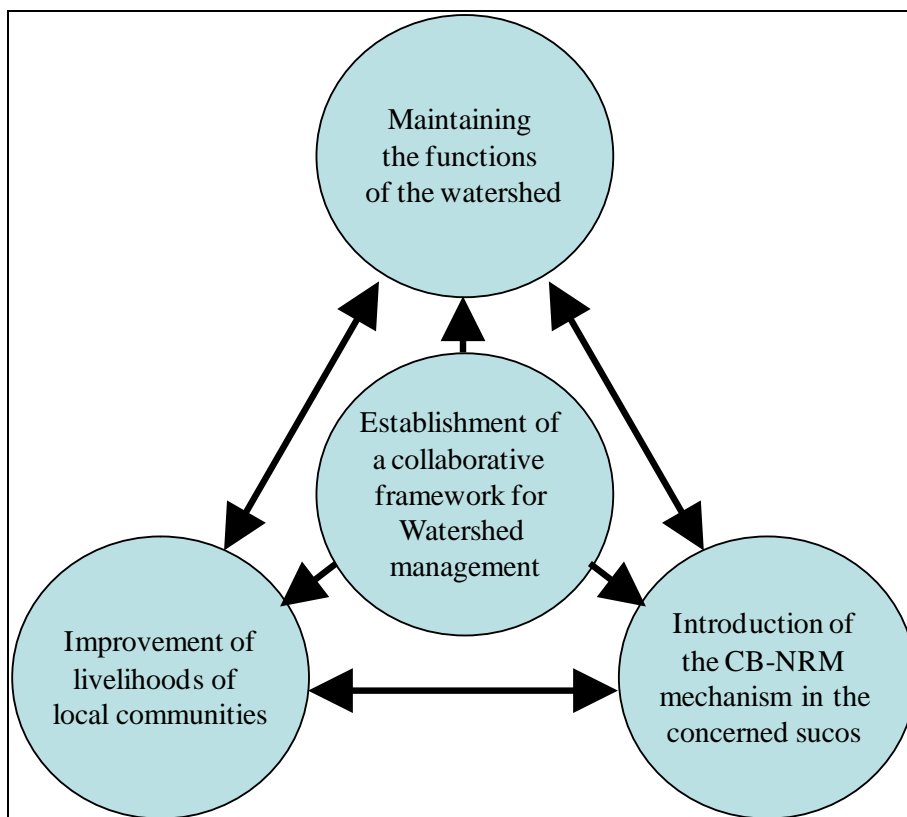


Figure 4-1: Strategic Objectives of the Watershed Management Plan

More details of the respective strategic objectives are described below.

(1) Improvement and Maintenance of the Functions of Watershed

The watershed has played various functions important for the life of local communities not only in the watershed but also in the downstream area of the Laclo river, such as stable supply of clean water, control of river run-off, and provision of places for agriculture production and collection of forest resources. These functions are essential to human life; therefore, they should be maintained, or enhance whenever necessary, by protecting and restoring forests in the watershed.

Specifically, the watershed management plan shall address the following issues which have caused the degradation of the watershed functions.

- Sediment load to the rivers;
- Slope failure/landslides;
- Deforestation and forest degradation especially in critical catchments; and
- Improper land use/unsustainable land use in sloping lands.

(2) Improvement of Livelihoods of Local People

As described in Chapter 2 of this watershed management plan, the average income of families in the watershed is obviously lower than the national average and many families have still faced a shortage of food for a part of the year. It would be difficult for local communities in the watershed to change the conventional farming practices, namely shifting cultivation, and environmentally destructive activities for livelihoods, such as animal grazing and harvesting of firewood, unless they can ensure the food security and cash income sufficient for their well-being.

Hence, one of the specific focuses of the watershed management plan shall be put on the improvement of livelihoods of local communities in the watershed, especially those who have limited opportunities other than shifting cultivation and exploitation of forest resources to secure daily food and cash income.

(3) Introduction of the Community-Based Natural Resource Management (CB-NRM) Mechanism in the Sucos concerned

The CB-NRM mechanism, which has been introduced and demonstrated by the JICA-MAF joint project in partnership with RAEBIA, encompasses i) the process of enhancing the capacity of suco leaders and other communities to use and manage forest-related resources in a productive and sustainable manner and ii) the system to help suco leaders to protect forest-related resources from the environmentally destructive activities. Through the process of establishing the CB-NRM mechanism, suco leaders and other communities engage in i) formulation of a future land use plan with village regulations, ii) selection of priority agriculture and forestry extension services, iii) institutionalization of the village regulations, and iv) application of techniques/skills introduced by the priority forestry and agricultural extension services.

Three (3) sucos in the watershed, namely Suco Faturasa, Fadabloc, and Hautoho, have been assisted by the JICA-MAF joint project in establishing the CB-NRM mechanism. The occurrence of wildfires, illegal forest exploitation, and crop damage caused by animal grazing have been drastically reduced since the CB-NRM mechanism was in place. At the same time, many communities in the same sucos have introduced and applied the sustainable upland farming techniques in their own farms.

As the mechanism has been introduced in only three (3) sucos out of the concerned 12 sucos, one of the strategic objectives of the watershed management plan is to help the remaining nine (9) sucos introduce the CB-NRM mechanism in the respective sucos, so as to achieve sustainable management of forest-related resources on a watershed level.

(4) Strengthening of the Collaborative Framework for Watershed Management

One of the issues to be addressed in the watershed management in the Noru watershed is the incidence of wild fires in the border areas between/among the concerned sucos. In many cases, the border areas are used by communities from the surrounding sucos for animal grazing and hunting; therefore, communities have often burned the areas for generation of new grasses or smoking out wild animals. Thus, collaborative efforts by the concerned sucos are needed for reducing the incidence of wildfires in the border areas in parallel with the introduction of the CB-NRM mechanism in the concerned sucos.

To facilitate the coordination and collaboration between/among the concerned 12 sucos as described in Chapter 3, the Noru Watershed Management Council was established in September 2014. It is, therefore, important to help the Council maximize and strengthen its functions, especially as a platform where the concerned sucos and NDF/MAF can work on any issues on watershed management. The watershed management plan should put emphasize on the improvement of the collaborative framework in the course of the implementation of the plan.

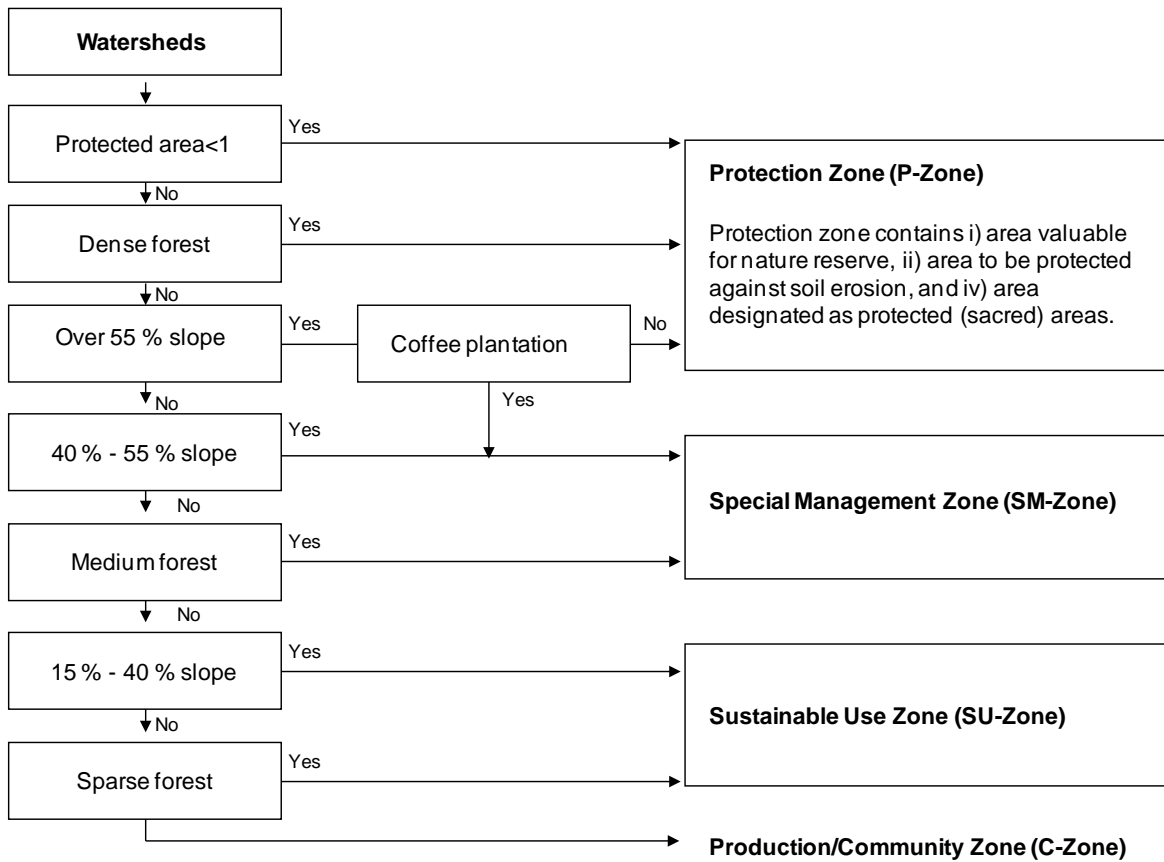
4.2 Overall Guidelines on Land Management in the Watershed

Proper land management is indispensable for maintenance and improvement of the functions of the watershed. Due consideration should be paid to the land coverage and slope in the determination of land uses for proper land management. To promote the proper land use and management, the Noru Watershed Management Council agreed with NDF/MAF on the adoption of the following guidelines on land use and management in the watershed.

Table 4-1: Guidelines on Land Use and Management in the Watershed

Zone	Description
P-Zone	Areas that have crucial functions the watershed and high environmental values shall be protected as Protection zone. (P-zone). Dense forests and steep sloping areas (over 55 %) but not used for coffee plantation are classified into P-zone. In the area under P-zone, any economic use and activities except those allowed by the government regulations (i.e., UNTEAT No. 19) shall not be allowed. Such areas shall be basically managed/protected as protected forests.
SM-Zone	Medium forests and areas with slopes between 40% and 55% are categorized as Special Management Zone (SM-Zone). Coffee plantations with more than 55% slopes are also classified under this zone. The areas under SM-zone can be used for production purposes but shall be simultaneously managed as forest lands to prevent adverse effect on lands and water sources. Hence, forest-based land uses, such as i) coffee plantation, ii) mixed forests of timber and fruit trees, iii) natural forests used for collection of NTFPs, are recommended for the areas under this zone.
SU-Zone	Areas with slopes ranging from 15% to 40% or those covered with sparse forests are categorized under Sustainable Use Zone (SU-Zone). The basic idea of this zone is to use the areas for production purposes while maintaining land productivity. Hence, the areas can be used for farming but shall be managed in a proper manner by applying soil conservation measures or introducing agroforestry techniques.
C-Zone	Areas that do not belong to the above-mentioned zones are categorized into Production/Community Zone (C-Zone). In general, areas in C-Zone have flat to gentle slopes and less vegetation cover (bushes, grasslands, and bare lands). Because of these features, the areas can be used for economic and social development purposes by local communities with a few restrictions. Upland farms, grazing lands, and paddy fields, to name a few, are possible land uses in this zone.

The following flowchart shows the process of classifying the Noru watershed into the respective zones described above.



<1 Protected areas: the area is designated as a protected area by communities.

Figure 4-2: Flowchart for Classification of the Watershed into the Land Management Zones

Figure 4-3 in the following page shows the distribution of the respective zones in the watershed.

The following chapter, Chapter 5, describes the key actions to be taken for sustainable watershed management following the land management guidelines described above

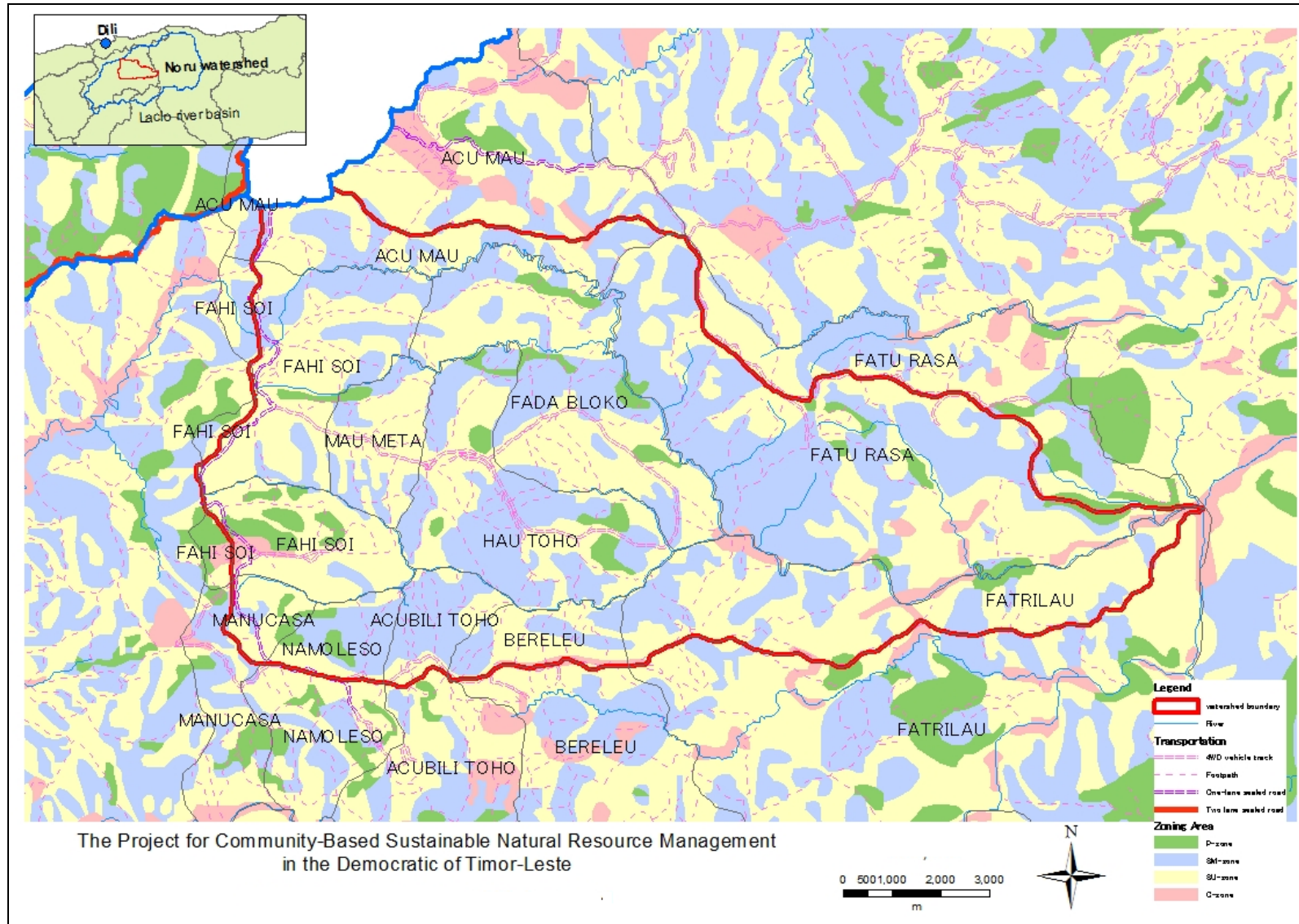


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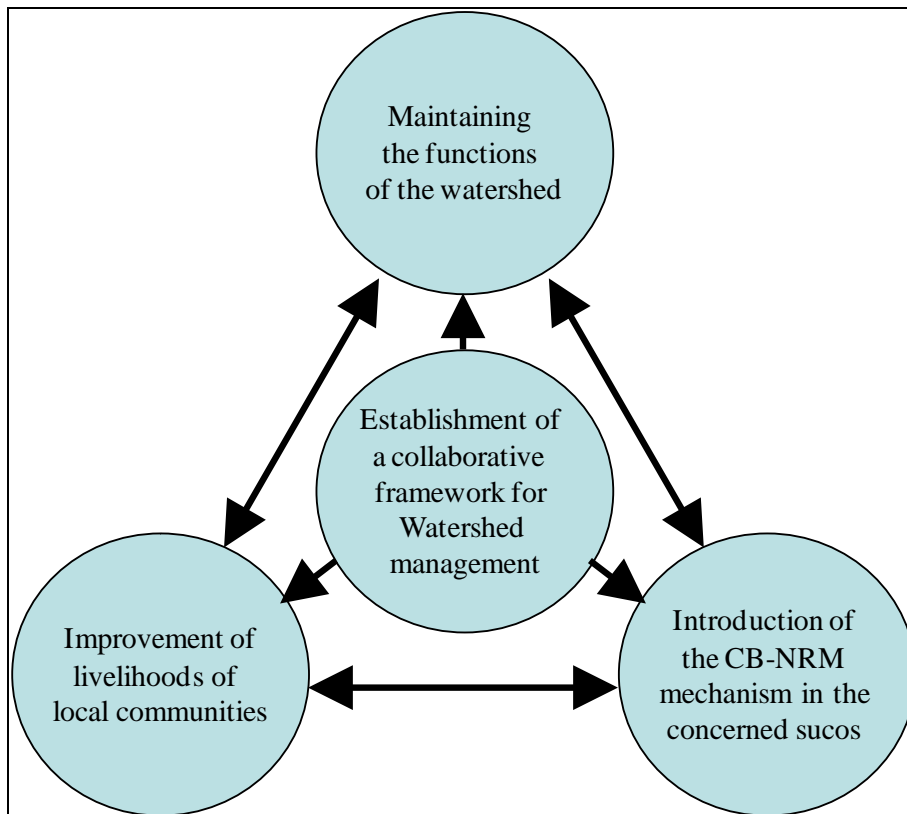


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To facilitate the coordination and collaboration between/among the concerned 12 sucos as described in Chapter 3, the Noru Watershed Management Council was established in September 2014. It is, therefore, important to help the Council maximize and strengthen its functions, especially as a platform where the concerned sucos and NDF/MAF can work on any issues on watershed management. The watershed management plan should put emphasize on the improvement of the collaborative framework in the course of the implementation of the plan.

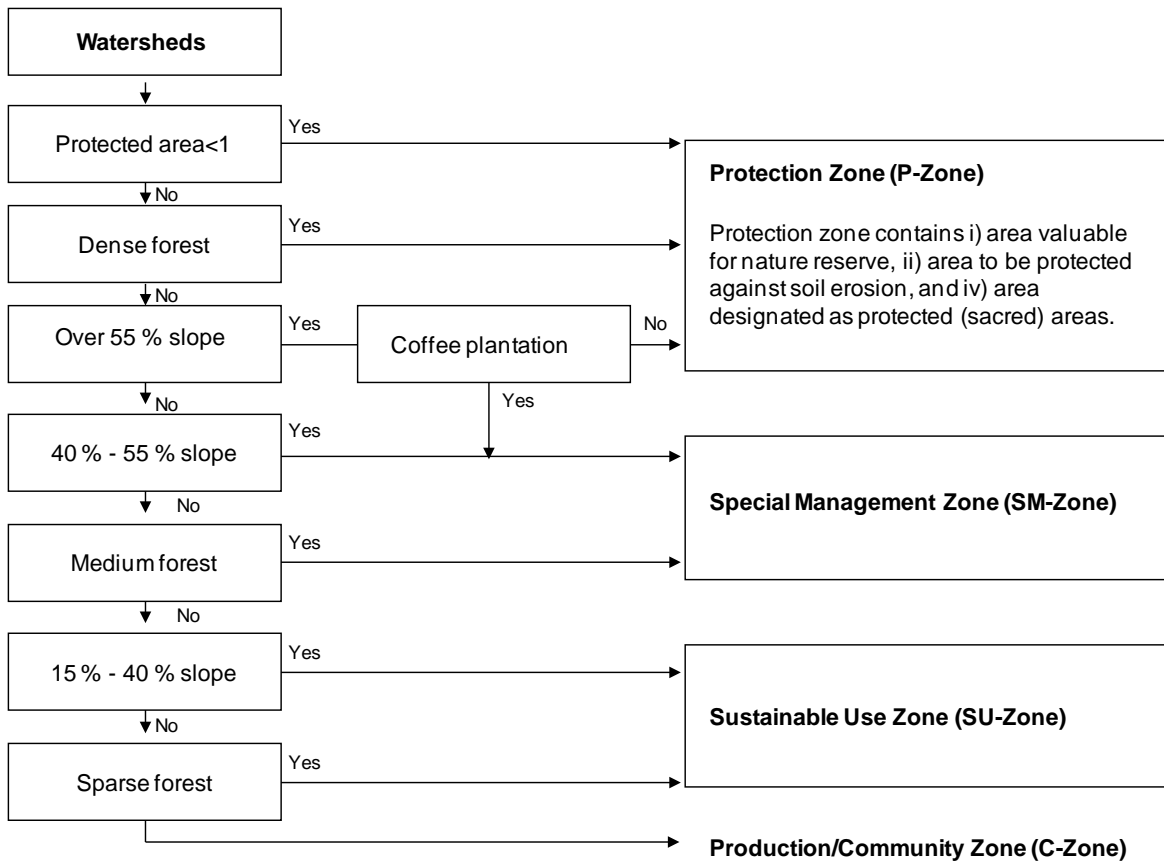
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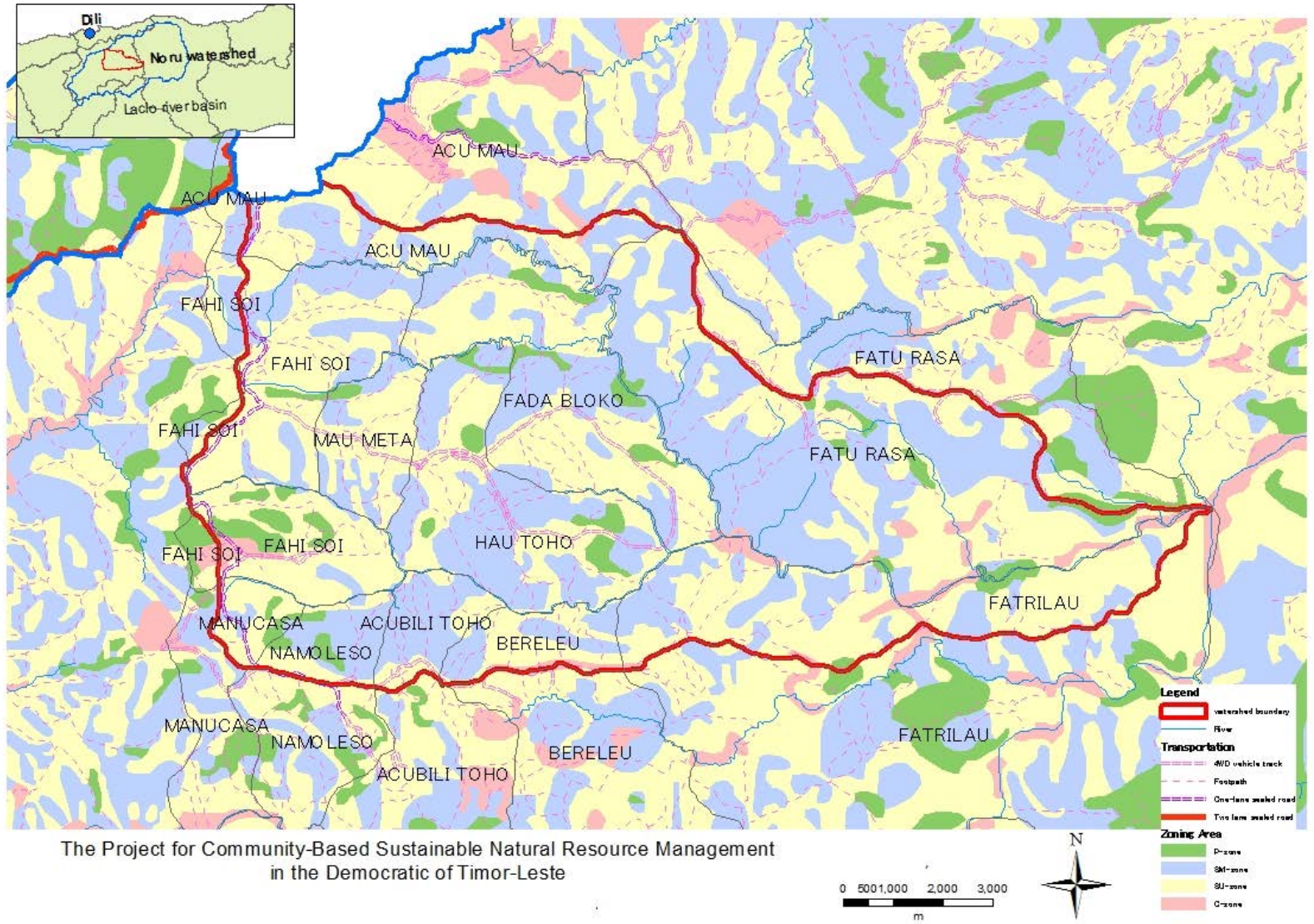
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The following chapter, Chapter 5, describes the key actions to be taken for sustainable watershed management following the land management guidelines described above

Figure 4-3: Zone Distribution in the Respective Sucos in the Watershed



The Project for Community-Based Sustainable Natural Resource Management
in the Democratic of Timor-Leste

Chapter 5 Action Plan for Watershed Management

5.1 Overall Framework of the Action Plan

As illustrated below, a total of five (5) programs are proposed as key actions to achievement of the goal and strategic objectives of the watershed management plan described in Chapter 4. The five programs further encompass a total of 11 sub-programs as shown below.

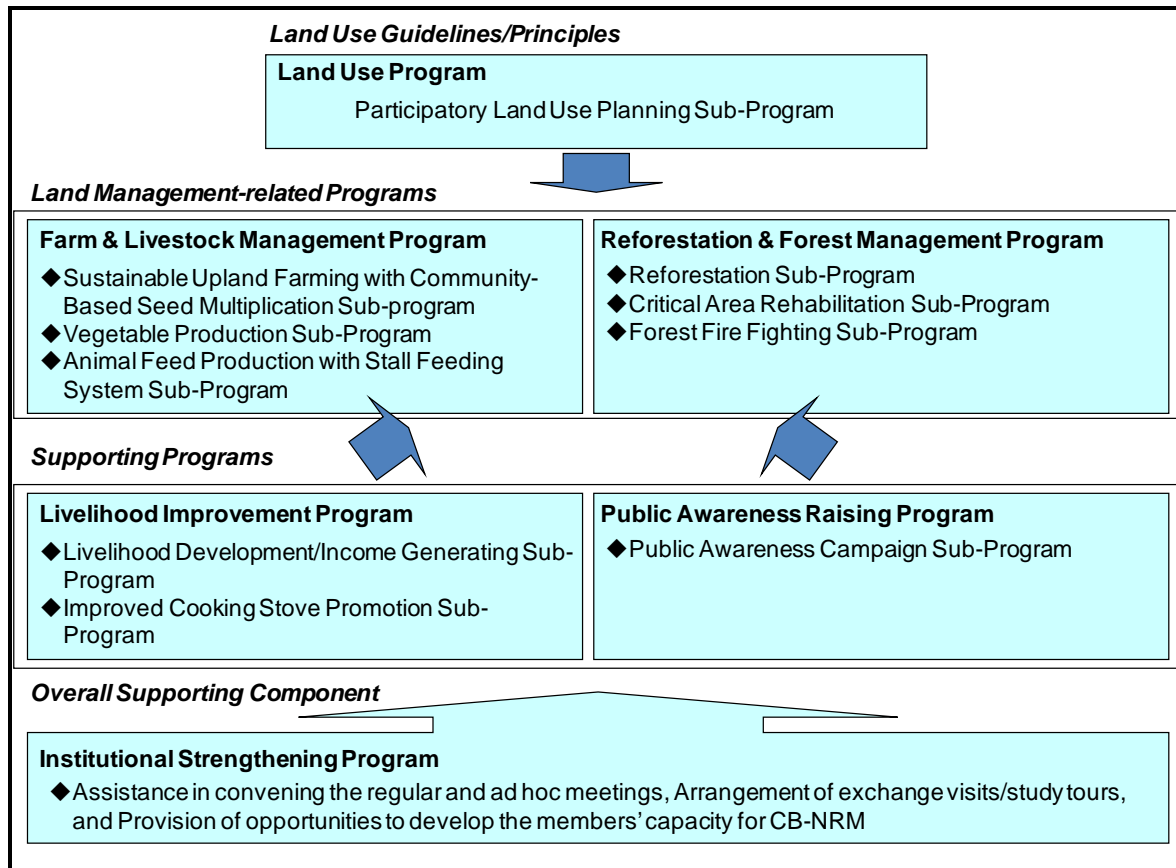


Figure 5-1: Overall Framework of the Watershed Management Plan

Land Use Program is the core and overarching program to establish the CB-NRM mechanism at suco level helping suco leaders and local communities in concerned sucos properly manage forest-related natural resources in line with the land management principles described in Chapter 4. The land management-related programs, namely i) Farm and Livestock Management Program and ii) Reforestation and Forest Management Program, aim to assist local communities in materializing the land use plan prepared in the Land Use Program. The land management-related programs are supported by i) Livelihood Development Program and ii) Information Dissemination/Awareness Raising Program. As all the programs are implemented under the management and supervision of the Noru Watershed Management Council, a specific program to strengthen the functions of the Noru Watershed Management Council is to be implemented along with the other programs.

5.2 Land Use Program

5.1.1 Objectives

Although the land use and management principles in Chapter 4 indicate the guidelines/principles on land use and management in the watershed, there is still a need to develop a land use plan at suco level so as to enable local communities to translate the guidelines into practice on the ground. The main objective of Land Use Program is therefore to enable local communities to manage forest-related natural resources in the concerned sucos in line with the land use and management principles.

5.1.2 Strategies

Since local communities should be responsible for management of lands and forest-related natural resources in the localities under the concept of CB-NRM, the land use and management principles need to be translated into a land use plan prepared by the respective villages. The participatory land use planning (PLUP), which has been introduced and demonstrated in Sucos Faturasa, Fadabloco, and Hautoho to develop a future land use plan with village regulations in a participatory manner, is proposed as the sole activity (sub-program) to be undertaken under the Land Use Program. The PLUP has been proven as an effective method to enhance the capacity of suco leaders and other communities to manage lands and forest-related natural resources in a sustainable manner.

5.1.3 Participatory Land Use Planning Sub-program (PLUP-SP)

(1) Objective

The main objective of the sub-program is to help suco leaders and communities manage lands and forest-related natural resources in line with the land use and management principles in the concerned sucos. Specifically, the sub-program aims to:

- i) assist suco leaders and local communities in developing a future land use plan with village rules/regulations on natural resource management considering the land use/management principles, current land use, and traditional land ownership;
- ii) develop the capacity of suco leaders to manage forest-related natural resources in a proper and sustainable manner using the village regulations; and
- iii) assist local communities in selecting priority forestry and agricultural extension services effective in realization of the future land use plan.

(2) Target Area

Since the sucos supported by the JICA-MAF CB-NRM Project, namely Suco Faturasa, Fadabloco, and Hautoho, have already formulated the future land use plan with village regulations of the respective sucos, PLUP-SP should be implemented in the other nine (9) sucos in the watershed.

(3) Implementation Procedures

The PLUP-SP is to be implemented in accordance with the following steps:

Table 5-1: Activities of the PLUP-SP

Step	Outlines	Timeline
Formulation of a future land use plan with village regulations	<p>A future land use plan with village regulations shall be developed through a series of discussions listed below:</p> <ol style="list-style-type: none"> 1) Consultation with suco leaders and communities about the PLUP and CB-NRM mechanism; 2) Formation of a working team composed of the members of suco council; 3) Preparation of a work plan with the working team; 4) Field visit to one of the sucos supported by the JICA-MAF CB-NRM Project; 5) Preparation of a present land use map using an aerial photo map covering the suco (at a scale of 1/7,500~1/10,000); 6) Discussion on the future land use options and preparation of a future land use map using the present land use map; 7) Review of the village rules on natural resource management in the past and at present; 8) Discussion on the village regulations; 9) Review of the draft village regulations; 10) Consultation with local communities about the draft village regulations; 11) Preparation for the tara bandu ceremony; and 12) Convening of the tara bandu ceremony. 	3 to 4 months (The tara bandu ceremony should be held by the beginning of September when communities start the land preparation.)
Selection of priority forestry and agriculture extension services	<p>Priority forestry and agriculture extension services effective in achievement of the future land use map shall be selected through the following steps:</p> <ol style="list-style-type: none"> 1) Discussions on the possible forestry and agriculture extension services and preliminary selection of the preferable services; 2) Evaluation of the selected preferable forestry and agriculture extension services and identification of the priority ones; and 3) Discussion on the priority forestry and agriculture extension services with village leaders and other communities and determination of the draft scopes of the extension services. 	1~2 months (The activities can start after the future land use planning in the PLUP process.)
Institutionalization of the village regulations	<p>In order to institutionalize the village regulations, the following meetings shall be arranged and held by suco council on a regular basis.</p> <ol style="list-style-type: none"> 1) Monthly meeting at suco level among the members of suco council to monitor if there are any issues and problems on natural resource management and discuss how such issues/problems could be solved/settled by using the village regulations; 2) Bi-monthly or quarterly meeting at aldeia level to share with local communities at aldeia level the situation of the village and how suco leaders use the village regulations to solve/settle problems; and 3) Annual plenary meeting at suco level with suco council and other communities to evaluate the effectiveness of the village regulations. 	3~4 years After 3~4 years, the monthly meeting can be changed to the bi-monthly, while the bi-monthly/quarterly can be held on a biannual basis.

(4) Necessary Inputs

The following inputs are needed to implement the sub-program.

PLUP

- a. Facilitators (Main facilitator, a few co-facilitators, and field assistance)
- b. Food for the meetings
- c. A0-sized aerial photo map which covers the suco (at a scale of 1: 7,500~1:10,000)

- d. Several transparent/plastic sheets at A0 size
- e. A large-sized wooden board (more than A0 size)
- e. Stationary (felt type pens, flipcharts, masking tapes, and tacks)
- f. Materials and expenses for the tara bandu ceremony
- g. Expenses for making booklets of the village regulations with a future land use map
- h. Transportation means for the facilitators and others

Selection of priority forestry and agriculture extension services

- a. Facilitators (Main facilitator, a few co-facilitators, and field assistance)
- b. Food for the meetings
- c. Stationary (felt type pens, flipcharts, and masking tapes)
- d. Transportation means for the facilitators and others

Institutionalization of the village regulations

- a. Facilitators (Main facilitator, a few co-facilitators, and field assistance)
- b. Food for the meetings
- c. Stationary (felt type pens, flipcharts, and masking tapes)
- d. Transportation means for the facilitators and others

(5) Expected Outputs

The following outputs are expected to be generated from the implementation of the sub-program.

Direct Results

- a. Village regulations with the future land use plan agreed upon by communities
- b. A list of priority forestry and agricultural extension services with their draft scopes

Direct Impacts

- a. Reduction of the incidence of forest fires, illegal logging, and animal grazing
- b. Improvement of land productivity in suco

5.2 Farm and Livestock Management Program

5.2.1 Objectives

The main aim of the Farm and Livestock Management Program is to change farming and livestock management practices into sustainable and productive forms, as the current practices have caused deforestation and forest degradation as described in Chapter 3. Particularly, the program shall put its focus on: i) sustainable use of sloping areas, ii) improvement of productivity of staple upland crops, iii) diversification of crops produced for cash income, and iv) semi-intensive management of livestock to effectively use animals.

5.2.2 Strategies and Approaches

In order to achieve the objectives of the Farm and Livestock Management Program, the following sub-programs are proposed as necessary actions to be taken.

- a. Sustainable Upland Farming with Community-Based Seed Multiplication Sub-program

- b. Vegetable Production Sub-program
- c. Animal Feed Production with Stall Feeding System Micro Sub-program

To convert the conventional practices into sustainable and productive forms, there is a need to change people’s perception of the current practices and build their capacity to introduce and apply such improved practices. Thus, the following strategies shall be adopted for implementation of the sub-programs.

- a. Introduction of techniques through continuous hands-on training in the form of farmer field schools (FFSs)
- b. Effective utilization of local resources and technologies
- c. Due consideration of the natural condition of the watershed

5.2.3 Sub-programs

(1) Sustainable Upland Farming with Community-Based Seed Multiplication Sub-program (SUF with CBSM-SP)

The outlines of the sub-program are described below.

Table 5-2: Outlines of the SUF with CBSM-SP

Items	Descriptions
Objectives	<p>The main objective of the sub-program is to enhance the capacity of communities to apply sustainable upland farming techniques to their permanent farms along with the introduction of improved seeds of major staple crops (i.e., maize, cassava, and sweet potato), so that they can reduce and stop the slash and burn farming practices. Specifically, the sub-program aims to:</p> <ol style="list-style-type: none"> 1) introduce and disseminate soil conservation measures easy-to-apply but effective in prevention of soil erosion; 2) introduce and disseminate organic farming techniques suitable for the current situations of the sucos; 3) introduce the improved seeds of maize, cassava, and sweet potato, which have performed well in Suco Fadabloco and Hautoho; and 4) encourage communities to replicate the key techniques on sloping agriculture and organic farming in their own plots; and 5) increase the production of the major staple crops (i.e., maize, cassava, and sweet potato) in the sucos and ensure sufficient seeds and planting materials for next cropping season.
Target areas	All the concerned sucos except Suco Faturasa, Fadabloco, and Hautoho
Implementation procedures	<p>The sub-program is to be implemented for 3 years in the respective sucos in the following manner:</p> <p><u>1st year</u></p> <ol style="list-style-type: none"> 1) Identification of potential target beneficiaries and organization of farmers’ groups (1 group per aldeia); 2) Selection of leaders and key members of the group and determination of roles and responsibilities of the members; 3) Development of a work plan in a participatory manner; 4) Identification of the demonstration plot each for the beneficiaries groups; 5) Conducts of hands-on training courses (farmer field schools: FFSs) at the demonstration plots, which cover the following topics: (compost making including maintenance, cleaning, A-frame making, contour line delineation, application of soil conservation measures (contour composting terrace), cultivation, compost application, sowing seeds, preparation of liquid fertilizer, maintenance of farms (weeding and application of liquid fertilizer), harvesting, and post-harvesting); 6) Distribution of seeds and farm tools 7) Evaluation of the training courses and preparation of the work plan for the 2nd year in a participatory manner.

Items	Descriptions
	<p><u>2nd year</u></p> <ol style="list-style-type: none"> 1) Division of the groups into sub-groups based on the existing traditional working system (halosan system) in suco; 2) Selection of leaders of the sub-groups and identification of sub-group demonstration plots; 3) Conducts of hands-on training courses (farmer field schools: FFSs) at the demonstration plots, which cover the following topics: compost making including maintenance, maintenance of soil conservation measures, cultivation, compost application, sowing seeds, preparation of liquid fertilizer, maintenance of farms (weeding and application of liquid fertilizer), harvesting, and post-harvesting; 4) Conducts of hands-on training courses/FFSs on selected key techniques at the sub-group demonstration plot, namely, compost making including maintenance, A-frame making and contour line delineation, application of soil conservation measures (contour composting terrace), and preparation of liquid fertilizer; 5) Encouragement of members of the sub-groups to help each other to apply the key techniques demonstrated in the sub-group demonstration plots; and 6) Evaluation of the training courses. <p><u>3rd year</u></p> <ol style="list-style-type: none"> 1) Assistance in the application of sustainable upland farming techniques to the demonstration plots and individual farms. 2) Evaluation of the activities.
Timeline	<p><u>Group organization and work planning</u> 2~3 months (in the rainy season)</p> <p><u>Hands-on training/FFSs</u> 12 months (after the end of the rainy season)</p> <p><u>Evaluation and planning</u> 1 month (at the end of the rainy season)</p>
Necessary inputs	<p><u>Group organization, work planning, and participatory evaluation</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Food for the meetings 3) Stationary (felt type pens, flipcharts, and masking tapes) 4) Transportation means for the facilitators and others <p><u>Hands-on training/FFSs</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Farm tools 3) Food for the training courses 4) Improved seeds and planting materials 5) Drum can or bucket for liquid fertilizer and water can 6) Local materials (procured by local communities) for compost and liquid fertilizer
Expected outputs	<p><u>Direct Results</u></p> <ol style="list-style-type: none"> 1) Sufficient volume of improved maize seeds and planting materials of cassava and sweet potato can be produced in the sucos. 2) A number of communities will apply the sustainable upland farming techniques to their own farms. <p><u>Direct Impact</u></p> <ol style="list-style-type: none"> 1) Local livelihoods will be improved 2) Surface soil erosion will be reduced.

(2) Vegetable Production Sub-program (VP-SP)

The outlines of the sub-program are described below.

Table 5-3: Outlines of the VP-SP

Items	Descriptions
Objectives	<p>The main objective of the sub-program is to enhance the capacity of communities to produce quality vegetables so that they can earn additional cash income from sales of vegetables. Specifically, the sub-program aims to:</p> <ol style="list-style-type: none"> 1) introduce and disseminate organic vegetable farming techniques; and

Items	Descriptions
	2) introduce several types of vegetables including those that local communities have not grown yet.
Target areas	Sucos where there are sources of water which can be used for vegetable production throughout a year
Implementation procedures	<p>The sub-program is to be implemented for 3 years in the respective sucos in the following manner:</p> <p><u>1st year</u></p> <ol style="list-style-type: none"> 1) Identification of potential target beneficiaries and organization of farmers' groups (1 group per aldeia); 2) Selection of leaders and key members of the group and determination of roles and responsibilities of the members; 3) Development of a work plan in a participatory manner; 4) Identification of the demonstration plot each for the beneficiaries groups; 5) Conducts of hands-on training courses (farmer field schools: FFSs) at the demonstration plots, which cover the following topics: (compost making including maintenance, seed bed making, nursery production, ridge making, application of compost, preparation of liquid fertilizer and natural pesticide, maintenance of farms (weeding, application of liquid fertilizer and natural pesticide, and staking of poles), harvesting, and collection of seeds); 6) Distribution of seeds and farm tools; and 7) Evaluation of the training courses and preparation of the work plan for the 2nd year in a participatory manner. <p><u>2nd year</u></p> <ol style="list-style-type: none"> 1) Conducts of the same hands-on training courses as those arranged for the 1st year; 2) Distribution of seeds; and 3) Evaluation of the training courses. <p><u>3rd year</u></p> <ol style="list-style-type: none"> 1) Assistance in the continuation of vegetable production in the demonstration plots and individual farms. 2) Evaluation of the activities.
Timeline	<p><u>Group organization and work planning</u> 2~3 months (in the rainy season)</p> <p><u>Hands-on training/FFSs</u> 6~8 months (after the end of the rainy season)</p> <p><u>Evaluation and planning</u> 1 month (in the rainy season)</p>
Necessary inputs	<p><u>Group organization, work planning, and participatory evaluation</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Food for the meetings 3) Stationary (felt type pens, flipcharts, and masking tapes) 4) Transportation means for the facilitators and others <p><u>Hands-on training/FFSs</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Farm tools 3) Food for the training courses 4) Seeds of vegetables 5) Drum can or bucket for liquid fertilizer and water can 6) Local materials (procured by local communities) for compost and liquid fertilizer
Expected outputs	<p><u>Direct Results</u></p> <ol style="list-style-type: none"> 1) Vegetable production will increase in the sucos. <p><u>Direct Impact</u></p> <ol style="list-style-type: none"> 1) Local livelihoods will be improved.

(3) Animal Feed Production with Stall Feeding System Sub-program (AFP with SFS-SP)

The outlines of the sub-program are described below.

Table 5-4: Outlines of the AFP with SFS-SP

Items	Descriptions
Objectives	<p>The main objective of the sub-program is to enhance the capacity of communities to produce animal feeds and stall-fed animals so as to rear animals in pens instead of free grazing. Specifically, the sub-program aims to:</p> <ol style="list-style-type: none"> 1) Introduce fodder crops and encourage communities to plant fodder crops near farms; and 2) Introduce and disseminate the techniques on stall feeding system including building of an animal pen.
Target areas	All the concerned sucos except Suco Faturasa, Fadabloco, and Hautoho
Implementation procedures	<p>The sub-program is to be implemented for 3 years in the respective sucos in the following manner:</p> <p><u>1st year</u></p> <ol style="list-style-type: none"> 1) Identification of potential target beneficiaries and organization of farmers' groups (1 group per aldeia); 2) Selection of leaders and key members of the group and determination of roles and responsibilities of the members; 3) Development of a work plan in a participatory manner; 4) Identification of the demonstration plot each for the beneficiaries groups; 5) Conducts of hands-on training courses (farmer field schools: FFSs) at the demonstration plots, which cover the following topics: (land preparation, planting of fodder trees/crops in farms as live fence or hedgerow, collection of materials for an animal pen, building of an animal pen, and rearing of animals in a pen); 6) Distribution of seeds and planting materials of fodder trees/crops 7) Evaluation of the training courses and preparation of the work plan for the 2nd year in a participatory manner. <p><u>2nd year</u></p> <ol style="list-style-type: none"> 1) Division of the groups into sub-groups based on the existing traditional working system (halosan system) in suco; 2) Selection of leaders of the sub-groups and identification of sub-group demonstration plots; 3) Conducts of the same hands-on training courses (farmer field schools: FFSs) at the sub-group demonstration plots; 4) Encouragement of members of the sub-groups to help each other to apply the key techniques demonstrated in the sub-group demonstration plots; 5) Distribution of seeds and planting materials of fodder crops and farm tools; and 6) Evaluation of the training courses. <p><u>3rd year</u></p> <ol style="list-style-type: none"> 1) Assistance in the maintenance of fodder crops/trees and stall feeding system in the demonstration plots and individual farms. 2) Evaluation of the activities.
Timeline	<p><u>Group organization and work planning</u> 2~3 months (before the rainy season)</p> <p><u>Hands-on training/FFSs</u> 12 months (from the beginning of the rainy season)</p> <p><u>Evaluation and planning</u> 1 month (at the end of the dry season)</p>
Necessary inputs	<p><u>Group organization, work planning, and participatory evaluation</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Food for the meetings 3) Stationary (felt type pens, flipcharts, and masking tapes) 4) Transportation means for the facilitators and others <p><u>Hands-on training/FFSs</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Farm tools 3) Food for the training courses 4) Seeds and planting materials of fodder crops/trees 5) Local materials (procured by local communities) for compost and liquid fertilizer 6) Transportation means for the facilitators and others

Items	Descriptions
Expected outputs	<u>Direct Results</u> 1) The number of animals reared in pens will increase. 2) Health conditions of animals will be improved. <u>Direct Impact</u> 1) Crop damage caused by animals will be reduced. 2) Forest fire or illegal cutting for fencing will be reduced.

5.3 Reforestation and Forest Protection Program

5.2.1 Objectives

The main aim of the Reforestation and Forest Protection Program is to increase forest cover in the watershed by planting value-added trees (i.e., industrial trees, shade trees for coffee, and fruit trees) in private lands and leguminous trees/casuarinas to rehabilitate degraded water catchments as well as other critical areas. In addition, the program will also encompass a sub-program for protection of forests from wild fires in collaboration with communities in the concerned sucos.

5.3.2 Strategies and Approaches

In order to achieve the objectives of the Reforestation and Forest Management Program, the following sub-programs are proposed as necessary actions to be taken.

- a. Reforestation Sub-program
- b. Critical Areas Rehabilitation Sub-program
- c. Forest Fire Fighting Sub-program

Farmer field schools (FFSs) is to be adopted as a key strategy for the first sub-program as its target areas are private lands, while the rest of the sub-programs need an agreement between/among members involved in the sub-programs, the concerned villages, and MAF/NDF since the sub-programs are aimed at the improvement and maintenance of the watershed functions for the sake of not only communities in the respective sucos but also those in the downstream areas.

5.3.3 Sub-programs

(1) Reforestation Sub-program (Rf-SP)

The outlines of the sub-program are described below.

Table 5-5: Outlines of the Rf-SP

Items	Descriptions
Objectives	The main objective of the sub-program is to enhance the capacity of communities to plant industrial trees, shade trees for coffee, and fruit trees, in right places in a proper manner. Specifically, the sub-program aims to: <ol style="list-style-type: none"> 1) provide industrial trees, shade trees, and fruit trees to communities who are willing to plant those seedlings in their own farms and maintain them properly after planting; 2) introduce and disseminate the techniques on planting industrial trees, shade trees, and fruit trees in a proper manner; and 2) introduce the proper designs of planting industrial trees, shade trees, and fruit trees.
Target areas	All the concerned sucos

Items	Descriptions
Implementation procedures	<p>The sub-program is to be implemented for 2 years in the respective sucos in the following manner:</p> <p><u>1st year</u></p> <ol style="list-style-type: none"> 1) Identification of potential target beneficiaries and organization of farmers' groups (1 group per aldeia); 2) Selection of leaders and key members of the group and determination of roles and responsibilities of the members; 3) Development of a work plan in a participatory manner; 4) Identification of the demonstration plots for the respective types of trees; 5) Conducts of hands-on training courses (farmer field schools: FFSs) at the demonstration plots, which cover the following topics: (compost making including maintenance, land preparation, staking, pitting, refilling with compost application, planting, and maintenance of seedlings (shading, weeding, and application liquid fertilizer for fruit seedlings)); 6) Distribution of seedlings and farm tools 7) Evaluation of the training courses and preparation of the work plan for the 2nd year in a participatory manner. <p><u>2nd year</u></p> <ol style="list-style-type: none"> 1) Division of the groups into sub-groups based on the existing traditional working system (halosan system) in suco; 2) Selection of leaders of the sub-groups and identification of sub-group demonstration plots; 3) Conducts of the same hands-on training courses (farmer field schools: FFSs) at the sub-group demonstration plots; 4) Encouragement of members of the sub-groups to help each other to apply the key techniques demonstrated in the sub-group demonstration plots; 5) Distribution of seedlings; and 6) Evaluation of the training courses. <p><u>3rd year</u></p> <ol style="list-style-type: none"> 1) Assistance in planting of seedlings distributed to the members in their own plots in a proper manner; 2) Assistance in maintaining seedlings planted in the demonstration plots and individual plots in a proper manner. 3) Evaluation of the activities.
Timeline	<p><u>Group organization and work planning</u> 2~3 months (in the rainy season)</p> <p><u>Hands-on training/FFSs</u> 12 months (from the end of the rainy season)</p> <p><u>Evaluation and planning</u> 1 month (at the end of the rainy season)</p>
Necessary inputs	<p><u>Group organization, work planning, and participatory evaluation</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Food for the meetings 3) Stationary (felt type pens, flipcharts, and masking tapes) 4) Transportation means for the facilitators and others <p><u>Hands-on training/FFSs</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Farm tools 3) Food for the training courses 4) Seedlings 5) Local materials (procured by local communities) for compost and liquid fertilizer 6) Transportation means for the facilitators and others
Expected outputs	<p><u>Direct Results</u></p> <ol style="list-style-type: none"> 1) Areas planted with seedlings will increase. <p><u>Direct Impact</u></p> <ol style="list-style-type: none"> 1) Forest cover in the watershed will be expanded. 2) Local livelihoods will be improved.

(2) Critical Area Rehabilitation Sub-program (CAR-SP)

The outlines of the sub-program are described below.

Table 5-6: Outlines of the CAR-SP

Items	Descriptions
Objectives	The main objective of the sub-program is to rehabilitate degraded forests, deforested areas, and degraded lands in critical water catchments and other important areas in the sucos by planting trees in a collaborative manner.
Target areas	All the concerned sucos
Implementation procedures	<p>The sub-program is to be implemented for 5 years in the respective sucos in the following manner:</p> <p><u>1st year</u></p> <ol style="list-style-type: none"> 1) Identification of the target areas to be rehabilitated considering sloping conditions and importance of the respective areas; 2) Select one or two site/s among the target areas; 3) Determination of families who would get direct benefit from rehabilitation; 4) Organization of the working team/s composed of the families who would get benefit; 5) Development of a work plan with village leaders and the working team; 6) Procurement of seedlings; 7) Mobilization of communities to prepare the lands for planting, pitting, refilling with compost, and planting); 8) Development of an agreement between/among the working team, suco council, and MAF/NDF on the maintenance of seedlings planted for two and a half (2.5) years; 9) Maintenance (weeding and shading) of seedlings twice during the rainy season and once during the dry season; and 10) Evaluation of the activities and preparation of the work plan for the 2nd year in a participatory manner. <p><u>2nd ~ 3rd year</u></p> <ol style="list-style-type: none"> 1) Repeat the activities from 2) to 10). <p><u>4th ~ 5th year</u></p> <ol style="list-style-type: none"> 1) Repeat the activities from 9) and 10).
Timeline	<p><u>Selection of the target sites, identification of beneficiaries, development of a work plan</u> 2~3 months (in the dry season)</p> <p><u>Land preparation, staking, pitting, refilling, and planting by all communities</u> 1 month (at the beginning of the rainy season)</p> <p><u>Maintenance of seedlings</u> 2.5 years (after planting)</p> <p><u>Evaluation and planning</u> 1 month (at the end of rainy season)</p>
Necessary inputs	<p><u>Selection of the target sites, identification of beneficiaries, development of a work plan</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Food for the meetings 3) Stationary (felt type pens, flipcharts, and masking tapes) 4) Transportation means for the facilitators and others <p><u>Land preparation, staking, pitting, refilling, and planting by all communities</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Farm tools 3) Food for the participants in reforestation activities 4) Seedlings 5) Transportation means for transportation of seedlings and the facilitators <p><u>Maintenance of seedlings</u></p> <ol style="list-style-type: none"> 1) Incentives for the working team
Expected outputs	<p><u>Direct Results</u></p> <ol style="list-style-type: none"> 1) Degraded forests and/or degraded areas will be rehabilitated. <p><u>Direct Impact</u></p> <ol style="list-style-type: none"> 1) Surface soil erosion will be reduced. 2) Water flow of important water sources in the sucos will be stabilized.

(3) Forest Fire Fighting Sub-program (FFF-SP)

The outlines of the sub-program are described in the following table.

Table 5-7: Outlines of the FFF-SP

Items	Descriptions
Objectives	The main objective of the sub-program is to minimize the damage of forest fires when a wild fire happens in the concerned sucos in collaboration with communities living in the fire-prone areas.
Target areas	All the concerned sucos
Implementation procedures	<p>The sub-program is to be implemented under an five (5)-year agreement between the suco and NDF in the respective sucos.</p> <p><u>1st year</u></p> <ol style="list-style-type: none"> 1) Identification of the fire-prone areas in suco. 2) Organization of a fire fighting team selecting communities who live close to the fire-prone areas or use the same areas for farming and other purposes and are willing to work for other communities. 3) Selection of leaders and development of by-laws of the fire fighting team; 4) Procurement and provision of simple fire fighting tools and equipment for the fire fighting team; 5) Conducts of training in using the tools and equipment and fire fighting drills in July and August; 6) Maintenance of the tools and equipment stored in suco office from time to time; and 7) Evaluation of the activities and preparation of the work plan for the 2nd year in a participatory manner. <p><u>2nd ~ 5th year</u></p> <ol style="list-style-type: none"> 1) Conducts of a fire fighting drill in August; 2) Maintenance of the tools and equipment stored in suco office from time to time; and 3) Evaluation of the activities and preparation of the work plan for the 2nd year in a participatory manner.
Timeline	<p><u>Identification of fire-prone areas, organization of a working team, and development of a work plan</u> 2~3 months (in the rainy season)</p> <p><u>Procurement of tools and equipment, training, and fire-fighting drills</u> 2~3 months (before the end of dry season)</p> <p><u>Evaluation and planning</u> 1 month (in the rainy season)</p>
Necessary inputs	<p><u>Identification of fire-prone areas, organization of a working team, and development of a work plan</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Food for the meetings 3) Stationary (felt type pens, flipcharts, and masking tapes) 4) Transportation means for the facilitators and others <p><u>Procurement of tools and equipment, training, and fire-fighting drills</u></p> <ol style="list-style-type: none"> 1) Trainers and assistants 2) Fire fighting tools and equipment 3) Food for training and fire-fighting drills 4) Transportation means for transportation of seedlings and the facilitators
Expected outputs	<p><u>Direct Results</u></p> <ol style="list-style-type: none"> 1) The capacity to extinguish a wild fire will be enhanced in the sucos. <p><u>Direct Impact</u></p> <ol style="list-style-type: none"> 1) Damage of wild fires will be minimized when a wild fire happens. 2) The incidence of wild fires will be reduced.

5.4 Livelihood Improvement Program

5.4.1 Objectives

The main aim of the Livelihood Improvement Program is to reduce the human pressure on forest-related natural resources by improving local livelihoods or developing additional source of income using locally available resources.

5.4.2 Strategies and Approaches

In order to achieve the objectives of the Livelihood Improvement Program, the following sub-programs are proposed as necessary actions to be taken.

- a. Livelihood Development/Income Generating Sub-program
- b. Improved Cooking Stove Promotion Sub-program

The former sub-program, the Livelihood Development/Income Generating Program, is to be implemented by using the method of FFSs so that local communities can acquire necessary techniques/skills on livelihood development. Furthermore, the use of locally available resources and techniques is to be another key strategy adopted for the same sub-program.

On the other hand, the latter sub-program, Improved Cooking Stove Promotion Sub-program, should be introduced after improvement of livelihood conditions by the former sub-program. The program is to procure and distribute improved cooking stove to communities who are willing to use and can afford to shoulder some costs of cooking stove.

5.4.3 Sub-programs

(1) Livelihood Development/Income Generating Sub-program (LD/IG-SP)

The outlines of the sub-program are described in the following table.

Table 5-8: Outlines of the LD/IG-SP

Items	Descriptions
Objectives	The main objective of the sub-program is to improve local livelihoods by increase of sources of cash income and quality foods using material locally available.
Target areas	All the concerned sucos except Suco Fadabloco and Hautoho
Implementation procedures	The sub-program is to be implemented for 3 years in the respective sucos in the following manner: <u>1st year</u> 1) Identification/selection of women members and organization of women's groups (1 group per aldeia); 2) Selection of leaders and key members of the group and determination of roles and responsibilities of the members; 3) Conduct of a participatory resource assessment and identification of potential livelihood development options 4) Development of a work plan in a participatory manner; 5) Conducts of hands-on training courses (farmer field schools: FFSs) on the potential livelihood development options, which should be based on natural resources locally available in principle; 6) Procurement of tools and equipment necessary for training on the potential livelihood development options; and 7) Evaluation of the training courses and preparation of the work plan for the 2 nd year in a participatory manner. <u>2nd and 3rd year</u>

Items	Descriptions
	<ol style="list-style-type: none"> 1) Continuation of hands-on training courses (farmer field schools: FFSs) on potential livelihood development options; 2) Promotion of products/commodities produced by the women' groups in coordination with major markets; 3) Assistance in marketing the products and running a small scale business based on the products/commodities by the women' s groups; 5) Conducts of training on financial management and provision of daily coaching on book keeping; and 6) Evaluation of the training courses. <p><u>3rd year</u></p> <ol style="list-style-type: none"> 1) Assistance in the continuation of the production of the commodities and running of the small scale business; 2) Provision of daily coaching on book keeping and cash mngement; and 3) Evaluation of the training courses.
Timeline	<p><u>Resource assessment, group organization and work planning</u> 2~3 months (in the rainy season)</p> <p><u>Hands-on training/FFSs</u> 12 months (from the end of the rainy season)</p> <p><u>Evaluation and planning</u> 1 month (at the end of the rainy season)</p>
Necessary inputs	<p><u>Resource assessment, group organization and work planning</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Food for the meetings 3) Stationary (felt type pens, flipcharts, and masking tapes) 4) Transportation means for the facilitators and others <p><u>Hands-on training/FFSs</u></p> <ol style="list-style-type: none"> 1) Facilitators (Main facilitator, a few co-facilitators, and field assistance) 2) Tools and equipment 3) Food for the training courses 4) Local materials 5) Transportation means for the facilitators and others
Expected outputs	<p><u>Direct Results</u></p> <ol style="list-style-type: none"> 1) Communities, specifically women, in the sucos will prouce products/commodities that can be sold at the market by using local materials. <p><u>Direct Impact</u></p> <ol style="list-style-type: none"> 1) Local livelihoods will be improved. 2) Natural resources in the sucos will be managed in a sustainable manner.

(2) Improved Cooking Stove Promotion Sub-program (ICSP-SP)

The outlines of the sub-program are described in the following table.

Table 5-9: Outlines of the ICSP-SP

Items	Descriptions
Objectives	The main objective of the sub-program is to reduce the use of fire wood so as to decrease human pressure on natural forests.
Target areas	All the concerned sucos
Implementation procedures	<p>The sub-program is to be implemented for 3 years in the respective sucos in the following manner:</p> <p><u>1st year</u></p> <ol style="list-style-type: none"> 1) Identification of communities who are willing to use and can afford to buy improved cooking stoves; 2) Procurement of cooking stoves for those who can afford to buy; 3) Conduct of guidance and training on the use and maintenance of cooking stoves; and 4) Evaluation of the effectiveness of cooking stoves and identification of any communities who are willing to use and can afford to buy the same. <p><u>2nd and 3rd year</u></p>

Items	Descriptions
	1) Repeat of the activities conducted in the 1 st year (except 1))
Timeline	<u>Identification of communities and procurement of cooking stove</u> 2~3 months (any time) <u>Conduct of guidance and training</u> 1 month (after procurement of cooking stoves) <u>Evaluation and identification of communities</u> 1 month (1 year after introduction of cooking stoves)
Necessary inputs	<u>Identification of communities and procurement of cooking stove</u> 1) Facilitators (Main facilitator, and field assistance) 2) Food for the meetings 3) Stationary (felt type pens, flipcharts, and masking tapes) 4) Improved cooking stoves 4) Transportation means for the cooking stoves and facilitators <u>Guidance and training</u> 1) Facilitators (Main facilitator, and field assistance) 2) Food for the guidance and training 3) Local materials (fire wood) 4) Transportation means for the facilitators and others
Expected outputs	<u>Direct Results</u> 1) The number of families who use improved cooking stoves will increase. <u>Direct Impact</u> 1) The volume of fire wood consumed in the sucos will be reduced. 2) The rate of forest degradation / deforestation will decline in the sucos.

5.5 Public Awareness Raising Program

5.5.1 Objectives

The main aim of the Public Awareness Raising Program is to heighten communities' consciousness of risks of the environmental destructive activities, namely, wild fires, illegal logging, and animal grazing, and simultaneously enhance their understanding of sustainable and proper management of forest-related natural resources, so that the incidence of forest fires, illegal logging and animal grazing could be reduced.

5.5.2 Strategies and Approaches

The sole sub-program, namely the Public Awareness Campaign Sub-program, is proposed as the necessary action to be taken to achieve the aforementioned objectives of the program.

The following are considered as key strategies for effective information dissemination under the current socio-economic context of the Noru watershed.

- a. to target both generations, adult and children, considering the rapid population increase;
- b. to prepare and use public awareness campaign materials easy-to-understand and visually-apparent to minimize the effect of language barrier; and
- c. to use human resources who are environmentally conscious in suco, such as suco leaders who are involved in the PLUP-SP, as resource persons in the campaign to help the messages of the campaign get across among communities.

5.5.3 Public Awareness Campaign Sub-program (PAC-SP)

The outlines of the sub-program are described in the following table.

Table 5-10: Outlines of the PAC-SP

Items	Descriptions
Objectives	The main objective of the sub-program is to enhance public awareness of risks of wild fires, illegal logging, and animal grazing, and simultaneously deepen the understanding of the importance of sustainable management of forest-related natural resources among communities.
Target areas	All the concerned sucos
Implementation procedures	The sub-program is to be implemented for 2 years for all the sucos in the following manner: <u>1st year</u> 1) Identification of key topics/messages to get across among communities in the sucos in consultation with suco leaders; 2) Development of a work plan of the awareness campaigns with materials; 3) Conduct of the awareness campaigns (workshops, meetings, and other information dissemination activities) at the sucos; and 4) Evaluation of the process and effectiveness of the awareness campaigns. <u>2nd year</u> 1) Repeat of the activities conducted in the 1 st year (except 1))
Timeline	<u>Identification of topics and development of a work plan with materials</u> 2~3 months (any time) <u>Conduct of the public awareness campaigns</u> 8 months (after the preparation of the work plan) <u>Evaluation and identification of communities</u> 1 month (after the end of the public awareness campaigns)
Necessary inputs	<u>Identification of communities and procurement of cooking stove</u> 1) Facilitators (Main facilitator, and field assistance) 2) Food for the meetings 3) Stationary (felt type pens, flipcharts, and masking tapes) 4) Transportation means for the cooking stoves and facilitators <u>Public awareness campaigns</u> 1) Facilitators (Main facilitator, and field assistance) 2) Food for the participants in the campaigns 3) Materials for the campaigns 4) Transportation means for the facilitators and others
Expected outputs	<u>Direct Results</u> 1) The materials for public awareness campaigns will be developed. 2) The public awareness of the necessity of forest protection will be enhanced. <u>Direct Impact</u> 1) The incidence of wild fires, illegal logging, and animal grazing will be reduced. 2) The rate of forest degradation / deforestation will decline in the sucos.

5.6 Institutional Strengthening Program

5.6.1 Objectives

The main objective of the Institutional Strengthening Program is to help the Noru Watershed Management Council keep operational to fulfill its missions even after the end of direct support from the JICA-MAF CB-NRM Project in August 2015.

5.5.2 Strategies and Approaches

The Watershed Management Council is the existing organizational framework established for protection of watershed functions through sustainable management of forest-related natural resources in the watershed. Thus, a key strategy to be adopted is to help the Council continue its key functions, namely as i) a platform where the concerned sucos can

coordinate their efforts for sustainable forest management, and ii) an advisory committee for the concerned sucos to take necessary actions.

The emphasis should also be put on the enhancement of the council members' capacity to enable the members of the Council to fulfill their roles and responsibilities for the operations of the Council even after the end of the support from the said CB-NRM Project. In particular, it is necessary to strengthen the capacity of suco leaders of the concerned sucos, especially the ability to govern the villages including forest-related natural resources effectively using the CB-NRM mechanism.

5.5.3 Actions to be Taken for Strengthening of the Noru Watershed Management Council

To strengthen the functions of the Noru Watershed Management Council, the following supporting activities are proposed as actions to be undertaken in the watershed management plan.

Table 5-11: Outlines of the Strengthening of the Noru Watershed Management Council

Activity	Outlines	Necessary inputs	Target	Timeframe
Assistance in convening the regular and ad hoc meetings	Help the Council convene the regular meeting every three months.	Facilitator with assistance Cost of food for the meeting Stationary	All the members of the Council	One day x 4 times/year (every three (3) months for 5 years)
	Help the Council convene any ad hoc meeting to discuss issues on natural resource management	Same as above	All the members of the Council	As needs arise (for 5 years)
Arrangement of exchange visits/ study tours	Help the members of the Council visit any sucos that have carried out activities similar to those introduced in the Noru watershed and arrange meetings with communities living in such sucos.	Facilitator with assistance Cost of food for the meeting Stationary Transportation means	All the members of the Council	2 days x 1 time/year (once a year for 5 years)
Provision of opportunities to develop the members' capacity for CB-NRM	Help the members of the Council enhance their capacity to properly manage forest-related natural resources using the future land use plan and village regulations of the respective villages.	Facilitator with assistance Cost of food for training Stationary Transportation means Venue for training	Village leaders of the concerned sucos	2 days x 1 time/year (once a year for 5 years)

By doing the above-listed activities, the Noru Watershed Management Council is expected to be capacitated to carry out its missions for sustainable management of the Noru Watershed in close coordination with NDF/MAF.

Chapter 6 Implementation Plan

6.1 Basic Concept

The action plan described in Chapter 5 shall be implemented with the support from MAF/NDF as well as other organizations, such as donor and/or international organizations. It is, however, speculated that it would not be easy for any organization to implement all the 11 sub-programs in all the concerned sucos for a short period of time due to the lack of human resources in the country and remoteness of the areas.

Thus, it is advisable to treat the watershed management plan as a long-term plan to be implemented over a few decades. This chapter indicates the process of implementation of the plan, a proposed organizational structure, and an implementation schedule for the next five (5) years.

6.2 Implementation Method

6.2.1 Process of Implementation of the Sub-programs

(1) Overall Process

PLUP-SP shall be implemented ahead of the other sub-programs except PAC-SP and Strengthening of the Council as PLUP-SP will determine the future land use and priority agriculture and forestry extension services, which directly relate to the selection of the sub-programs to be implemented in the sucos. Following PLUP-SP, one or two sub-program/s selected by local communities among those under the land management-related and supporting programs will be implemented.

In parallel with PLUP-SP, PAC-SP and the Strengthening of the Council can be implemented to enhance the capacity of suco leaders as well as other communities in the concerned sucos. The following figure shows the flow of implementation of the sub-programs.

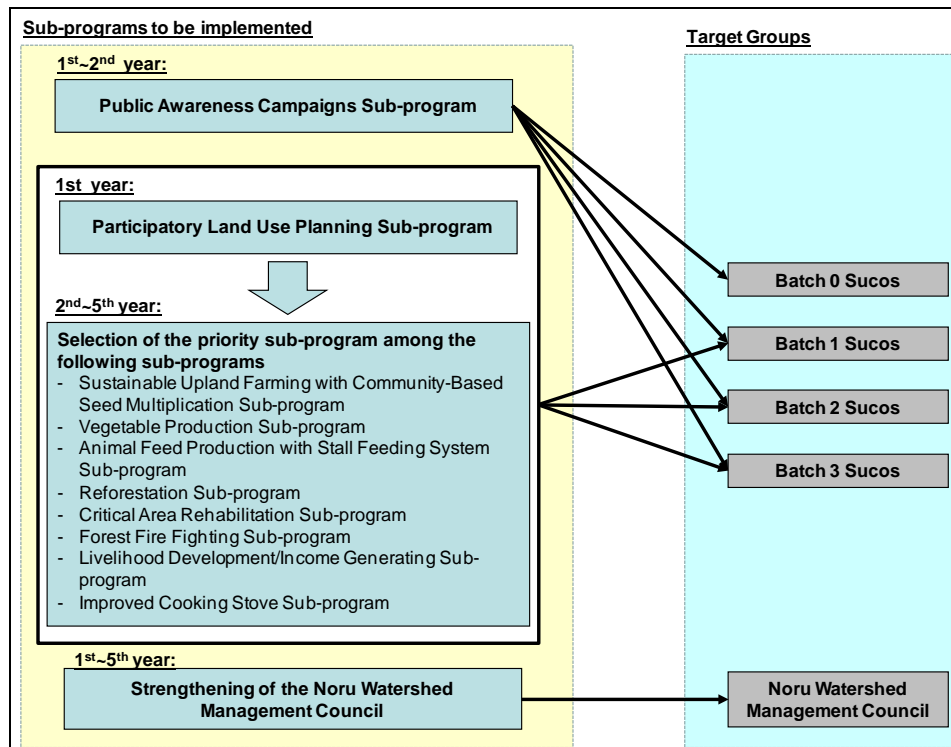


Figure 6-1: Overall Process of the Implementation of the Sub-programs

(2) Selection of the Sub-programs

The selection of the sub-programs in the respective sucos will be undertaken as a part of the process of PLUP-SP after the formulation of a future land use plan with village regulations, especially the preparation of a future land use plan. Considering the capacity of local communities as well as limitation of competent facilitators in the country, it is advisable to implement one (1) or two (2) sub-program/s in a suco at once, or it would be difficult to ensure the satisfactory results from the sub-programs.

As described in Chapter 5, all the sub-programs will not necessarily be suitable for all the concerned sucos. It is therefore important to consider and assess the current conditions of the sucos and check if the situations are suitable for the implementation of the respective sub-programs. The following table shows the potential target areas for the sub-programs as described in Chapter 5.

Table 6-1: Target Sucos and Project Periods of the Respective Sub-programs

Program	Sub-program	Possible target sucos	Period per suco
Land Use Program	PLUP-SP	12 sucos except Suco Faturasa, Fadabloco, and Hautoho	4 years
Farm and Livestock Management Program	SUF with CBSN-SP	12 sucos except Suco Faturasa, Fadabloco, and Hautoho	3 years
	VP-SP	Sucos where permanent water sources are available	3 years
	AFP with SFS-SP	Sucos where animal grazing is the prevailing practice among communities	3 years
	Rf-SP	12 sucos	3 years
Reforestation and Forest Protection Program	CAR-SP	Sucos where there are degraded water catchments and/or important areas	5 years
	FFF-SP	Sucos where the incidence of forest fire is high	5 years
	LD/IG-SP	12 sucos except Suco Fadabloco and Hautoho	3 years
Livelihood Improvement Program	ICSP-SP	12 sucos	3 years

Program	Sub-program	Possible target sucos	Period per suco
Public Awareness Raising Program	PAC-SP	12 sucos	3 years
Institutional Strengthening Program	Strengthening of the Council	Noru Watershed Management Council	5 years

6.2.2 Grouping of the Sucos

As pointed out in Section 6.1, it would be quite difficult to implement PLUP-SP and other sub-programs in all the concerned sucos simultaneously. Thus, the concerned sucos shall be grouped into four (4) batches so as to implement the action plan in a phased manner. The following table shows the number of sucos allocated to each batch and the concept of implementation.

Table 6-2: Grouping of the Sucos and Implementation Concept

Batch	Sucos	Implementation Concept
Batch 0	3 sucos (Suco Faturasa, Fadabloco, and Hautoho)	As the sucos have implemented PLUP-SP and other sub-programs from 2011 to 2015 with the assistance from the JICA-MAF CB-NRM Project, it is recommended that they mainly focus on the continuation of the activities introduced by the sub-programs for the next five years.
Batch 1	3 sucos (1 suco from Remexio and 2 sucos from Liquidoe)	Batch 1 sucos will start PLUP-SP after the situation analysis in the field in the first year. Following PLUP-SP, one or two (2) sub-program/s, selected by local communities as a/ priority sub-program/s, will be implemented in the following years.
Batch 2	ditto	Batch 2 suco will do the same activities in the same manner in the second year as what Batch 1 sucos do in the first year.
Batch 3	ditto	Batch 3 suco will start the activities in the 3 rd year.

An implementation scheduled for the next five (5) years will be prepared based on the implementation concepts described above.

6.3 Institutional Framework for Implementation

6.3.1 Organizations to be involved in the Implementation

The following organizations/groups of people might be involved in the implementation of the action plan.

- ◆ Sucos (suco council and communities);
- ◆ Sub-district Administrative Offices in Remexio and Liquidoe;
- ◆ MAF (District MAF Office in Aileu);
- ◆ NDF;
- ◆ NGOs that have worked in the field of forest management and agricultural development; and
- ◆ International organization or donor agencies

6.3.2 Proposed Organizational Structure for Implementation

Each organization/group listed in the previous sub-section should have different expected roles in the implementation of the sub-program, namely:

- ▶ Sucos will be the direct beneficiaries and field implementers of the sub-program activities at the same time;
- ▶ Sub-district Administrative Offices will support the implementation of the sub-programs by local communities in the sucos;
- ▶ MAF and NDF may provide funds to implement the action plan and/or function as implementing agencies particularly in the case of the government-funded project;
- ▶ NGOs will be the assisting organizations or external facilitators who will support the implementing agencies in the conducts of sub-program activities the field;
- ▶ International organizations or donor agencies may be another funding source for the implementation of the action plan and at the same time can be the joint implementers in collaboration with MAF/NDF as well as NGOs.

The proposed organizational structure for implementation of the action plan is shown below.

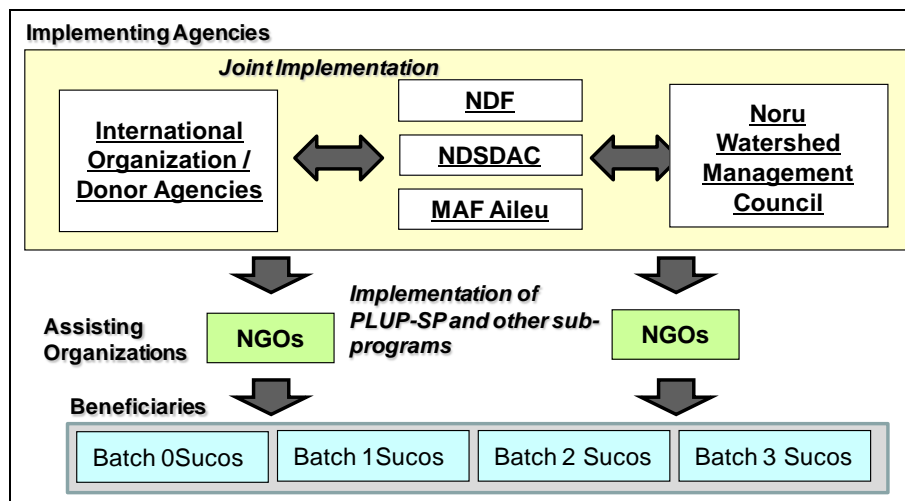


Figure 6-2: Proposed Organizational Structure for Implementation

6.4 Necessary Support and Arrangements for Implementation

It is believed that the following support and arrangements are requisite to the implementation of the action plan.

- a. Financial support to cover the costs/expenses for implementation of the sub-programs (Coordination with any possible sources of financial assistance);
- b. Allocation of facilitators for meetings and training planned in the sub-programs (Arrangement of contracts with competent-cum-experienced NGOs);
- c. Arrangement of necessary tools/materials which need to be externally procured for the respective sub-programs as outlined below;

Table 6-3: Materials to be externally procured

Sub-program	Materials to be externally procured
PLUP-SP	<ul style="list-style-type: none"> - Aerial photo maps at a scale of 1/7,500 ~10,000 - Transparent plastic sheet (over A0 size) - A wooden board (over A0 size)
SUF with CBSM-SP	<ul style="list-style-type: none"> - Farm tools - Improved seeds of upland crops

Sub-program	Materials to be externally procured
VP-SP	- Farm tools - Seeds of vegetables
AFP with SFS -SP	- Farm tools - Seeds and seedlings of fodder crops/trees
Rf -SP	- Farm tools - Seeds of trees (timber, fruits, and industrial plants) - Poly bags
CAR -SP	- Farm tools - Seedlings
FFF -SP	- Fire fighting tools and equipment
LD/IG -SP	- Tools and equipment for livelihood development
ICSP -SP	- Improved cooking stove
PAC -SP	- Materials for public awareness campaigns

- d. Arrangement of transportation means for facilitators and materials procured; and
- e. Maintenance of coordination between/among the organizations involved in the implementation of the action plan.

6.4 Implementation Schedule

An implementation schedule of the action plan for the next five (5) years is drafted as shown in the following figure. In the preparation of the draft implementation schedule, the following assumptions are taken into account.

- a. Batch 1~3 sucos will implement one or two sub-program/s after PLUP-SP;
- b. The sub-program will be implemented one year after PLUP-SP.
- c. PAC-SP and the strengthening of the Noru Watershed Management Council will be implemented in the first year separately from PLUP-SP.
- d. The sub-programs after PLUP-SP are not specified in the implementation schedule as the selection of the sub-program will be carried out in the process of PLUP-SP,
- e. The duration of the sub-program is tentatively set at three (3) years, although it ranges from three (3) to five (5) years.

Activity	Target Groups	1st year		2nd year		3rd year		4th year		5th year	
		1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half
1. Strengthening of the Noru WMC	Noru WMC	[Implementation bar]									
2. Public Awareness Campaign SP	All the 12 sucos	[Implementation bar]									
3. Assistance in continuation of the sub-program activities	Batch 0 Sucos	[Implementation bar]									
4. Participatory Land Use Planning SP	Batch 1 Sucos	[Implementation bar]									
	Batch 2 Sucos	[Implementation bar]									
	Batch 3 Sucos	[Implementation bar]									
5. Priority Sub-programs selected by communities in the sucos	Batch 1 Sucos	[Implementation bar]									
	Batch 2 Sucos	[Implementation bar]									
	Batch 3 Sucos	[Implementation bar]									

Figure 6-3: Tentative Implementation Schedule for the Next Five (5) Years (2015-2019)

**Memo of the meeting
on the membership of the Noru watershed management council**

1. **Date & time:** 10:30 – 16:30, July 08, 2014
2. **Place:** Liquidoe sub-district office
3. **Participants:** 14 members including SDA of Liquidoe, 3 CDSs and their representatives, 2 counterparts (Ms. Celestina Barreto and Mr. Benjamin de Suri)

4. Topics discussed

4.1 Identification of the potential members of the council (Stakeholder analysis)

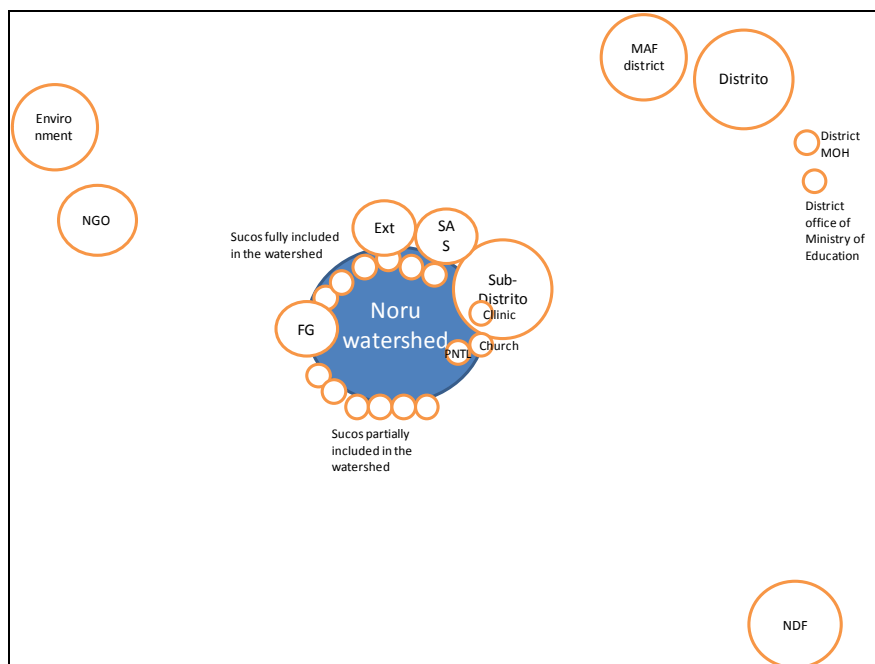
The participants listed up the organizations/groups relevant to watershed management and evaluated their importance in management of the watershed

Results of the Stakeholder Analysis

No.	Name	Relevance to (Involvement in) watershed management	Importance in the management of watershed
1.	District Administrative Office	- Not directly involved in watershed management	- Highly important as its tasks are to give approval for the sub-district administrative offices to work on watershed management and to provide guidance for the same on relevant activities for watershed management.
2.	Sub-district offices of Remexio & Liquidoe	- High relevant - Directly involved in watershed management because of location	- Highly important as they have authority over activities in the watershed.
3.	Sucos located inside the watershed	- High relevant - Directly involved in watershed management because communities in sucos are the landowners of the area.	- High important as chef de suco is responsible for activities at suco level and communities are the actual managers of lands and forests in the watershed.
4.	District MAF/NDF	- Not directly involved in watershed management	- Highly important as District Administrative Office is.
5.	Extensionists	- High relevant - Directly involved in watershed management as they work in the watershed.	- Highly important as they work with communities.
6.	Forest Guard	<u>FG in Remexio</u> - High relevant - Directly involved in watershed management as he lives in the watershed. <u>FG in Liquidoe</u> - Not directly involved in watershed management as he does not live in the watershed and not easy to commute to the watershed.	- Highly important as they are the ones who orient communities towards sustainable forest and watershed management.
7.	District MOH (Health)	- Less relevant - Not directly involved	- Less important
8.	Clinic	- Less relevant - Likely involved directly.	- Less important

No.	Name	Relevance to (Involvement in) watershed management	Importance in the management of watershed
9.	Education	- Less relevant - Not directly involved	- Less important
10.	Teachers/principles	- Less relevant	- Less important
11.	ND for Environment	- Not directly involved as there is no branch office at the sub-district level.	- Highly important as the ND for environment is also working for forest conservation.
12.	PNTL	- Directly involved in watershed management as PNTL is working with communities to prevent illegal activities including forest fires.	- Less important as the watershed management is not the task of PNTL.
13.	SAS sub-district in Remexio & Liquidoe	- High relevant as one of SAS tasks is to protect water sources. - Directly involved as the branch offices are located in the respective sub-districts.	- Highly important as SAS would advise and help communities to protect forests and areas around water sources.
14.	Church	- High relevant as its task is to orient local communities.	- Less important as Church has nothing to do with watershed management.
15.	NGO (AMAR, WV, Plan, Haburas, RAEBIA)	- Not directly or continuously involved in watershed management as they are not based in the watershed.	- High important as the NGOs have implemented some activities relevant to watershed management.

Following the discussions of the stakeholders, the participants were asked to further evaluate the relationship of the above-listed organizations and institutions with the Noru watershed using the venn diagram method. As shown in the following drawing, the organizations considered as important for the watershed are indicated as large circles, while those directly relating to the watershed are placed close to the center circle, which indicates the Noru watershed.



Results of Venn Diagram of the Organizations in the Watershed

4.2 Identification of the members of watershed management council

Based on the discussions of the stakeholder analysis, the participants determined that the following organizations should be the members of the council.

- ▶ Sub-district administrative offices of Remexio and Liquidoe
- ▶ 12 sucos in Remexio and Liquidoe
- ▶ NDF
- ▶ District MAF
- ▶ District office of National Directorate for Environment (NDE)
- ▶ Sub-district offices of National Directorate for Water Supply and Sanitation (NDWSS) in Remexio and Liquidoe

Among the organizations selected as members of the council, it was agreed that the possibility of the involvement of the offices of NDE and NDWSS in the council should be confirmed with the district offices of the relevant NDs prior to finalization of the membership of the council.

On the other hand, the participants decided that the following organizations should be treated as observers at this moment.

- ▶ District representative (District administrator & Focal point)
- ▶ District MOH (Health)
- ▶ Clinic
- ▶ Education
- ▶ Church (Sub-district)
- ▶ NGOs (AMAR, Worldvision, Plan, Haburas, and RAEBIA)

It was also agreed that the watershed management council was composed of Chair-person, Vice Chair-person, Secretariat, and other members. The participants also allocated the respective tasks to the key organizations as follows.

Framework of the Council and Organizations Appointed to Key Positions

Position	Name of organization
Chair person	Sub-district administrator of Remexio
Vice Chair person	Sub-district administrator of Liquidoe
Council members	12 chefe de sucos Environment (Optional) SAS sub-district in Remexio & Liquidoe (Optional)
Secretariat	NDF /District MAF

4.3 Roles and Responsibilities of the Members

The participants discussed and determined the roles and responsibilities of the respective members/positions of the watershed management council as follows.

Roles of Responsibilities of the Members of the Watershed Management Council

Position	Roles/Responsibilities
Chair person (Sub-District Administrator of Remexio)	<ul style="list-style-type: none"> ● Convene the regular meeting and ad hoc meeting by the request from the members; ● Issue an invitation to the members; ● Chair the meeting of the council by facilitating and directing discussions, ensuring basic rules in discussions, putting a question to the vote, and announcing decisions. ● Set agenda of the meeting in coordination with Secretariat; ● Give guidance and orientation to the members of the council towards sustainable watershed management;

Position	Roles/Responsibilities
	<ul style="list-style-type: none"> ● Encourage the members of the council to keep on making efforts to achieve sustainable watershed conservation and management; and ● Communicate with other agencies, ministries, national directorates, and other organizations for ensuring of proper watershed management.
Vice Chair person (Sub-District Administrator of Liquidoe)	<ul style="list-style-type: none"> ● Support chair person in fulfilling his/her duties; ● Act as chairperson when chairperson is not available; ● Give guidance and orientation to the members of the council towards sustainable watershed management in collaboration with Chairperson; and ● Encourage the members of the council to keep on making efforts to achieve sustainable watershed conservation and management in collaboration with Chairperson.
Secretariat (NDF/District MAF)	<ul style="list-style-type: none"> ● Assist Chairperson/Vice Chairperson in convening the meeting, issuing and delivering invitation letters to members, and handling the meeting; ● Draft agenda of the meeting in coordination with Chairperson and Vice Chairperson; ● Be responsible for documentation activities, such as note taking, preparation of resolution/decision,, etc.; and ● Help Chairperson and Vice Chairperson communicate with other agencies, ministries, national directorates, and organizations for ensuring of proper watershed management.
Council members (Chefs de Sucos)	<ul style="list-style-type: none"> ● Participate in activities arranged by the council, such as meetings and study tours; ● Share ideas and exchange opinions actively in the meetings of the council to solve and settle any issues/problems that would obstruct the achievement of sustainable watershed management; ● Follow the rules and regulations agreed upon by the members; ● Guide communities in the respective villages to ensure that they would follow agreements made by the council; and ● Encourage communities in the respective villages to protect and manage forest and natural resources in a sustainable manner.
Council members (Environment)	<ul style="list-style-type: none"> ● Same as the roles and responsibilities for the council members (chefes de sucos); and ● Support communities in sucos in the watershed in the conducts of environmental protection activities, such as Tara Bandu ceremony, seedling production & reforestation, and environmental education.
Council members (SAS)	<ul style="list-style-type: none"> ● Same as the role and responsibilities for the council members (chefes de sucos); and ● Support communities in sucos in the watershed in the protection of sources of water in the respective villages.
Observer (NGOs, etc.)	<p>Observers can possess rights to:</p> <ul style="list-style-type: none"> ● Participate in the meetings/activities organized by the council; ● Give advise/suggestion to the members of the council; and ● Assist the members of the council in carrying out activities related to watershed management. <p>Observers might be able to be a member of the council in the future when the council extends its functions and missions aside from forest and natural resource management in the future. Being a member is subject to approval of the council.</p>

The participants also agreed on the idea that the council could organize a working group/committee with the approval of the majority of the members when the council has any issue to be discussed and addressed continuously.

End of Document

**Memo of the meeting
on the membership of the Noru watershed management council**

1. **Date and Time:** 10:00 – 16:30 on July 18, 2014
10:00 – 16:30 on July 25, 2014
2. **Place:** Remexio sub-district office on July 18, 2014
Liquidoe sub-district office on July 25, 2014
3. **Participants:** 12 members, which are 2 sub-district administrative officers of Liquidoe and Remexio, 6 Chefs de Suco and 4 representatives on July 18, 2014
13 members, which are 2 sub-district administrative officers of Liquidoe and Remexio, 5 Chefs de Suco and 6 representatives on July 25, 2014
4. **Topics discussed**

4.1 Discussion on the Current Situation of the Watershed (Situation Analysis)

The participants discussed the current natural and socio-economic conditions of the watershed as well as the territories of the respective villages as below.

Results of the Situation Analysis (Natural Conditions) in the Watershed

Suco	Forest	Soil Fertility	Landslide	Water	Others
Asumau	Fully covered with the dense forest in the Portuguese era. Progress of deforestation during the Indonesian times due to large scale tree cutting	Decline of soil fertility due to shifting cultivation	Occurrence of many landslide	Reduction of volume of water	Decrease of wild animals, such as deer and cockatoo
Faturasa	Expansion of dense forests as medium forests have recovered and become dense forest.	Increase of soil fertility because of land conservation	Occurrence of landslide (still)	Increase of water sources and water volume	Same as above
Fahisoi	Reduction of forest coverage in the area	Decline of soil fertility	Increase of occurrence of landslides	No change in terms of volume and quality	No wild animals
Maumeta	Decrease of medium forests in the area	Same as above	Increase of occurrence of landslides due to cutting trees and shifting cultivation	Same as above	Same as above
Hautoho	Expansion of dense forests owing to the village regulations	Same as suco Faturasa	Decrease of landslide because of less tree cutting	Same as above	Same as above
Fadabloco	Same as above.	Same as above	Decrease of landslide	Same as above	Decrease of wild animals
Fahisoi	Increase of forest cover owing to reduction of shifting cultivation	Increase of soil fertility owing to introduction of soil conservation measures introduced by NGOs.	Some landslides	Increase of volume of water volume Good quality of water during the rainy season	Existence of the village regulations developed in 2003 with the one-month support from World Vision

Suco	Forest	Soil Fertility	Landslide	Water	Others
Manucasa	Increase of forest cover	Same as above	Reduction of occurrence of landslide	No change in volume of water in the 10 major sources in the village	Existence of the village regulations developed in 2013 with the support from World Vision and PNTL
Namoleso	Same as above	Some improvement of soil fertility owing to application of soil conservation measures with the support from WV	Occurrence of landslides, which caused damage to the sources of water in the village	There are 7 sources in the village, which are currently used by the communities.	Existence of the village regulations developed in 2009 with the support from World Vision
Bereleu	Decrease of forest cover due to illegal cutting and shifting cultivation	Decline of soil fertility due to no application of soil conservation measures	Occurrence of landslides	Decrease of volume of water	No village regulations
Asubilitoho	Some improvement of forest conditions because of seedlings distributed by MAF	Some improvement of soil fertility	Increase of landslides	No significant change in water in terms of volume and quality	Village regulations were developed this year.
Fatrilau	Decrease of forest cover due to lack of village regulations	Decrease of soil fertility	Occurrence of landslides close to the river,	No significant change in water, but more water facilities are needed	No village regulations

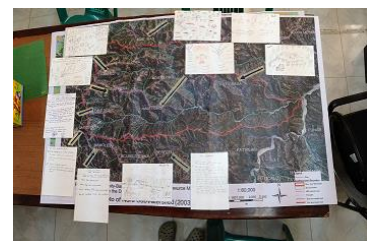
In addition, the participants were asked to discuss the socio-economic conditions in each sub-district in response to the changes in the natural conditions of the villages. The results of the discussions are summarized below.

Results of the Situation Analysis (Natural Conditions) in the Watershed

Sub-district	Living condition	Livelihood
Remexio	<ul style="list-style-type: none"> - Improvement of accessibility to the sources of water - Changing of farming practice from shifting cultivation to fixed farming - Less free grazing - Less wild fire 	<ul style="list-style-type: none"> - Reduction of time to fetch water - Increase of crop production - Reduction of the volume of trees cut for animal fences - Reduction of the incidence of landslide - Reduction of villagers' expenditure for farming
Liquidoe	<ul style="list-style-type: none"> - Improvement of living condition owing to the village regulations - Improvement of road conditions which facilitate the access to market - Improvement of accessibility to the sources of water - Reduction of shifting cultivation - Increase of soil fertility because of introduction of terrace - Reduction of the number of violence cases 	<ul style="list-style-type: none"> - Increase in the selling prices of animals - Increase of production of crops owing to soil conservation - Increase of vegetable production - Increase of income from vegetable production

4.2 Envisioning of Future Images of the Villages

Following the situation analysis, the participants were asked to envision a future image of the respective villages. Each participant either drew a picture or described the statements



that show the future vision of the village.

The pictures and statements made by the participants were pasted onto the aerial photo map of the watershed, and the participants were asked to explain what they depicted/described as visions of the respective villages and sub-districts.



4.3 Vision, Missions, Objectives, and Functions of the Watershed Management Council

The participants discussed and determined the vision, missions, objectives, and functions of the watershed management council as below.

Roles of Responsibilities of the Members of the Watershed Management Council

a. Vision Statement

“The Noru watershed management council is a non-profit alliance comprising sucos and sub-district administrative offices concerned and relevant government agencies with an aim to properly protect and manage forests, lands, and water sources in the Noru watershed for improvement of living conditions and livelihoods of residents in the watershed and contribution to stable water supply to the downstream areas.”

b. Missions

- ◆ *to provide guidance and orientation to village leaders toward sustainable management of natural resources in the watershed;*
- ◆ *to provide leadership in harmonizing the interests and activities of sucos in the watershed to achieve sustainable natural resource management in the watershed;*
- ◆ *to take initiative in planning, implementing, and evaluating a watershed management plan to manage natural resources (e.g., forests, lands, and water) in a proper and sustainable manner while improve local livelihoods in the watershed;*
- ◆ *to help village leaders in the watershed to enhance awareness of natural resource management among communities in the respective villages;*
- ◆ *to promote necessary actions for sustainable natural resource management in the watershed in coordination with relevant government and non-government organizations as well as international organizations;*
- ◆ *to help village leader hand over the valuable natural resources to the future generations in the respective villages; and*
- ◆ *to share the experiences in the watershed with local government units (sucos, sub-districts, and districts) in other critical watersheds in Timor-Leste to promote sustainable natural resource management at the watershed level.*

c. Objectives

- ◆ *to reduce the incidence of environmental degradation events, such as forest/wild fire, illegal exploitation, and free grazing in the watershed;*
- ◆ *to improve the conditions of natural resources, namely, forests, lands/soils, and water, in the watershed;*

- ◆ *to maintain and improve livelihoods of local communities in the watershed; and*
- ◆ *to enhance the capacity of village leaders as well as communities in the respective villages to manage natural resources in a proper and sustainable manner.*

d. Functions

- ◆ *to formulate a watershed management plan with the assistance from relevant government and non-government organizations;*
- ◆ *to prepare an annual action plan to implement the watershed management plan at the beginning of the year;*
- ◆ *to monitor and evaluate the implementation of the annual action plan at the end of the year;*
- ◆ *to coordinate the implementation of the watershed management plan with relevant government and non-government organizations;*
- ◆ *to convene a regular meeting every quarter to monitor the situations of the watershed and discuss any issues relevant to natural resource management in the watershed;*
- ◆ *to adopt a resolution that would encourage all the sucos in the watershed to work on sustainable natural resource management in the watershed;*
- ◆ *to call a meeting whenever circumstances require it; and*
- ◆ *to organize a working group (or a committee) to tackle any important issues that would affect the management of the watershed.*

5. Next Meeting

The next meeting will be held at the Sub-district Administrative Office in Remexio in the middle of August when the draft by-laws of the watershed management council is prepared based on the discussions made by the members of the council.

End of Document

Memo of the 1st Regular Meeting of the Noru Watershed Management Council

1. **Date and Time:** 10:00 – 16:30 on September 30, 2014
2. **Place:** Liquidoe sub-district office
3. **Participants:** 15 members (Sub-district Administrator of Sub-district Remexio/Chairperson, Representative of Sub-district Administrative Office of Liquidoe, 8 Chefs de Suco, 2 Representatives of suco, Representative of District Office of Environment in Aileu, Representative of Sub-district Office of Water Supply and Sanitation in Liquidoe, Representative of NDF)
4. **Topics discussed:** As per agenda attached hereto
5. **Results of the Discussions**

5.1 Finalization of the Resolution

After the NGO's briefing about the resolution, the participants unanimously approved the resolution as they had adequately discussed the contents of the same as of the date of the meeting. Then, all the members who participated in the meeting signed on the resolution.

It was agreed that NGO and Chairperson of the Council (or Sub-district Administrator of Remexio) would visit the District Administrative Office and District MAF Office in Aileu later to get the signatures of District Administrator and District MAF Director and the NGO would further gather other signatures from those who didn't show up in the meeting.



5.2 Reporting of Situations of the Watershed (Villages) on Natural Resource Management

Chefs de Suco of seven (7) sucos and representatives of two (2) sucos reported the situations of the respective villages focusing on the matters relating to natural resource management. Highlights of their reports are summarized below.



Current Situations of the Respective Sucos

Suco	Current Situation of the Suco
(1) Fadabloco	<ul style="list-style-type: none"> ✓ A wild fire occurred in Aldeia Liquica. The case was caused by a mentally-ill person. The case will be settled according to the village regulations in coordination with the family of the person responsible for the fire. ✓ Several cases of crop damage have been caused by animals roaming around in the village.
(2) Fahisoi (Remexio)	<ul style="list-style-type: none"> ✓ There are many animal being freely grazed in the village due to the shortage of animal feed. ✓ Animal grazing has often caused wild fires. ✓ A sense of conscience about forest fires is limited among communities. ✓ Fires have often happened along the borders with Liquidoe.

Suco	Current Situation of the Suco
(3) Fahisoi (Liquidoe)	<ul style="list-style-type: none"> ✓ No forest fire has happened in the village. ✓ No animal grazing or illegal cutting has been practiced in the village thanks to the village regulations. ✓ The communities have faced the shortage of water especially in the dry season.
(4) Hautoho	<ul style="list-style-type: none"> ✓ There has been no large-scale wild fire happening in the village. ✓ There has been no sever crop damage caused by animals in the village. ✓ The suco council has a meeting every Monday to discuss any cases and issues in the village regularly. ✓ As of today, the suco council has collected a total of 825USD as fines. ✓ Recently, communities have tended to settle the cases by themselves.
(5) Faturilau	<ul style="list-style-type: none"> ✓ There have been many wild fires happening in the village. ✓ There are also many animals being freely grazed in the village although the village regulations are in place in the village. ✓ It is difficult for suco council to regulate the activities of communities as the area of suco is too large to manage. There is a need to have assistance from the CB-NRM Project in regulating the illegal activities in the village.
(6) Faturasa	<ul style="list-style-type: none"> ✓ The number of cases of crop damage caused by animals has been reduced since the village regulations were put in place. ✓ At the same time, the incidence of forest fires and violent acts has been reduced owing to the village regulations. ✓ The burden of traditional ceremonies has also been minimized. ✓ However, there have been wild fires in all the aldeias in this dry season and one of them burnt 13 houses. ✓ To remind communities of the consequences of wild fires, the suco council plans to hold a religious ceremony inviting authorities, neighboring villages, church of Remexio in October.
(7) Namuleso	<ul style="list-style-type: none"> ✓ As the traditional tara bandu regulations are still effective in the village, no illegal cutting or wild fire has happened in the village. ✓ Communities in the village have grazed animals as they had practiced before.
(8) Maumeta	<ul style="list-style-type: none"> ✓ There is no animal being grazed in the village. If any animals are found roaming around, they can be killed by anyone in the village. ✓ There have been some small wild fires caused by burning farms.
(9) Manucasa	<ul style="list-style-type: none"> ✓ A large-scale wild fire happened in the village and caused damage on coffee plantations owned by 16 families and industrial tree plantations owned by 20 HHs. ✓ It took about three (3) days for communities to extinguish the fire. ✓ Communities graze animals in the village during the dry season due to the shortage of animal feed. ✓ No illegal cutting happened in the village. Communities have cut trees only for building houses. ✓ The village have sufficient sources of water even during the dry season.

5.3 Discussion on Incidence of Forest Fires in the Watershed

In the following section, the participants discussed how they could minimize the incidence of wild fires in the watershed. Chairperson of the Council, Sub-district Administrator of Remexio, recommended the introduction of the following options:

- a. Application of fire break lines in the individual farms to minimize the occurrence of wild fires during the preparation of farms;
- b. Use of the effectiveness of traditional ceremonies to remind communities not to cause fires; and
- c. Organization a team composed of Lia Nain in suco to guide, remind, and regulate communities in suco.

Furthermore, the representative of SAS in Sub-district Liquidoe also gave the following

suggestions:

- a. A basic law or regulation should be developed at the sub-district level;
- b. The village regulations should be further explained to as many communities in suco as possible; and
- c. Awareness of the consequences of wild fires should be further raised among communities.

In order to deepen the understanding of the current conditions of wildfires in the watershed, the participants identified the areas prone to wild fires in the respective sucos.

Areas prone to Wild Fires in the Respective Sucos

Suco	Areas prone to wild fires
(1) Faturasa	✓ Borders with Umakaduak, Tulataequeo, Asumau, Fadabloco, and Faturilau (The border with Faturilau is the most prone area, followed by that with Fadabloco.)
(2) Fadabloco	✓ Kuda nalai, part of Aldeia Liquica ✓ Border with Fahisoi (Remexio)
(3) Hautoho	✓ Borders with Fadabloco (Kuda nalai), Faturilau, and Berliu
(4) Fahisoi (Remexio)	✓ Borders with Fadabloco (Rileu) and Asumau, ✓ Parts of the suco.
(5) Maumeta	✓ Borders with Hautoho and Fadabloco
(6) Faturilau	✓ Borders with Faturasa, Funar (Laclubar), Lesuhata (Turiscail), Fatukalu (Turiscail), Kaimau (Turiscail), Maulao (Turiscail), Berliu (Liquidoe), Betelao (Liquidoe), and Uma Naruk (Laclo) (Wild fires have been often caused by illegal hunting.)
(7) Manucasa	✓ Borders with Fahiria (Aileu Vila), Dailor (Aileu Vila), and Asubilitoho (Liquidoe), Saburia (Aileu Vila)
(8) Asumau	✓ Borders with Hera (Dili) Liurai (Remexio), and Fahisoi (Remexio)
(9) Namuleso	✓ No fire-prone area in the village
(10) Fahisoi (Liquidoe)	✓ No fire-prone area in the village
(11) Berliu	✓ Borders with Asumata/Urubana in Asubilitoho (Liquidoe), and Faturilau
(12) Asubilitoho	✓ Borders with Berliu, Betelau (Liquidoe), Manucasa, Maulao (Maubise), and Lausi (Aileu Vila)

Having confirmed the current situations, the participants further discussed the possible options to reduce the incidence of wild fires in the watershed. Suggestions given by the members are summarized below.

- ◆ to organize small groups of people, especially those residing closed to the fire-prone areas, and give the groups a task to watch for fires in the fire-prone areas;
- ◆ to carry out tree planting in coordination with the Military;
- ◆ to conduct / hold a ritual ceremony to warn people who have often committed illegal acts;
- ◆ to hold a competition or an event to award a prize to the suco where no wild fire has occurred in the area;
- ◆ to hold a Tara Bandu ceremony at the sub-district level;
- ◆ to use opportunities of mass at church every Sunday to raise awareness of communities by giving guidance and orientation to communities;
- ◆ to keep giving information to families and persons who use the fire-prone areas;
- ◆ to request church on a sub-district level to ask priests at suco to remind communities not to cause a fire;

- ◆ to establish a close network between/among church, police, and sub-district administrative offices; and
- ◆ to hold meetings with communities to give necessary guidance and orientation for reduction of the incidence of wild fires.

Finally, the participated members of the council agreed that the following actions should be taken immediately. Since more than 50 % of the members attended the meeting, the decision made shall be deemed valid/effective.

- a. Chefs de suco of Faturasa and Fadaabloco shall coordinate efforts to minimize the incidence of wild fires with the neighboring villages in October.
- b. Chairperson of the Council or Sub-district Administrator of Remexio shall request church to help reminding communities not to cause fire at mass in the respective villages in October.
- c. Chefs de suco of Faturasa, Fadaabloco, Faturilau, and Manucasa shall ask chefs de aldeia of the respective sucos to remind communities about the consequences/negative impacts of wild fires in October.
- d. Chefs de suco of Faturasa, Fadaabloco, Faturilau, and Manucasa shall communicate with families who graze animals and have farms in the fire-prone areas and ask them to watch for wild fires in the areas.

It was also agreed that the results of the actions should be reported in the meeting to be held in November.

5.4 Objectives and Process of the Formulation of the Noru Watershed Management Plan

The facilitator /NGO briefed the participants on the objectives and process of the formulation of the watershed management plan of the Noru watershed using the explanation note attached hereto. The participants showed their approval on the objectives and process of making the watershed management plan. The participants agreed that the first meeting on this matter would be held on October 10, 2014 at the Sub-district Administrative Office of Remexio.

End of document

Memo of the Meeting
of the Noru Watershed Management Council on Oct. 10, 2014

1. Date and Time: 11:30-16:30 on October 10, 2014

2. Place: Sub-district office of Remexio

3. Participants: 20 members

(Sub-district Administrator of Sub-district Remexio/Chairperson, 8 Chefs de Suco, 2 Representatives of suco, Representative of District Office of Environment in Aileu, Representative of Sub-district Office of Water Supply and Sanitation in Liquidoe, and Representatives of NDF and Aileu MAF District Office)

4. Purpose of the Meeting: Discussion on the Noru Watershed Management Plan

Chapter 2 (Present conditions of the watershed) and Part of Chapter 2 (Issues and problems on the watershed management)

5. Topics discussed: The following topics were discussed at the meeting.

- 1) Minutes of the last meeting
- 2) Present conditions of the Noru watershed, which is used for Chapter 2 of the watershed management plan of the Noru watershed
- 3) Participation in the meeting

6. Results of the Discussions

(1) Minutes of the last meeting

The NGO introduced and explained the minutes of the last meeting held on September 25, 2014 at the Sub-district Administrative Office of Liquidoe. The members of the Watershed Management Council confirmed that the descriptions in the minutes precisely represented what they discussed in the meeting; therefore the minutes were unanimously approved by the members.

(2) Present Conditions of the Noru Watershed

The NGO explained the summary of the present natural and socio-economic conditions of the Noru watershed, which would be used for Chapter 2 of the Noru watershed management plan. The PPT material shown in Attachment-1 was used for the explanation. Some highlights of the discussions on the present conditions of the Noru watershed are summarized below.

- ◆ The demographic data of the concerned sucos in the presentation did not indicate the actual situations of the sucos and needed to be revised. It was agreed that President and Vice President would provide the latest demographic data of the concerned sucos by the next meeting.
- ◆ The data on sources of water (quality and quantity) in the concerned sucos should be included in the watershed management plan. Chefs de suco of the concerned sucos should share the data on the water sources in the respective sucos with the JICA Project Team in the next meeting.
- ◆ There was no clear information showing the average household income in the concerned sucos except Suco Faturasa, Fadabloco, and Hautoho, where the Project had conducted the village profile survey. Nevertheless, the participants in the meeting generally agreed

that the annual household income ranged from US\$ 100/family to US\$ 4,000/family and the average was more or less US\$ 800/family.

- ◆ It was also agreed by the participants that Chefs de suco of the concerned sucos should make a survey on the income level to estimate the average annual household cash income in the respective villages.

(3) Participation in the meeting

As the number of participants from Sub-district Liquidoe was limited, the participants discussed how the Watershed Management Council could ensure the participation of the members, especially chef de suco of the concerned sucos in Sub-district Liquidoe. To encourage the members' participation, they agreed that: i) the members from Sub-district Liquidoe should gather at Suco Nameleso on the morning of the date of the meeting, and ii) the NGO should arrange a vehicle to pick them up at Suco Nmeleso on the same day. It was also agreed that any member who would not be able to take part in the meeting should delegate someone to attend the meeting.

(4) Other

The next meeting will be held on October 23 or 24 at the Sub-district Administrative Office of Liquidoe.

7. Photos:



End of Document

Memo of the Meeting
of the Noru Watershed Management Council on Oct. 23, 2014

1. Date and Time: 10:30-17:00 on October 23, 2014

2. Place: Sub-district office of Liquidoe

3. Participants: 15 members

(Sub-district Administrator of Sub-district Liquidoe/Vice Chairperson, 5 Chefs de Suco, 5 Representatives of suco, Representative of District Office of Environment in Aileu, Representative of Sub-district Office of Water Supply and Sanitation each in Liquidoe and Remexio, and Representatives of NDF and Aileu MAF District Office)

4. Purpose of the Meeting: Discussion on the Noru Watershed Management Plan

Chapter 3 (Issues on Watershed Management and Major Stakeholders), Chapter 4 (Goal and Strategic Objectives of the Watershed Management Plan) and Outlines of Chapter 5 (Action plan of the Watershed Management Plan)

5. Topics discussed: The following topics were discussed at the meeting.

- 1) Minutes of the last meeting
- 2) Data collected by the members
- 3) Issues on watershed management and major stakeholders (Chapter 3), Goal and strategic objectives of the watershed management plan (Chapter 4) and Outlines of the action plan of the watershed management plan (Part of Chapter 5)

6. Results of the Discussions

6.1 Minutes of the last meeting

The NGO introduced and explained the minutes of the last meeting held on October 10, 2014 at the Sub-district Administrative Office of Remexio. The members of the watershed management council confirmed that the descriptions in the minutes precisely represented what they discussed in the meeting; therefore the minutes were unanimously approved by the members.

6.2 Data collected by the members

As agreed upon by the members in the last meeting, chef de suco or representatives of the concerned sucos, except Suco Faturasa, Asumau, and Faturilau, brought the information of the water sources existing in the respective sucos as tabulated below.

Current Condition of Water Sources in the Sucos relevant to Noru Watershe

Suco	No. of source	Status	Reasons of unused.
Manucasa	10	- 7 are being used for drinking and other purposes. - 3 are unused/out of use.	- One source is in good condition but located close to the area of land slide. - Another source is in good condition but located far from the residential areas. - The rest is not in good condition.
Belereu	13	- 8 are being used for drinking and other purposes. Out of 8, one source is sacred. - 5 are unused/out of use.	- 5 sources are dried up in the dry season maybe because heavy tree cutting in their catchment areas.

Suco	No. of source	Status	Reasons of unused.
Nameloso	20	- 15 are being used for drinking and other purposes (including vegetable farming). Out of 8, one source is sacred. - 5 are unused/out of use.	- 5 sources are dried up in the dry season maybe because heavy tree cutting in their catchment areas.
Acubilitoho	16	- 15 are being used for drinking and other purposes. - 1 is unused/out of use.	- The unused source is located far from the residential areas.
Fahisoi (Remexio)	13	- 13 are being used for drinking and other purposes including vegetable farming.	-
Fadabloco	14	- 14 are being used for drinking and other purposes including vegetable farming.	- One of the sources is dried up in the dry season, but it has been used as a source of water.
Maaumeta	10	- 10 are being used for drinking and other purposes including vegetable farming.	-
Fahisoi (Liquidoe)	7	- 4 are being used for drinking and other purposes. - 3 are being used for vegetable farming.	- One of the sources for drinking is dried up in the dry season, but it has been used as a source of water.
Acumao	31	- 24 are being used for drinking and other purposes including vegetable farming. Out of 24, 3 sources are sacred. - 7 are unused/out of use. Out of 7, 1 source is sacred.	- No information given in the meeting, as no representative attended in the meeting. - The information was given by the representative of SAS in Remexio.
Hautoho	11	- 10 are being used for drinking and other purposes including vegetable farming. - 1 are unused/out of use.	- The unused source is sacred.
Faturasa	15	- 14 are being used for drinking and other purposes including vegetable farming. - 1 are unused/out of use.	- The unused source is sacred. - The information was given by the field staff of RAEBIA since no representative of Suco Faturasa attended the meeting.
Faturilau	9	- 7 are being used for drinking and other purposes including vegetable farming. - 2 are being used for curing/treatment as they are hot springs.	- 4 sources currently used are dried up in the dry season. - The information was given by the representative of SAS in Liquidoe since no representative of Suco Faturasa attended the meeting.

It was agreed that the data and information of Suco Asumau, Faturasa, and Faturilau should be re-confirmed by the NGO later.

No member made a survey on household income in the village. Hence, they again discussed the average annual household income and estimated the average income at US\$ 840/family/year.

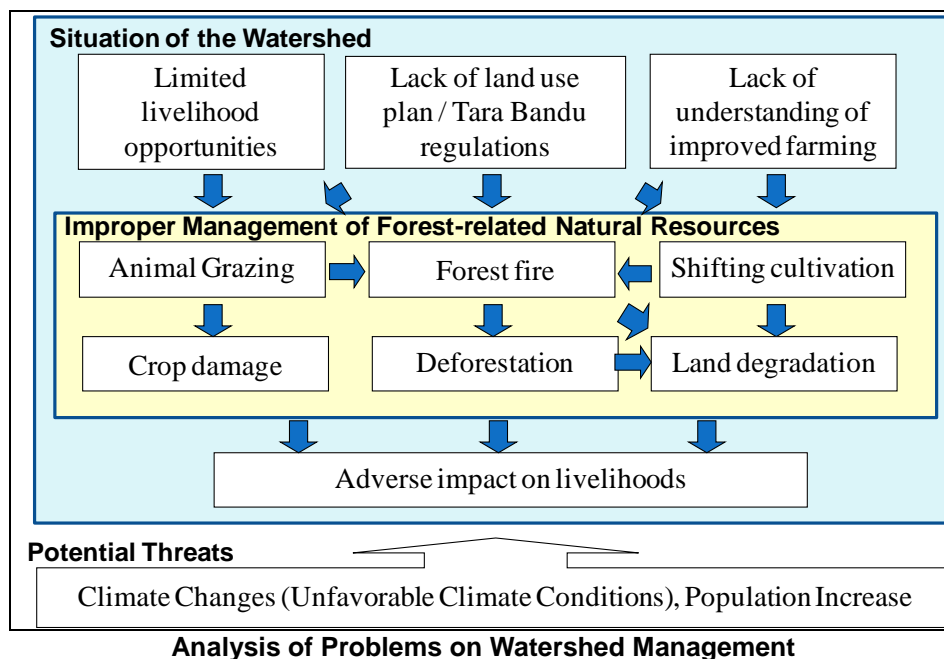
6.3 Issues on watershed management and major stakeholders (Chapter 3), Goal and strategic objectives of the watershed management plan (Chapter 4) and Outlines of the action plan of the watershed management plan (Part of Chapter 5)

The NGO explained summaries of Chapters 3 and 4 and outlines of Chapter 5 of the watershed management plan of the Noru watershed, using the PPT material shown in

Attachment-1.

(1) Issues on watershed management and major stakeholders (Chapter 3)

The participants acknowledged the understanding of the issues and problems on watershed management as shown below.



(2) Goal and strategic objectives of the watershed management plan (Chapter 4)

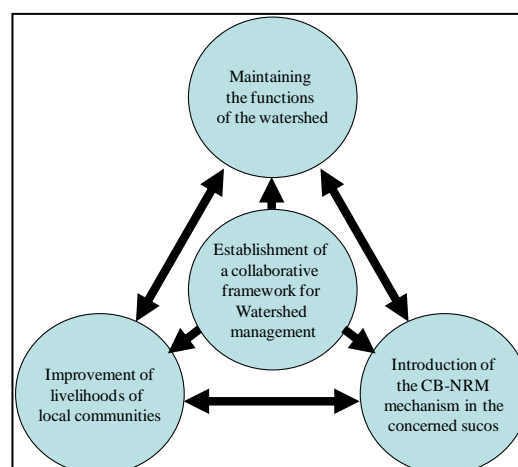
They also agreed with the proposed goal and strategic objectives of the watershed management plan as described below.

Goal of the Watershed Management Plan

“to attain sustainable and integrated watershed management by balancing proper land and forest management with improvement of local livelihoods in a watershed. “

Strategic Objectives to achieve the Goal

- 1) Maintenance of the functions of the watershed
- 2) Improvement of livelihoods of local communities
- 3) Introduction of the CB-NRM mechanism in the concerned sucos
- 4) Establishment of a collaborative framework for watershed management

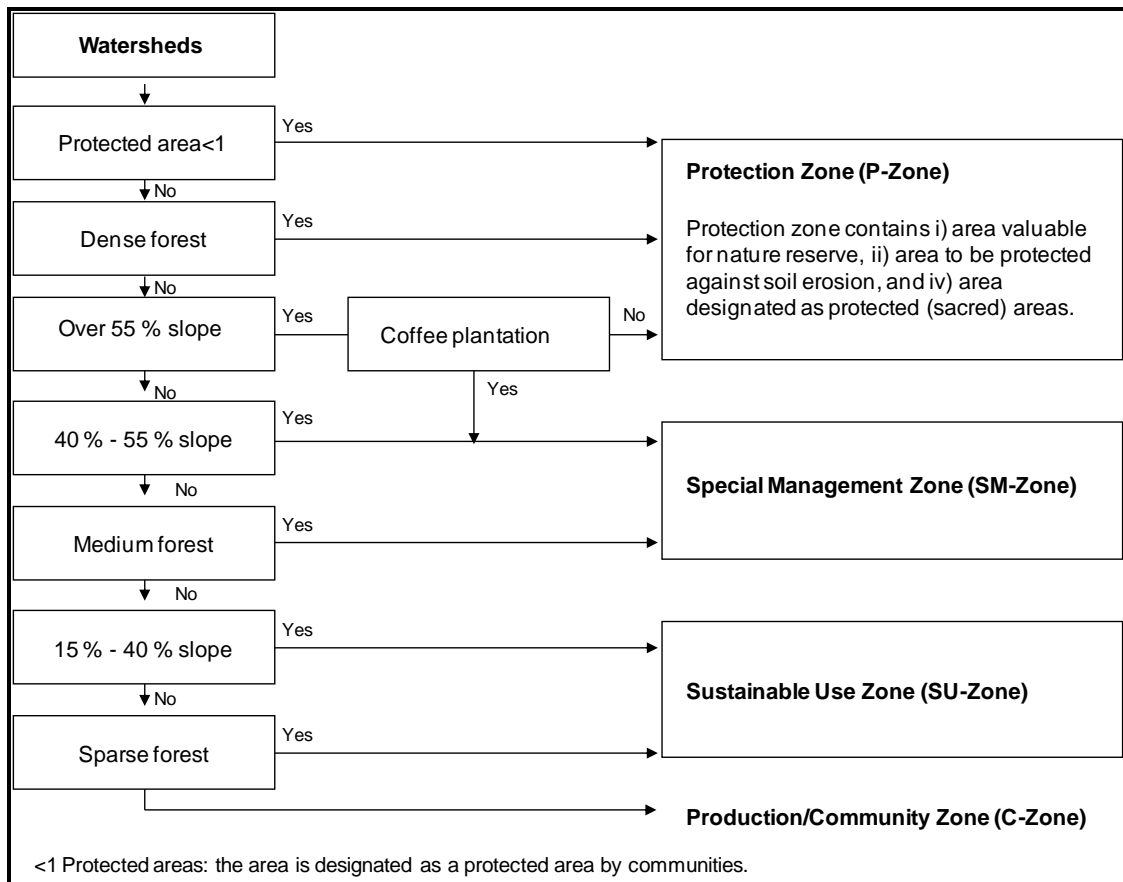


The following land use and management guidelines were prepared as principle rules on land management in the watershed. The members agreed to adopt the same in the management plan.

Guidelines on Land Use and Management in the Watershed

Zone	Description
P-Zone	Areas that have crucial functions the watershed and high environmental values shall be protected as Protection zone. (P-zone). Dense forests and steep sloping areas (over 55 %) but not used for coffee plantation are classified into P-zone. In the area under P-zone, any economic use and activities except those allowed by the government regulations (i.e., UNTEAT No. 19) shall not be allowed. Such areas shall be basically managed/protected as protected forests.
SM-Zone	Medium forests and areas with slopes between 40% and 55% are categorized as Special Management Zone (SM-Zone). Coffee plantations with more than 55% slopes are also classified under this zone. The areas under SM-zone can be used for production purposes but shall be simultaneously managed as forest lands to prevent adverse effect on lands and water sources. Hence, forest-based land uses, such as i) coffee plantation, ii) mixed forests of timber and fruit trees, iii) natural forests used for collection of NTFPs, are recommended for the areas under this zone.
SU-Zone	Areas with slopes ranging from 15% to 40% or those covered with sparse forests are categorized under Sustainable Use Zone (SU-Zone). The basic idea of this zone is to use the areas for production purposes while maintaining land productivity. Hence, the areas can be used for farming but shall be managed in a proper manner by applying soil conservation measures or introducing agroforestry techniques.
C-Zone	Areas that do not belong to the above-mentioned zones are categorized into Production/Community Zone (C-Zone). In general, areas in C-Zone have flat to gentle slopes and less vegetation cover (bushes, grasslands, and bare lands). Because of these features, the areas can be used for economic and social development purposes by local communities with a few restrictions. Upland farms, grazing lands, and paddy fields, to name a few, are possible land uses in this zone.

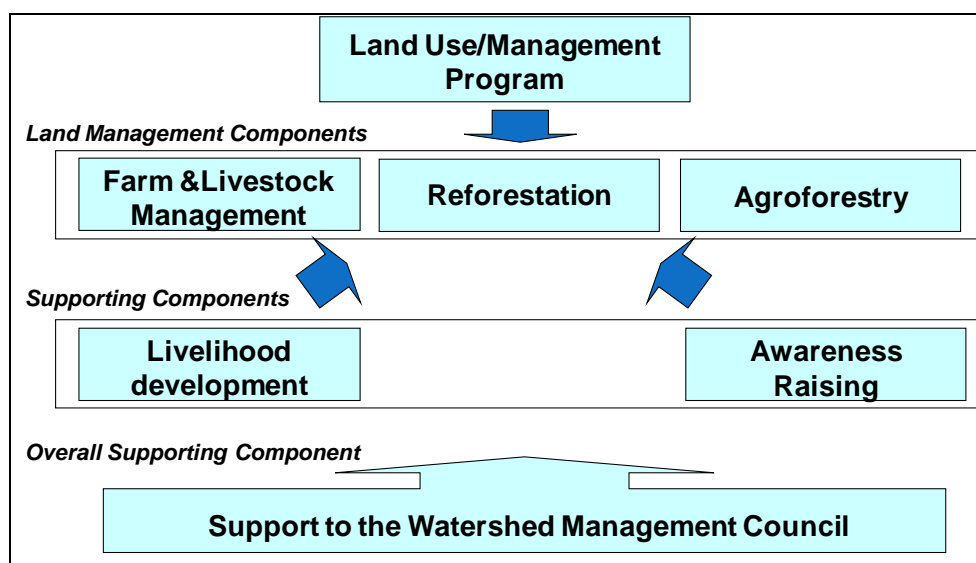
The participants re-confirmed which types of lands would be classified into the respective management zones.



Flowchart for Classification of the Watershed into the Land Management Zones

(3) Outlines of the action plan of the watershed management plan (Part of Chapter 5)

The members further discussed the outlines of the programs proposed in the watershed management plan based on the following figure and tables.



Outlines of the Action Plan (Programs of the Watershed Management Plan)

Proposed Activities/Sub-programs under the Respective Programs

Program	Proposed Sub-programs (Draft Ideas)
Land Use/Management Program	<ul style="list-style-type: none"> ◆ Participatory land use planning sub-program (Future land use planning with village regulations, Selection of priority forestry and agriculture extension services, & Institutionalization of the village regulations.)
Farm & Livestock Management	<ul style="list-style-type: none"> ◆ Animal feed production and stall feeding sub-program ◆ Vegetable production sub-program
Reforestation	<ul style="list-style-type: none"> ◆ Community plantation (with seedling distribution) sub-program ◆ School plantation sub-program
Agroforestry	<ul style="list-style-type: none"> ◆ Sustainable upland farming promotion (including community-based seed multiplication) sub-program ◆ Backyard farm plantation (with fruit seedling distribution) sub-program
Livelihood development	<ul style="list-style-type: none"> ◆ Food processing promotion sub-program ◆ Cooking stove promotion sub-program ◆ Other type of livelihood development sub-pro
Awareness Raising	<ul style="list-style-type: none"> ◆ Public awareness raising sub-program
Support to the WMC	<ul style="list-style-type: none"> ◆ Support for regular meetings ◆ Support for study tours / exchange visits ◆ Information sharing with the member

In general, the members agreed with the programs and sub-programs proposed as components of the watershed management, except for the “School Planting Sub-program” under the “Reforestation Program.” The members and JICA and MAF Project Team discussed what activities would be more effective as sub-programs of the Reforestation Program. Some highlights of the discussions are summarized below.

- ▶ Chef de Suco of Suco Acubilitoho commented that seedlings planted around schools had always been dead since no one had maintained them; therefore, the sub-program would end up in vain.

- ▶ Chief Advisor of the JICA Project Team agreed with his observation that seedlings planted in common areas would not be maintained and many of them might die in the end.
- ▶ Chef de Suco of Suco Fahisoi (Liquidoe) stated that many programs which contained a reforestation component had just distributed seedlings to communities without any guidance and orientation; therefore no maintenance was made by communities.
- ▶ She also stressed the importance of the awareness raising among communities before distribution of seedlings.
- ▶ The members indicated that shade trees for coffee (e.g., Ai samutuku) and fruits (e.g., orange) would be preferred by communities.
- ▶ Chief Advisor of the JICA Project Team inquired that what kinds of action they could take to enhance the functions of the watershed in addition to the prevention of environmental destructive activities (i.e., illegal cutting, wild fires and animal grazing), which would be effective in the maintenance of the function of the watershed.
- ▶ He further suggested that reforestation in steep sloping lands, catchments of the important water sources, and other critical areas should be undertaken for this purpose.
- ▶ Representative of SAS in Remexio offered its support for the protection of water sources in the concerned sucos.
- ▶ District Officer in Agriculture and Horticulture in Aileu District MAF, shared that MAF planned to distribute orange seedlings this year and asked the members to prepare lists of communities who were willing to receive them.
- ▶ It was agreed among the members that a sub-program aimed at planning seedlings in catchments, steep sloping areas, and other critical areas should be proposed as one of the sub-programs under the Reforestation Program.
- ▶ Chief Advisor of the JICA Project Team explained that the detailed plan of the respective programs would be presented to the members for further discussions in the next meeting.

6.4 Others

The members of the Watershed Management Council shared the following information.

- ▶ The resolution was signed by District Administrator of Aileu, but it has not been signed by District Director of MAF District Office in Aileu and National Director of NDF yet. The NGO will further follow up this matter.
- ▶ A wild fire happened in Suco Fahisoi (Remexio), specifically in the area close to Saboria, lately.
- ▶ Next meeting will be held on November 6 or 7 at the Remexio Sub-district Office.
- ▶ The ritual ceremony at Suco Faturasa will be held on either 4th or 5th of November.



End of Document

Memo of the Meeting
of the Noru Watershed Management Council on February 26, 2015

1. Date and Time: 10:30-15:00 on February 26, 2015

2. Place: Sub-district office of Remexio

3. Participants: 15 members

(Sub-district Administrator of Sub-district Remexio/Chairperson, Sub-district Administrator of Sub-district Liquidoe/Vice Chairperson, 11 Chefs de Suco, 2 NDF officers, District Forest Officer in Aileu, Forest Guard in Aileu, and Sub-district Extension Coordinator of Liquidoe)

4. Purpose of the Meeting: Finalization of the Resolution of the Council on the Watershed Management Plan

5. Topics discussed: The following topics were discussed at the meeting.

- 1) Minutes of the last meeting
- 2) Resolution of the Watershed Management Council

6. Results of the Discussions

6.1 Confirmation of the Effectiveness of the Meeting

The members of the Council confirmed the level of participation, which was more than 80% (15/18); therefore, MC declared that the meeting reached the quorum.

6.2 Minutes of the last meeting

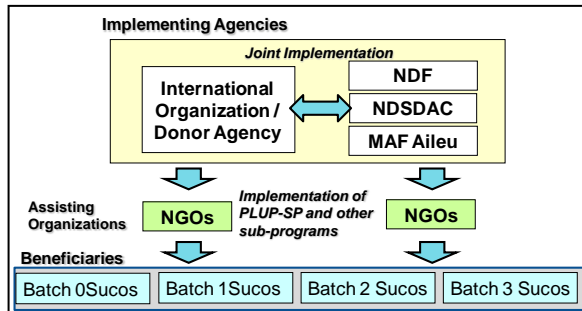
The NGO introduced and explained the minutes of the last meeting held on January 29, 2015 at the Sub-district Administrative Office of Liquidoe. The members of the watershed management council confirmed that the descriptions in the minutes precisely represented what they discussed in the meeting; therefore the minutes were unanimously approved by the members.

The members also discussed the pending issues in the last meeting, namely ritual ceremony to be held by Suco Faturasa and the same to be done by three (3) sucos, Sucos Asubilitoho, Hautoho, and Fadabloco, where a severe wildfire happened in October 2014. Chefs de suco of the four (4) sucos commonly stated that the ceremonies should be held in the dry season as the road conditions to the sucos were so bad that local communities in the neighboring villages could not come to the sucos.

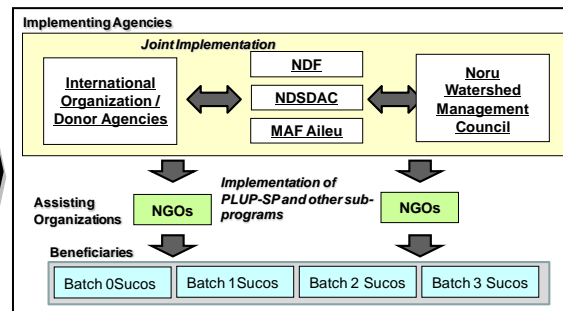
6.3 Confirmation of the Revised Watershed Management Plan

The NGO explained and introduced the revisions made in the watershed management plan according to the comment given in the last meeting. The following revision was made in the proposed organizational structure for implementation of the plan, which was described in Chapter 6 of the plan.

Proposed structure before revision



Proposed structure after revision



Revision made in the Proposed Organizational Structure for Implementation

6.4 Finalization of the Resolution of the Council

The NGO read through the finalized resolution on the submission of the watershed management plan in front of the members of the watershed management council. Having had unanimous consent to all the descriptions of the finalized resolution, the members signed the same document one by one.

Since the resolution should also be signed by representatives of the respective sucos, it was agreed that the NGO would further follow up and finalize the resolution in coordination with Sub-district Administrators of Remexio and Liquidoe so that the watershed management plan could be submitted to the relevant ministries/national directorates/agencies in March 2015.

7. Next Meeting

The next meeting, the second (2nd) regular meeting of the watershed management council, will be held in the last week of March 2015.

Attachments:

1. Finalized Resolution of the Noru Watershed Management Council

End of Document

Memo of the Meeting
of the Noru Watershed Management Council on March 27, 2015

1. Date and Time: 10:30-14:00 on March 27, 2015

2. Place: Sub-district office of Liquidoe

3. Participants:

15 members (Sub-district Administrator of Sub-district Remexio/Chairperson, Sub-district Administrator of Sub-district Liquidoe/Vice Chairperson, 6 Chefs de Suco (Asumau, Fadabloc, Hautoho, Maumeta, Namleso, and Asubilitoho), 5 Representatives (Faturasa, Fahisoi, Fahisoi, Manucasa, and Bereleu), District Forest Officer in Aileu, and Forest Guard in Aileu)

4. Purpose of the Meeting: 3rd Regular meeting

5. Topics discussed: The following topics were discussed at the meeting.

- a. Minutes of the last meeting
- b. Situations and any issues on natural resource management in the watershed
- c. Status of the resolution of the watershed management council on the watershed management plan
- d. Actions to be taken by the council

6. Results of the Discussions

6.1 Confirmation of the Effectiveness of the Meeting

The members of the Council confirmed the level of participation, which was more than 80% (15/18).

6.2 Minutes of the last meeting

The facilitator of the meeting shared the minutes of the last meeting with the members. All the members participating in the meeting agreed on the minutes of the last meeting.

6.3 Situations of the Watershed

Representative from the respective sucos briefly reported any events happening in the respective areas since January 2015. Highlights of their reports are summarized below.

(1) Reports from Representatives of Sucos in Sub-District Remexio

a. Asumau

- ◆ There has been no forest fire or illegal cutting.
- ◆ A land slide occurred along the road and made the movement difficult in the suco.
- ◆ CDS advised communities not to go outside in the night considering the disturbance in the eastern side of the country.

b. Faturasa

- ◆ There has been no forest fire or illegal cutting.
- ◆ The road to the suco has been in poor condition during the rainy season.
- ◆ Communities in the suco have cut trees but for house construction and with the permission of the leaders.

c. Fadabloco

- ◆ There has been no forest fire or free grazing.
- ◆ Communities in the suco have cut trees in their own plots for making uma lisan.
- ◆ There was one case of illegal cutting happening in Aldeia Liquica. One person cut trees in his own land but seemingly owned by another person, although the person who claimed the ownership advised the person who cut trees not to do so. The committee at the aldeia level will handle the issue.
- ◆ About 7 m long landslide happened in Aldeia Rifato.
- ◆ The growth of crops planted in the suco is not necessary good due to instable rainfall patterns.

d. Hautoho

- ◆ There has been no forest fire, illegal cutting, or crop damage caused by animals.
- ◆ A case of conflict between Aldeia Remerhei and Aldeia Raifato in Suco Fadabloco was recently brought to the police for settlement. There has been no feedback from the police so far.
- ◆ The growth of maize seems to be not good as compared to the one in the last year due to the lack of rainfalls.

e. Fahisoi

- ◆ There has been no forest fire or illegal cutting.
- ◆ A landslide happening in the suco caused damage to one household.
- ◆ Tara Bandu was revived in 2011 but not in a written form; therefore, communities in the suco have sometime violated the village regulations.

f. Maumeta

- ◆ There has been no forest fire, illegal cutting, or crop damage caused by animals.
- ◆ There was a landslide happening near church in the suco.
- ◆ Tara Bandu has not been revived yet; therefore, illegal activities have not been controlled by village leaders.

(2) Reports from Representatives of Sucos in Sub-District Liquidoe

a. Fahisoi

- ◆ There has been no forest fire or crop damage caused by animals.
- ◆ Many farms located close to the river got damage caused by a flood.
- ◆ Animals have been properly controlled by communities owing to Tara Bandu revived in the suco.
- ◆ Since trees/branches have been found being transported from the suco to other areas, trees might be cut in the suco without proper notification to village leaders.

b. Manucasa

- ◆ There has been no forest fire.
- ◆ No landslide has happened in the rainy season.
- ◆ There was a case of domestic violence happening in the suco, but the case was properly handled and settled by village leaders.

- ◆ Trees might be illegally cut by using a chainsaw near the river.
- ◆ The production of maize is not good due to the lack of rainfalls.

c. Bereleu

- ◆ There has been no forest fire or crop damage caused by animals.
- ◆ A landslide happened along the road maybe due to the expansion of the road. The landslide caused damage to seedlings planted along the road.
- ◆ The production of maize is low due to the lack of rainfalls.

d. Asubilitohu

- ◆ There were no illegal acts happening in the area.
- ◆ One traditional ceremony should be held jointly by three (3) sucos (Asubilitoho, Hautoho, and Berleu) to prevent any illegal acts from happening.
- ◆ Spilled water from the drain canals along the road has often caused landslides. The capacity of the canal seems to be insufficient.
- ◆ Houses and farms located close to the river have been affected by floods.

e. Namuleso

- ◆ There were no illegal acts happening in the area.
- ◆ A landslide happened in the suco.
- ◆ Farms located along the river got damage from floods.
- ◆ More trees need to be planted in the area.
- ◆ The growth of maize planted in the suco is not good due to the lack of rainfalls.
- ◆ The regulations to be developed by the Municipal Government should be distributed to the sucos.

(3) Comments from Chairperson and Vice Chairperson

a. Chair person (SDA of Remexio)

- ◆ Landslide seems to be a common issue among the villages.
- ◆ Maize production in Asumau may be better than other areas.
- ◆ The municipal government of Aileu has already drafted the Tara Bandu regulations based on those of Ermera.
- ◆ The members of the council should report the damage caused by floods to high authorities for assistance.

b. SDA of Liquidoe

- ◆ It is not right time for the three (3) sucos (i.e., Asubilitoho, Hautoho, and Berleu) to have a ritual ceremony as many communities are busy in harvesting maize.
- ◆ Sub-district will make a proposal to the district office to support those who got damage caused by floods.

(4) Comments from District Forest Officer

- ◆ Anyone who owns a chainsaw needs to have a license from MAF. Needless to say, no one can cut trees with a chainsaw without the permission from MAF.
- ◆ To prevent landslides, NDF can provide technical assistance in planting vetiver grasses in sloping areas, building a check dam, and making terraces.
- ◆ MAF Aileu Office can also support seedlings, although communities need to arrange transportation of seedling from the office to their places.

6.4 Status of the Resolution of the Watershed Management Council

The NGO reported the status of the resolution of the Watershed Management Council that the document had not been finalized yet as they still needed a signature from Chief of the Department of Reforestation and Urban and Community Forestry, NDF for finalization. The members also discussed when and to which organizations the Council should submit the watershed management plan after finalization of the resolution.

It was agreed by the members that Chairperson and Vice chairperson would submit the watershed management plan with the resolution to the following organization in April 2015.

- ◆ National organizations: MAF/NDFWM, MCIE/NDE, others
- ◆ International organizations: JICA/Embassy of Japan, AusAID, and USAID

6.5 Action Plan

With the advice given by the JICA Project Team, the watershed management council discussed what they should do to reduce landslides from further increasing/expanding in the sucos. They finally developed the following action plan on this matter.

Action plan

Problems	Action to be taken	Timeline	Persons responsible
Landslides along the roads	Prepare and send a complaint letter to ILO about landslides signed by Chairperson and Vice chairperson with witnesses (6 sucos related to the problem)	April 2015	Chairperson & Vice chairperson Asubilituho, Fahisoi Manucasa, Berelu, Namuleso, Fahisoi
Landslides in the sloping areas in the sucos	Identify the areas prone to landslide or those to be reforested to prevent expansion of landslides.	June 2015	Members from 12 sucos
	Prepare and submit a request/proposal for seedlings and materials of trees/grasses to be planted in the identified areas.	Sep. 2015	Chairperson & Vice chairperson

6.6 Next Meeting

Next meeting will be held in June 2015 at Remexio.

Prepared by

Yoji Mizuguchi
Chief Advisor of
JICA CB-MRM Project



REPÚBLICA DEMOCRÁTICA DE TIMOR LESTE
MINISTERIO DA AGRICULTURA E PASCAS
GABINETE DO DIRECTOR GERAL

No. 891 / GDG / VII / 2011

July 20, 2011

Subject: Amendment of the MAF Administrative Order on the Appointment of the Counterpart Personnel for the Project for Community-Based Sustainable Natural Resource Management and Guidelines governing the Institutionalization of the Counterpart Team

Pursuant to the Record of Discussion (R/D) signed by the Ministry of Agriculture and Fisheries (MAF) and JICA Timor-Leste Office on August 23, 2010 on the Project for Community-Based Sustainable Natural Resource Management (hereinafter referred to as "the Project"), MAF officially formed the project team appointing 21 personnel as the counterparts for the Project along with the issuance of its operation guidelines by MAF Administrative Order No. 194/GDG/1/2011 on January 28, 2011.

In order to facilitate the smooth implementation and respond to the recent change in the management of National Directorate for Forestry (NDF), the composition of the MAF Project Team for the Project and its operational guidelines are hereby amended and adopted for the implementation of the Project.

1. Composition of the MAF Project Team

The following personnel are appointed as the counterparts and are to jointly work with the JICA Project Team for the Project.

Title	Name	Current Position in the Original Mother Unit
Project Director	-	National Director of NDF
Project Manager	Fernando C. Araujo	Head of Department of Reforestation and Soil Conservation, NDF
Central Project Officers	Vildito Ximenes	Staff of Watershed Management Section, Department of Reforestation and Soil Conservation, NDF
	Mario Alves	Staff of Department of Protection and Forest Resource Management, NDF
Central Financial Officer	Delfina da Costa Inacio	Staff of Department of Administration and Finance, NDF
District Project Officers in Forestry	Eduardo F. Martins	District Officer in Forestry in Ermera District
	Marcelino Perreira	District Officer in Forestry in Aileu District
	Fransisco Tiliman	Technical Staff in Forestry Section in Aileu District
District Project Officer in Agriculture and Horticulture	Joao Roderigues	District Officer in Agriculture and Horticulture in Aileu District

Title	Name	Current Position in the Original Mother Unit
District Project Officer in Livestock	Aleixo Mendonca	District Officer in Livestock in Aileu District
District Project Officer in Coffee, Industrial Plant, and Agribusiness	Juliao Tilman Suri	District Officer in Coffee, Industrial Plant, and Agribusiness in Aileu District
Forest Guards	Armando Mendonca	Forest Guards in Aileu District
	Mayus Kling de Jesus	ditto
	Benjamin de Suri	ditto
	Leonio Martins	ditto
Extensionists	Fortunato Pinas	Senior Extensionist
	Liberato Mesquita	Extensionist for Faturasa
	Amelia Carvalho	Extensionist for Fadabloco and Hautoho
	Andre Tolo	Extensionist for Tohometa
	Carlos dos Santos	Extensionist for Madabeno
	Alexio da Silva Cluz	Extensionist for Talitu


The counterparts shall fulfill its tasks and responsibilities specified in the guidelines attached hereto in Annex 1 in the course of the Project.

2. Replacement of the Counterparts

Whenever any replacement may be required, this order shall be amended in accordance with the approval of General Director of MAF.

3. Effectiveness

This order takes effect immediately.



 Lourenco Borges Fontes
 General Director of MAF

Annex 1: Revised Guidelines on the Operations of the MAF Project Team organized by the Counterparts for the JICA Project for Community-Based Sustainable Natural Resource Management

Pursuant to the MAF Administrative Order No. 89/606/VII dated on July 20, 2011, entitled "Amendment of the MAF Administrative Order on the Appointment of the Counterpart Personnel for the Project for Community-Based Sustainable Natural Resource Management," the following guidelines, which amend "the Guidelines on the Operations of the MAF Project Team organized by the Counterparts for the JICA Project for Community-Based Sustainable Natural Resource Management" attached with the MAF Administrative Order No. 194/GDG/1/2011 dated on January 28, 2011, are hereby adopted for the operations and institutionalizations of the MAF Project Team for the JICA Project.

Chapter 1 Objectives and Coverage of the Guidelines and Definition of Terms used in the Guidelines

Section 1 Objectives of the Guidelines

The main objectives of the guidelines are to guide the counterparts/members of the MAF Project Team for the Project towards the effective operations of the MAF Project Team in accordance with the Record of Discussions (R/D) agreed upon by MAF and JICA in August 2010. Specifically, the guidelines aim to:

- a) stipulate an institutional framework for project implementation as well an organizational structure of the MAF Project Team;
- b) clarify the roles and responsibilities of the counterparts in the implementation of the Project; and
- c) stipulate the major activities to be undertaken and reports to be prepared by the MAF Project Team in the course of the Project.

Section 2 Coverage

The guidelines are exclusively effective for the MAF Project Team otherwise known as "the counterparts" for the JICA-supported Project, named "the Project for the Community-Based Sustainable Natural Resource Management."

Section 3 Definition of Terms

To facilitate understanding of these guidelines, the following terms and phrases are defined.

- 3.1 **Community-Based Natural Resource Management (CB-NRM)** - refers to a comprehensive approach to sustainable natural resource management on a village level with the full participation of local communities who are supposed to have a stake in natural resources. Hence, CB-NRM activities shall include not only those for forest conservation/management but also those conducive to sustainable natural resource management, such as crop production, soil conservation, and livelihood development.

- 3.2 **Counterpart/s** - refers to the officers responsible for the implementation and operations of the Project in MAF. The counterparts will be organized into the project team headed by the Project Manager.
- 3.3 **Communities** - refers to the members/households in the target villages/sucos.
- 3.4 **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 carry out CB-NRM activities.
- 3.5 **Extensionist/s** - refers to an/ extension worker/s deployed in the MAF district offices and responsible for agricultural extension services to local communities in the target villages. Its major roles and responsibilities are to: i) promote agriculture, forestry, livestock, and fisheries development; ii) provide extension services in the related fields; iii) coordinate with relevant directorates in MAF to support MAF's programs; and iv) involve farmers in agriculture, forestry, livestock, and fisheries development.
- 3.6 **Forest Guard** - refers to a/ forest officer/s on a village level. Its major roles and responsibilities are to: i) protect forests and forest products, ii) prevent forest fires, iii) enhance public awareness of functions of forest in forest-related communities, and iv) coordinate with relevant directorates in MAF to support MAF's programs.
- 3.7 **Future Land Use Plan** - refers to a plan on future land and resource use in a village. A future land use plan shall consist of a village map showing the future land use and guidelines on each land use in a village.
- 3.8 **JICA Study/JICA Watershed Management Study** - refers to a study made by the JICA Study Team from November 2005 to March 2010 to develop a community-based watershed management plan for the Laclo and Comoro river basins.
- 3.9 **JICA Experts**– refers to Japanese who specialize in the several technical fields required for the implementation of the Project.
- 3.10 **JICA Project Team**– refers to a project team organized and dispatched by JICA for project implementation. The JICA Project Team in cooperation with the MAF Project Team shall be responsible for implementation of the Project and achievement of the project outputs as well as project purpose.
- 3.11 **MAF Project Team**– refers to a team organized by NDF and the concerned MAF district office/s exclusively for the implementation of the JICA Project.
- 3.12 **Micro Project/s** – refers to field activities that would contribute to achieving the future land use plan prepared by local communities in the target villages.
- 3.13 **Natural Resources** – refers to soils and all natural objects founded on it or below the ground.
- 3.14 **Participatory Land Use Planning/PLUP**– refers to the process in which local communities prepare a future land use plan with village regulations/rules on land and natural resource management and get a consensus on the plan among communities.

- 3.15 **Target villages** - refers to villages where participatory land use planning and micro projects will be implemented to introduce a mechanism on community-based natural resource management.
- 3.16 **Village Regulations** - refers to written rules or by-laws in village that govern not only land and natural resource management but also social norms of villagers in village. The village regulations will be prepared by local communities in the process of participatory land use planning in a participatory manner.

Chapter 2 Scope of the Project

Section 4 Objectives of the Project

The main purpose of the Project is that “an operational mechanism of CB-NRM at suco level is developed,” which will be achieved by attaining the following project outputs as described in the R/D agreed upon by MAF and JICA.

- Output 1: Land use plans are agreed upon and implemented by local residents in accordance with relevant suco regulations;
- Output 2: Capacities of the staff of the implementing agency and relevant stakeholders¹ are enhanced to support CB-NRM; and
- Output 3: Effective processes with roles of stakeholders to support CB-NRM are identified.

Section 5 Project Components/Activities

The Project has three (3) components in accordance with the project outputs, namely, i) development of land use plans and villages regulations along with the implementation of micro projects in the target villages; ii) enhancement of the capacities of the counterparts as well as other government officers of the concerned MAF offices; and iii) development of policy recommendations for introduction and promotion of CB-NRM in the project area. More details of the project activities are described in Chapter 4 of these guidelines.

Section 6 Target Area

In a broad sense, the Project will target the areas in the Lacro and Comoro watersheds. Specifically, each project output has the different targets as shown below.

- a. The activities for Output 1 will be carried out in six (6) villages in both watersheds, namely, three (3) from Noru sub-watershed in Lacro and another three from Bemom sub-watersheds in Comoro, respectively.
- b. The activities for Output 2 will target the staff of MAF, especially those assigned as the counterparts for the Project, and other MAF staff who like to join the Project.

¹ Personnel of relevant national directorates of Ministry of Agriculture and Fisheries (MAF), district directorates of MAF in the target area and other facilitating agencies, such as NGOs working in the target area.

- c. The policy recommendations to be drafted under Output 3 will mainly target the project area but, at the same time, may be applied to other areas in the country when feasible.

Section 7 Schedule of the Project

The project will be implemented for 58 months from January 2011 to October 2015 in accordance with the R/D agreed upon by both governments.

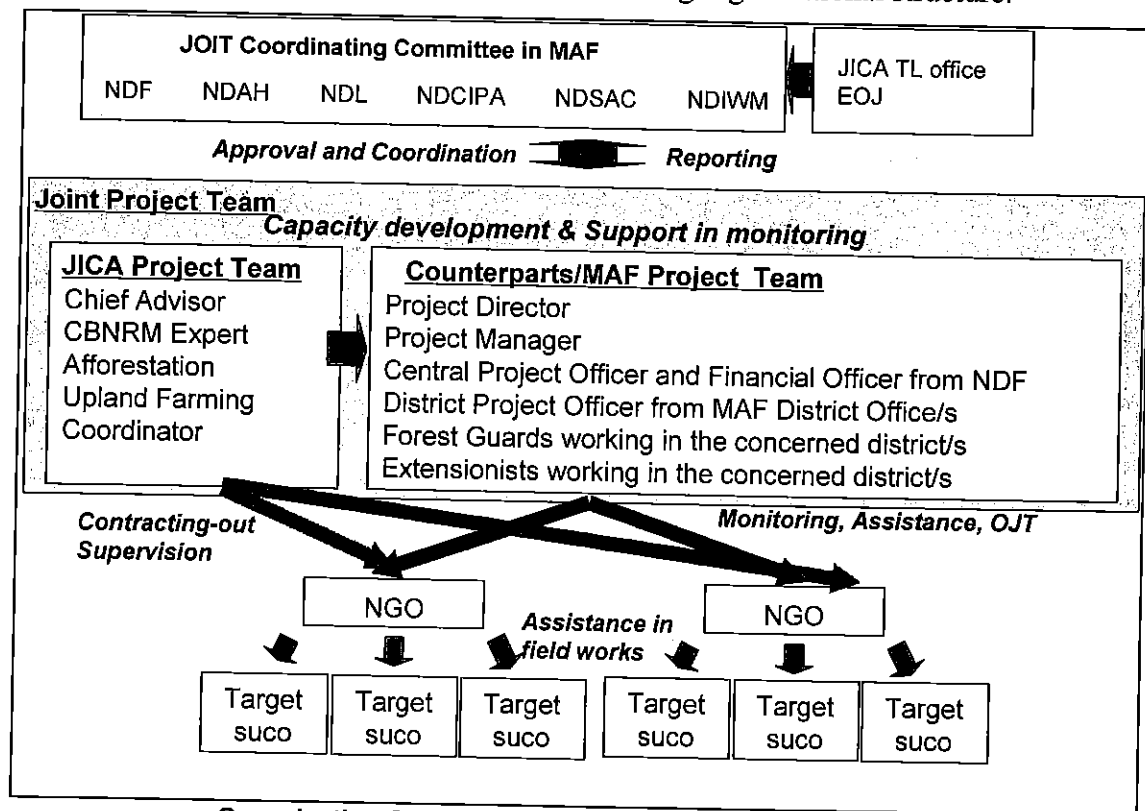
Section 8 Responsibilities for Implementation of the Project

The National Directorate of Forestry (NDF) of the Ministry of Agriculture and Fisheries (MAF) is responsible for the implementation of the Project as a principal implementing agency in the GoTL. National Director of NDF assumes overall responsibility of the Project as a project director. The MAF Project Team organized and assigned by MAF/NDF shall be directly involved in the implementation of the Project. The project team headed by Project Manager will engage in monitoring and even implementation of the project activities in close coordination with the JICA Project Team.

Chapter 3 Overall Institutional Framework for the Project

Section 9 Organizational Structure for Project Implementation

The Project shall be implemented under the following organizational structure.



Organization Structure for Implementation of the Project

9.1 The Joint Coordinating Committee (JCC) chaired by National Director of NDF is a superior organization to monitor and supervise the implementation of the Project.

chy

- The relevant national directorates of MAF and JICA Project Team and the representative of JICA Timor-Office are the members of JCC.
- 9.2 The JICA Project Team composed of Japanese experts will assist the MAF Project Team in the implementation of the Project as a partner in this joint project.
- 9.3 NGOs are the field implementers of the project activities on a village level. Participatory land use planning, micro project implementation, and assistance in the implementation of village regulations are the major activities to conduct in the target village.

Section 10 Organizational Structure of the Joint Coordinating Committee

The Joint Coordination Committee shall be composed of the following members in accordance with the R/D agreed upon by MAF and JICA.

Chairperson: Director of NDF

Members: Timorese side

- a. Directors or representatives of the following directorates of MAF
 - National Directorate for Forestry
 - National Directorate for Agriculture and Horticulture
 - National Directorate for Coffee, Industrial Plants and Agribusiness
 - National Directorate for Irrigation and Water Management
 - National Directorate for Research and Specialist Services
 - National Directorate for Agriculture Education
 - National Directorate for Support to the Development of Agriculture Communities

b. Others appointed by the Chairperson

Japanese side

- a. Chief Advisor of the JICA Project Team
- b. Other experts appointed by the Chief Advisor in the JICA Project Team
- c. Chief Representative or other officers appointed by JICA Timor-Leste Office
- d. Personnel to be dispatched by JICA, if necessary

Section 11 Organizational Structure of the MAF Project Team

The MAF Project Team shall be composed of the following members.

Members of the MAF Project Team

Members	No. of Staff
Project Director	1
Project Manager	1
Financial Officer	1
Central Project Officers	2
District Project Officers (Forestry)	3
District Project Officers (Other sectors)	3
Forest Guards	4
Extensionists	6

Section 12 Administrative Supervision of the MAF Project Team

The MAF Project Team shall be under the direct supervision of the Project Director, namely National Director of NDF. National Director of NDF shall assume the overall responsibilities for the administration and operations of the MAF Project Team and provide necessary administrative support in coordination with other national directorates, such as NDAH, NDCIPA, and NDSDAC, and the concerned district MAF offices.

Section 13 Functions and Responsibilities of the Joint Coordinating Committee

- 13.1 The Joint Coordinating Committee (JCC) shall be organized at least once a year and whenever necessity arises.
- 13.2 The main functions of the JCC are to:
 - Monitor the progress of the Project according to the Plan of Operations (PO);
 - Review and examine the framework of the Project according to the Project Design Matrix (PDM);
 - Discuss and advise on major issues that arise during the project period; and
 - Approve an Annual Plan of Operation (APO).

Section 14 Functions and Responsibilities of the MAF Project Team

The functions and responsibilities of the MAF Project Team are to:

- 14.1 Supervise and monitor, in collaboration with the JICA Project Team, the project activities to be carried out by NGOs in the target villages;
- 14.2 Participate and make a presentation, if necessary, in any meetings, workshops, and seminars organized by the JICA Project Team in the course of the Project;
- 14.3 Assist the JICA Project Team and NDF in organizing and arranging meetings, workshops, and seminars to share the progress of the Project among NDF and MAF and disseminate the results of the Project to other relevant ministries as well as donors/external organizations in the country;
- 14.4 Provide technical assistance to the NGOs and local communities in the target villages in the implementation of micro projects on the following subjects:
 - Forest protection and management
 - Seedling production and nursery management
 - Tree planting and tending
 - Land conservation and sloping agriculture
 - Agroforestry
 - Crop production
 - Livestock management (Animal husbandry)
 - Livelihood development
 - Existing government policies, legislation, and regulations
 - Other concerned matters
- 14.5 Closely communicate with and report to the JICA Project Team about any findings, issues, and concerns that may impede effective project implementation;

- 14.6 Function as a secretariat in cooperation with the JICA Project Team in the JCC meeting;
- 14.7 Effectively utilize and properly manage and maintain the equipment and facilities provided by the Project to the MAF Project Team for operations;
- 14.8 Conduct annual or bi-annual evaluation of its performance and prepare an annual action plan for the following fiscal year based on the evaluation;
- 14.9 Validate the accomplishments made by local communities in the target villages in coordination with NGOs who will be hired by the JICA Project Team for the implementation of micro projects;
- 14.10 Document the processes of the project, accomplishments and impacts made, and lessons learned from the Project;
- 14.11 Prepare and submit the field travel report to NDF through the JICA Project Team whenever carrying out the field monitoring work.
- 14.12 Prepare and submit, together with the JICA Project Team, the Project Progress Report and Annual Completion Report to NDF and JICA, periodically;
- 14.13 Perform other functions necessary for achieving the project outputs and project purpose given in the Record of Discussions.

Section 15 Functions and Responsibilities of the Counterparts/Members of the MAF Project Team

- 15.1 The Project Director shall bear the overall responsibility for the administration and implementation of the Project.
- 15.2 The Project Manager shall be responsible for the managerial and technical matters of the Project. The Project Manager shall also bear responsibility for all the arrangements and coordination necessary for smooth implementation of the Project. Specifically, the Project Manager shall perform the following tasks and duties:
 - Make necessary decisions and judgments on any issues pertain to day-to-day operations and management of the Project in close coordination with the Project Director and Chief Advisor of the JICA Project Team;
 - Provide necessary guidance to the counterparts/members of the MAF Project Team to enable them to fulfill their tasks and duties stipulated in the following sub-sections hereto;
 - Facilitate the active participation of the counterparts/members of the MAF Project Team in the project activities throughout the course of the project period
 - Communicate and coordinate with the National Director of NDF and the District Director of the concerned MAF District Office/s to ensure that the counterparts/members of the MAF Project Team can get necessary administrative support from the respective offices in the implementation of the project activities;
 - Make arrangements and prepare documents for the meetings of Joint Coordination Committee (JCC) in coordination with the JICA Project Team;

- Review and evaluate the performance and accomplishments of the MAF Project Team in a year and prepare an annual work plan with a budget proposal for the activities of the MAF Project Team for the following year;
- Monitor and supervise the activities and performance of the counterparts/members of the MAF Project Team;
- Keep all the data and documents developed and produced in the course of the Project;
- Attend training sessions organized by the JICA Project Team in the course of the Project;
- Closely coordinate with the JICA Project Team, especially the Chief Advisor of the JICA Project Team as his counterpart from NDF, in the course of the Project;
- Prepare and submit the project reports together with the JICA Project Team;
- Report the progress and results of the Project to National Director of NDF;
- Perform other functions necessary to improve overall management and performance of the MAF Project Team.

15.3 The financial officer shall perform the following functions and responsibilities:

- Assist the Project Manager in the administration of the MAF Project Team;
- Perform clerical activities as well as secretarial services to the MAF Project Team;
- Properly maintain and manage the equipment, facilities, records and other resources of the MAF Project Team;
- Assist the Project Manager and other counterparts in the preparation of an annual budget plan for operations of the MAF Project Team;
- Procure supplies and materials for the MAF Project Team;
- Monitor and manage the fund for the MAF Project Team;
- Prepare a financial document annually for auditing;
- Actively participate in any meetings that may be assigned by the Project Manager; and
- Perform other functions that may be assigned by the Project Manager.

15.4 The central project officer shall perform the following functions and responsibilities:

- Monitor and supervise the project activities on a village level in coordination and cooperation with the JICA Project Team;
- Provide technical assistance in the implementation of the project activities on a village level;
- Assist the JICA Project Team in collecting data and information related to the practices on natural resource management in Timor-Leste;

- Attend training sessions organized by the JICA Project Team in the course of the Project;
- Attend meetings organized in the course of the Project and make presentations of the progress and results of the Project as the need arises;
- Review and evaluate, together with the Project Manager, the performance and accomplishments made by the MAF Project Team and assist the Project Manager in the preparation of an annual work plan with a budget proposal;
- Assist the Project Manager in the preparation of the project documents together with the JICA Project Team;
- Assist the Project Manager in reporting the progress and results of the Project to the Project Director / National Director of NDF;
- Actively participate in any meetings that may be assigned by the Project Manager; and
- Perform other functions that may be assigned by the Project Manager.

15.5 The district project officers shall perform the following functions and responsibilities:

- Participate in the field monitoring of the project activities on a village level;
- Participate in the whole process of participatory land use planning in the target villages and learn its process and procedures;
- Provide technical assistance in a specific technical field for improvement of the project activities on a village level;
- Prepare a field monitoring report when visiting the target villages for monitoring;
- Attend training sessions organized by the JICA Project Team in the course of the Project;
- Attend meetings organized in the course of the Project and make presentations of the progress and results of the Project as the need arises;
- Review and evaluate, together with the Project Manager, the performance and accomplishments made by the MAF Project Team and assist the Project Manager in the preparation of an annual work plan with a budget proposal;
- Actively participate in any meetings that may be assigned by the Project Manager; and
- Perform other functions that may be assigned by the Project Manager.

15.6 The forest guards shall perform the following functions and responsibilities:

- Monitor and supervise the project activities on a village level in coordination and cooperation with the JICA Project Team;
- Participate in the whole process of participatory land use planning in the target villages and learn its process and procedures;

- Report any findings in the field monitoring to the district and central project officers;
- Assist the district project officers in the preparation of the field monitoring report;
- Attend training sessions organized by the JICA Project Team in the course of the Project;
- Review and evaluate, together with the Project Manager as well as other counterparts/members of the MAF Project Team, the performance and accomplishments made by the Team and assist the Project Manager in the preparation of an annual work plan with a budget proposal;
- Perform other functions that may be assigned by the Project Manager.

15.7 The extensionists shall perform the following functions and responsibilities:

- Monitor and supervise the project activities on a village level in coordination and cooperation with the JICA Project Team;
- Assist local communities, in coordination with the NGOs, in replicating/applying techniques and skills introduced by micro projects in their own farms/fields
- Report any findings in the field monitoring to the district project officers;
- Assist the district project officers in the preparation of the field monitoring report;
- Attend training sessions organized by the JICA Project Team in the course of the Project;
- Review and evaluate, together with the Project Manager as well as other counterparts/members of the MAF Project Team, the performance and accomplishments made by the Team and assist the Project Manager in the preparation of an annual work plan with a budget proposal;
- Perform other functions that may be assigned by the Project Manager.

Chapter 4 Implementation of the Project

Section 16 Overall Work Plan

The Project shall be implemented, in principle, in accordance with the Record of Discussion (R/D) agreed upon by MAF and JICA in August 2010, especially the master plan annexed to the R/D. The Project Design Matrix (PDM) and Plan of Operations (PO), which are to be approved and monitored by the JCC, shall also give the overall framework for the Project. Furthermore, the Inception Report prepared in January 2011 shall also be used as a reference book for the implementation of the Project.

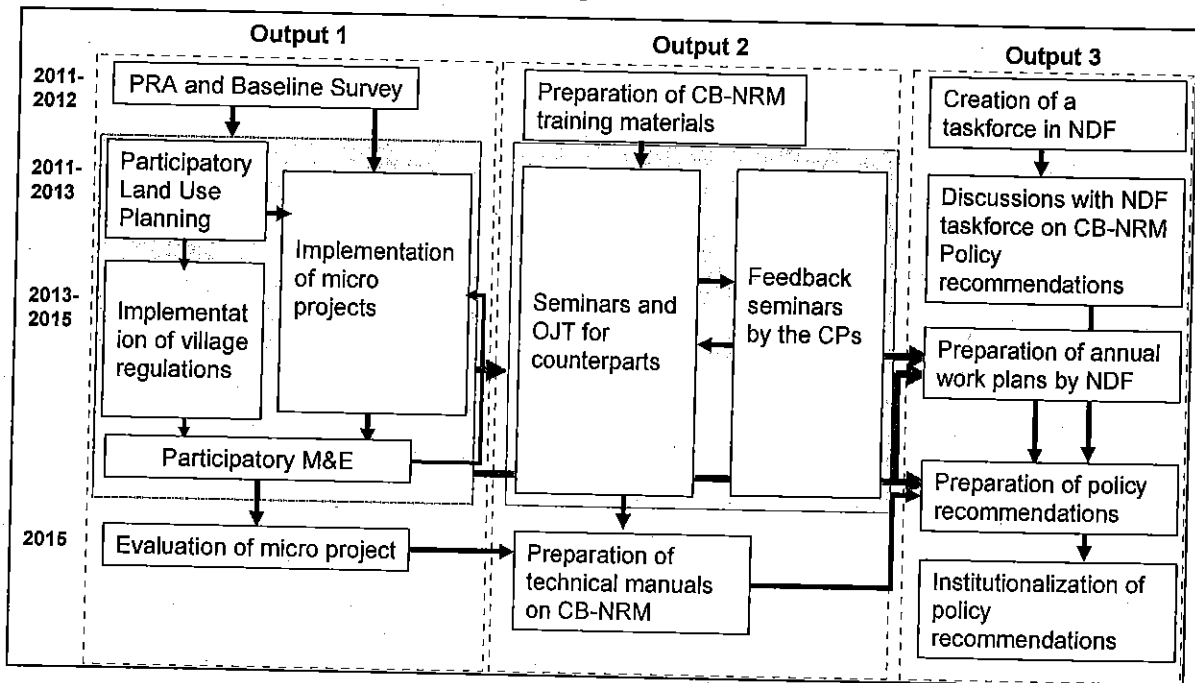
Section 17 Work Flow and Major Activities planned in the Work Plan

The project activities can be grouped into four (4) components, namely, i) activities related to common issues and/or overall project management, ii) micro project implementation for Output 1, iii) training and capacity development for Output 2, and iv) policy making for Output 3. Major activities planned under each component are outlined below.

Major Project Activities

Component	Major activities
Overall and project management activities:	<ul style="list-style-type: none"> ➤ Meetings with JICA TL office and MAF/NDF ➤ Selection of counterparts with issuance of an official instruction on their assignment ➤ Selection of target villages ➤ Review and revision of the original PDM and PO ➤ Preparation of Annual Plan of Operation (APO) every year ➤ Assistance in the organization of JCC meetings ➤ Preparation and submission of progress reports and annual completion reports ➤ Assistance in the Mid-term and Final evaluations
Implementation of micro projects	<ul style="list-style-type: none"> ➤ Selection of target villages for micro projects ➤ Conducts of PRA and baseline surveys at the target villages ➤ Phased implementation of participatory land use planning at the target villages ➤ Selection of micro projects for the respective target villages ➤ Phased implementation of micro projects at the target villages ➤ Participatory evaluation and planning of micro projects by local communities ➤ Joint monitoring of the progress of micro projects
Training and capacity development for counterparts and other MAF staff	<ul style="list-style-type: none"> ➤ Assessment of training needs of the counterparts ➤ Preparation of a training plan / capacity development program for the counterparts ➤ Preparation of training materials ➤ Conducts of in-house training courses on CB-NRM ➤ Conducts of OJT on implementation and monitoring of micro projects ➤ Self-assessment of results of training courses and revision of the training plan ➤ Preparation of action plans for the counterparts to engage in the project activities ➤ Development of technical manuals on CB-NRM
Preparation of policy recommendations for promotion of CB-NRM	<ul style="list-style-type: none"> ➤ Preparation of annual work plans for implementation of CB-NRM activities ➤ Preparation of implementation procedures and reference book for CB-NRM ➤ Preparation of draft policy recommendations including a draft policy on CB-NRM ➤ Organization of consultation workshops with NDF and MAF including its district offices ➤ Facilitation of official approval of the draft policy and implementation procedures for CB-NRM

The overall workflow of the Project is also given below.



Work Flow of the Project

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More details about the work plan of the Project can be obtained in the Inception Report.

Section 17 Detailed Work Plans / Annual Plans of Operations

An annual plan of operations (APO) or detailed annual work plan shall be prepared by the JICA and MAF Project Teams every February / March for approval of the JCC in principle. It will be used as a detailed implementation plan for each year.

Section 18 Major Activities to be undertaken by the MAF Project Team

The MAF Project Team shall carry out the following activities with the assistance from the JICA Project Team but on its own initiative.

- a. Monitoring of the project activities on a village level, such as PRA and baseline survey, participatory land use planning, and micro project implementation;
 - b. Attendance of training sessions organized in the course of the Project and participation in the field monitoring to be done by the JICA Project Team as part of the on-the-job-training (OJT);
 - c. Review of the performance of the Team through a feedback seminar or workshop in October/November and prepare an annual action plan with a budget proposal for next year;
 - d. Participation in meetings with local communities as a representative from MAF, especially those for planning of an annual work plan, monthly monitoring of the implementation of the village regulations and micro projects by local leaders, and annual evaluation of micro projects by local communities in the target villages.
- 18.1 The MAF Project Team shall conduct the following field monitoring works in coordination and cooperation with the JICA Project Team.

a. Weekly Progress Monitoring

While the NGOs implement any field activities on a village level, the MAF Project Team shall periodically monitor their activities in the field, especially during the implementation of micro projects. The district project offices and extensionists as well as forest guards shall visit the target villages at least once a week to monitor the performance of the NGOs as well as local communities in the target villages. The district project officers shall prepare and submit a field monitoring report using the given format attached to these guidelines (see in Attachment-1).

b. Monthly Progress Monitoring

While the village regulations and micro projects being implemented in the target villages, the MAF Project Team shall attend the monthly monitoring meetings among the NGOs and village leaders in the target villages to discuss the progress of and any concerns for the implementation of the village regulations and micro projects.

c. Annual Monitoring and Evaluation

Local communities in the target villages will organize an annual monitoring and evaluation meeting in February/March during the implementation of micro projects.

The MAF Project Team together with the JICA Project Team shall attend the annual monitoring and evaluation meetings to extract lessons learned through micro project implementation and discuss with local communities the project activities on a village level in the following year.

18.2 The MAF Project Team shall attend the following training courses that will be arranged by the JICA Project Team in the course of the Project

a. Technical Seminars

The JICA Project Team will organize/conduct technical seminars on the techniques and skills relevant to sustainable natural resource management, which will be introduced in the target villages in the course of the Project.

b. On-the-Job-Training (OJT) on Implementation of the Project Activities

During the implementation of the village regulations and micro projects in the target villages, the MAF Project Team shall engage in the monitoring works together with the JICA Project Team to deepen the understandings of the techniques and skills introduced by the Project. The JICA Project Team will also try to create opportunities for the members to conduct a part of the project activities in the field in cooperation with the NGOs.

18.3 The MAF Project Team shall organize a feedback seminar with the facilitation of the JICA Project Team and discuss their performance and effectiveness of the training sessions that they have attended. Based on the discussions in the feedback seminar, the MAF Project Team will prepare an action plan for the following fiscal year, which will be submitted to NDF and the concerned MAF district office/s to gain financial as well as administrative support from those offices for their activities.

18.4 The MAF Project Team shall attend and participate in the following meetings/workshops which will be organized at the target villages as a representative of MAF.

- a. Meetings organized through participatory land use planning
- b. Meetings for selection of micro projects
- c. Workshop for making an annual work plan of micro projects
- d. Workshop for annual evaluation and action planning of micro projects

Chapter 5 Reporting

Section 19 Documentation and Report Preparation

The MAF Project Team shall prepare the following reports in cooperation and coordination with the JICA Project Team.

- Bi-monthly or Quarterly Progress Report
- Project Progress Report
- Annual Completion Report
- Any other reports required

19.1 Bi-monthly or Quarterly Report

Bi-monthly or quarterly report shall include, but not limited to, the following:

- a) Assignment of the project members
- b) Activities planned
- c) Physical progress (Activities undertaken and major achievements)
- d) Issues/Concerns
- e) Action needed
- f) Activities scheduled in the next two months/quarter

The report shall be submitted to NDF, MAF, and the JICA Timor-Leste Office through the JICA Project Team every two months.

19.2 Project Progress Report

The Project Progress Report shall be prepared and submitted to NDF, MAF and JICA Timor-Leste Office in October/November. The report shall cover, but not limited to, the following:

- a) Outlines of the Project;
- b) Activities planned and those undertaken;
- c) Accomplishments made;
- d) Issues/Concerns;
- e) Action needed;
- f) Lessons learned and good practices;
- g) Activities scheduled in the next term;
- h) Training courses organized and materials used
- i) List of equipment procured and their status
- j) Minutes of meetings organized
- k) Pictures showing the project activities

19.3 Annual Accomplishment Report

The Annual Accomplishment Report shall be prepared and submitted to NDF, MAF and JICA Timor-Leste Office in February/March. The contents of the report shall be the same as listed in 19.2.

19.4 Other Reports Required

The MAF Project Team may be required to prepare and submit the following reports and documents in cooperation with the JICA Project Team.

- a. Annual evaluation report based on the results of feedback seminars
- b. Mid-term self-evaluation report in January/February 2013
- c. Project evaluation report in February/March 2015
- d. Other reports

Section 20 Record Keeping and Filing

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

Chapter 6 Administrative Support for the Operations of the MAF Project Team

Section 21 Equipment Support

The MAF Project Team can use the following equipment with the JICA Project Team.

- a) Office space
- b) 4WD Vehicle
- c) Motorbikes
- d) Generator
- e) Photocopy machine
- f) GPS

Section 22 Management of the Equipment

During the project period, the equipment procured by the JICA Project Team shall be managed and maintained by the JICA Project Team in principle, while those supplied by MAF and NDF shall be managed and maintained by the MAF Project Team. Whenever the equipment procured by the JICA Project Team is officially handed over to NDF/MAF, they shall be properly registered as government properties and used exclusively for the operations of the Project. The MAF Project Team shall manage and maintain the equipment in a proper and sustainable manner. If any equipment gets malfunctioned, the MAF Project Team shall coordinate with NDF/MAF to get financial support for repair.

Section 23 Budget for the Operations of the MAF Project Team

NDF and the concerned MAF district office/s shall secure the budgets for operations of the counterparts/members of the MAF Project Team in coordination with MAF. The MAF Project Team with the assistance of the JICA Project Team shall prepare an annual work plan with a budget proposal every year and submit it to NDF and the concerned MAF district office/s before they submits an annual work and budget plan to MAF.

Attachment-1: Form of Weekly Progress/Field Trip Report

Date: _____

Name: _____

Position/Office: _____

1. General Information of the Work/Trip**1.1 Site Visited and Date of the Trip**

Date of the Trip	
Site/s visited	

1.2 Purpose of Trip

The objective of the trip shall be described in this section.

1.3 Accompanied staff or members

If there are any accompanied staff or members in the trip, please specify the names of the accompanied members.

1.4 Means of Transportation to the site/s

Please specify the transportation means to commute the site that you visit.

2. Results of the Trip**2.1 Activities observed or Findings**

a. Please describe the activities that you observe in the site.

b. In case you participate in the meeting, the following information may be described.

- No. of participants

- Timeframe of the meeting

- Purpose of the meeting

- Major topics discussed

- Results of the discussions

- Any remarkable statements made by the participants or NGO

c. *In case you observe hands-on training in the field, the report should cover, but not limited to, the following.*

- *No. of participants*
- *Title of training*
- *Topics or techniques introduced in training*
- *Reaction of local communities in training*
- *Any remarkable feedback from local communities*
- *Evaluation of the atmosphere in training*

2.2 Any Inputs made by the Undersigned

If you provide support or suggestion or any type of input to local communities or NGOs in the trip, please describe what you have done in the trip.

3. Issues and Concerns

If you find out any concern or any issue that might affect the quality or progress of the work, please specify it.

4. Necessary Actions (Recommendations to the JICA and MAF Project Teams)

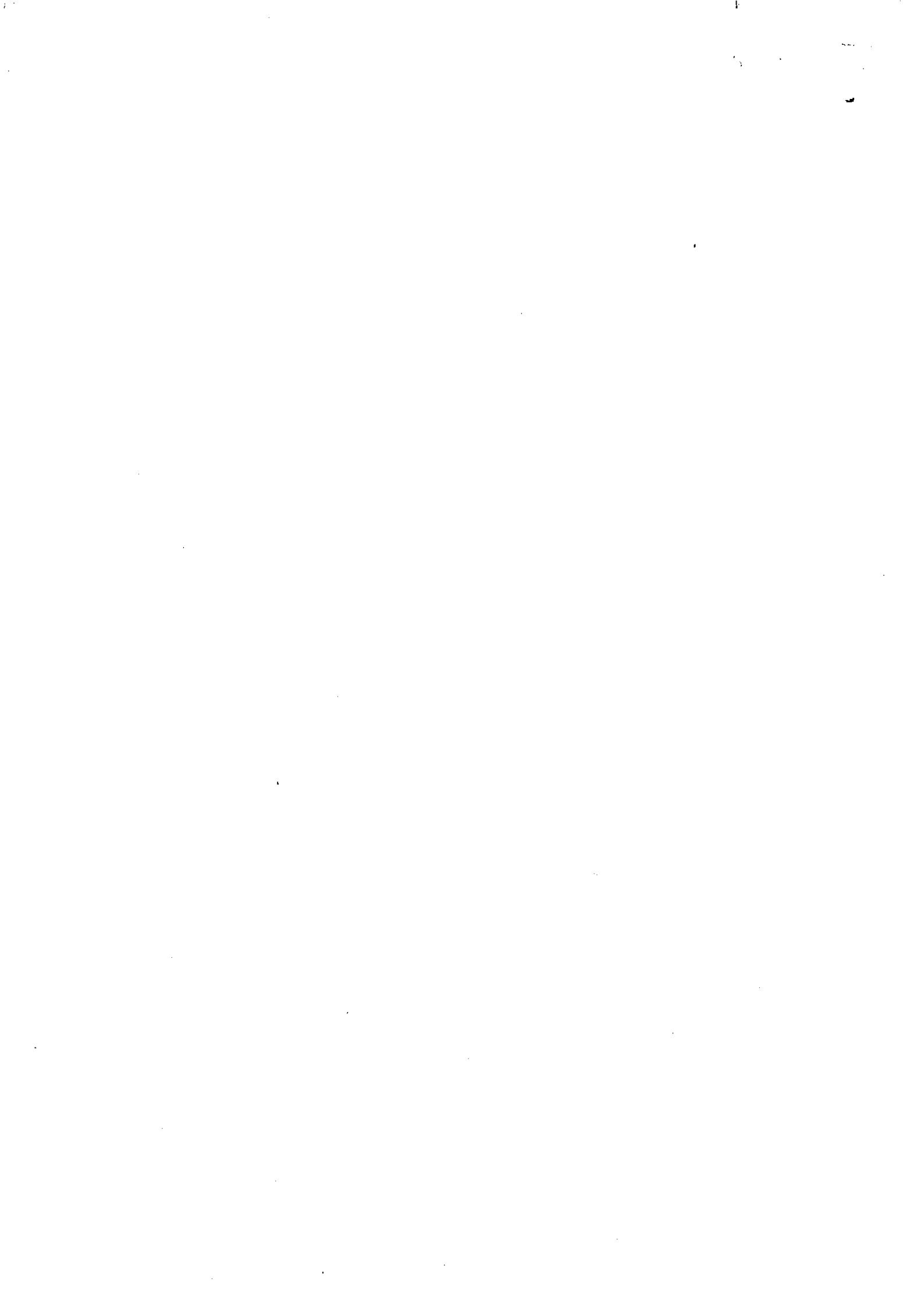
If you report any issue/concern in the section above, please also describe your recommendations to resolve or improve such the issue/concern that you report.

5. Activities planned

If you have any plan to do any follow-up in the future, please describe your plan.

Signed by: _____

Name:



Appendix-11 Lists of Technical References collected by the JICA Project Team

(1) Forestry

No.	Title	Author	Year of Issue	Contents	Pages
1	FORESTRY TECHNOLOGY GUIDELINE BOOK (Forestry Technology Guideline Book)	NDF/MAF		Forestry and Agroforestry	41
2	Browsure about Planting Ai Mahoni based on Halarae Experience	Halarae		Forestry	372
3	Prevent Landslide			Soil erosion control	80
4	Trees and Forest in Rural Land Use	FAO		Digest of forestry practices in the tropical countries	230
5	In Search of Excellence: Exemplary Forest Management in Asia and the Pacific	RECOFTC/FAO		Digest of good practices in forest management	404
6	Materials of Forestry Extension	Forestry Department		Text Book on forestry in general	246
7	Systems and Impact of Agro- silvopastoral	Konsorsium		Text book on agro-silvopastoral	148

Appendix-11 Lists of Technical References collected by the JICA Project Team

(2) Land Use Planning

No.	Title	Author	Year of Issue	Contents	Pages
1	Technical Booklet 1: Procedures and Methods for Land Use Planning and Land Allocation	Lao-Swedish Forestry Programme	2001	Process and procedure for participatory land use planning and land allocation	23
2	Technical Booklet 2: Preparing Participatory Village Forest and Agricultural Land Management Agreements	Lao-Swedish Forestry Programme	2001	Process and procedures for preparation of forest and agricultural land management agreements	29
3	Technical Booklet 9: Procedures and Methods for Land Use Planning and Land Allocation in NBCAs	Lao-Swedish Forestry Programme	2001	Process and procedure for participatory land use planning and land allocation in National Biodiversity Conservation Areas	18
4	Trainer Guide: Manual on Participatory Village Mapping Using Photomaps	Social Forestry Development Project (SFDP) Song Da	2003	Guidebook for making a village map using photomaps	13
5	TOT-Training Manual: Training Manual for Participatory Land Use Planning & Land Allocation	Social Forestry Development Project (SFDP) Song Da	2003	TOT Manual for participatory land use planning and land allocation	28
6	Lao PDR Forest and Land Use Planning Manuals	Lao-Swedish Forestry Programme	2001	Procedures and methods for participatory land use planning and land allocation in Lao PDR	67
7	Manual for Government Staff and Development Worker Participatory Land Use Planning (PLUP) in Rural Cambodia	Ministry of Land Management, Urban Planning and Construction Japan	2001	Manuals for the conduct of participatory land use planning in rural Cambodia	79
8	The Study on Community-Based Integrated Watershed Management in Laclo and Comoro River Basins in the Democratic Republic of Timor-Leste	International Cooperation Agency Nippon Cokoei.Co., Ltd	2010	Chapter 5 of this report describes the implementation procedures for the Participatory Land Use Planning Sub-program, which consists of i) future land use planning and ii) village regulations making on a village level.	

Appendix-11 Lists of Technical References collected by the JICA Project Team

(3) Agriculture and Agroforestry

No.	Title	Author	Year of Issue	Contents	Pages
1	A Permaculture Guidebook from East Timor	Permatil (Permaculture Timor Lorosa'e)	2005	Introduction, ethics of Permaculture, Principles of permaculture, Methods for Design, Patterns, Healthy soil, Home & Market Gardens, Seed Saving & Nurseries, Reforestation & Tree crops, Large Scale Agriculture, Integrated Pest Management, animal Systems, houses & Water Supply, Appropriate Technology, Community Groups and Cooperatives, For Trainers a Trainers Guide	372
2	Bertanam Kacang Panjang	Ir.Rahamat Rukmana	1995	"Cultivation of long beans" 1.Preliminary, 2.botany and variety of long beans, 3.Cultivation of long beans, 4.Pests and diseases of long beans, 5. Harvest and post harvest of long beans	48
3	Bertanaman Jagung	Ir. Suprpto Hs.	1985	"Cultivation of maize" 1.Preliminary, 2.History, 3.Nutritional value, 4.Botany, 5. Farming technique, 6.Diseases and pests, 7.Post harvest management, 8.Post harvest management, 9.Utilization, 10.Marketing, with illustration and picture for cultivation	59
4	Budi Daya Baby Corn	Ir.H. Rahmana, MBA, M.Sc.	1997	"Baby corn cultivation" 1.Preliminary, 2.Identify baby corn plants, 3.Requirement of growing baby corn, 4.cultivation of baby corn, 5.pests and diseases of baby corn, 6.Harvest and post harvest of baby corn	50
5	Mebuat Tanaman Cepat Berbuah Edisi Revisi	Sapatarini N., Eti widayati, Lila sari, B.Sarwono	2001	"Revised edition: Make plants rapid fruiting" 1.Pleliminary, 2.seed plants, 3.Howto plant, 4.Control the balance of C/N ratio, 5.Fertilization, 6.Irrigation, 7.Provision of growth regulator, 8.Harvesting and fertilization continuity	72
6	Mengendalikan Hama & Penyakit Tanaman	Ir. Joesi Endah H., Ir. Novizan	2002	"Controlling pests & plant diseases" 1. A glimpse of pests and diseases, 2.Integrated pest control, 3.Pests and diseases of ornamental, popular plants, 4. Pests and diseases of popular fruit crops , 5. Pests and diseases of popular vegetable.	98
7	Pengendalian Hama tanpa Pesticide	Ir.Kusnaedi	1997	"Pest control without pesticide" 1.Preliminary, 2.Trap for insects and pests, 3.Cotrol of pests with technique, 3.Pest control by technical cultivation, 4.Biological pest control, 5.Rat trap, 6.Pest repellent devices for bird, 7.Pest trap for wild pig, 8.Big movement of pest control, 9.Pest control for seed, with illustration of devises	94
8	Praktikas jestaun Rai Sustentavel Iha Timor-Leste	Ministerio Agricultura e pescas	2010	35 case studies on practice of sustainable agroforestry	35
9	System Bercocok Tanam Tanaman Koll		2003	"Farming system for cabbage " 1.Preliminary, 2.Topography, 3.Implimentation, 4.Maintenance, 5.materials and equipment	22
10	The Seed Savers' Handbook updated reprinted	Michel & Jude Fanton	1999	Part one: The Issues 1. The Seed savers' Network, 2.Background to Biodiversity, Part Two: The Practicalities 3.What Seeds to save, 4. Party and collecting, 6.After the Seed harvest, '. Planting and Planning, (. A special Family-Cucurbits, Part Three: The Plants, Simplicity Rating(117 listings of vegetables, culinary herbs, and edible flowers)	176
11	Tomat Budi Daya dan Analisis Usaha Tani	Ir.Bambang Cahyono	1998	"Tomato farming and analysis of farm" 1.Preliminary, 2.Determin the location for farming, 3.Cultivaton techniques for tomato, 4.Harvest and post harvest handling, 5. Feasibility analysis for farming	99
12	Future Farming	ILEIA		Agriculture, Agroforestry	270
13	Make Fast Fruit Crops (Revised version)	Sapatarin N. Eti		Technical guidebook on frtuit tree growing	72
14	Pineapple: Cultivation and Postharvest	Ir. Rahmat Rukumana		Technical guidebook on pineapple growing	60
15	Curriculum: Training Agrodforestry for Beginners	Halarae		Agroforestry	64

Appendix-11 Lists of Technical References collected by the JICA Project Team

(4) Livelihood Improvement

No.	Title	Author	Year of Issue	Contents	Pages
1	Beyond Timber: social, economic and cultural Dimensions of Non-wood Forest Products in Asia and the Pacific	FAO	1995	Introductory Presentations, Social and Legal considerations, Economic Aspects, Cultural dimensions, Institutional Support for NWFP Development, Consultation Summary	354
2	Case studies in forest-based small scale enterprises in Asia	FAO	1991	1.Introduction, 2.The case studies, a brief overview, 3.Case study one, rattan industries in East Kalimantan, Indonesia, 4.Case study two, The safety match industries in India, 5.Case study three, Forest-based handicrafts in Indonesia, 6.Conclusion, with maps and pictures at site	93
3	Drying Foodstuffs	Directed by Jean-Francois Roses (GERES)	1997	Part one: Drying activity environment 1.Evolution of drying practices, 2.The drying chain: from fresh produce to the consumption of dried produce, 3.Start by defining the project, Part Two: Basic notions on the drying of foodstuffs,4.Main principles in drying, 5.Elements for dimensioning a dryer, 6.Examples of various types of dryers, 7.how to conduct a drying activity, 8.Elements for an economic appraisal of drying projects, Part Three: Deeper notions on drying, 9.Developing some theoretical elements on drying, 10.Measuring an controlling the drying process, 11.Examples of calculations Appendices:1. Unit conservation table, Calculation of the amount of solar energy received by a given surface, 3.characteristics of building materials, 4.Analysis grid of the availability of solar energy on the drying site, 5.A few examples of drying projects, 6.Psychrometric table, 7.For further information	311
4	One Village One Product Movement in Timor-Leste	JICA	2009		36
5	Planning SelfHelp Fuelwood Projects in Asia	FAO	1987	Intoroduction, Part1:Concepts and workshop lessons,1.Understanding the roles of forests and trees for local communities, 2. Villagers' participation in forestry Initiatives, Part2: A partnership Approach, 3.Participants and their roles in self-help forestry projects, 4.A planning partnership: Approaches, tools, and skills	84
6	Procesamiento de Frutas y Hortalizas Medilante Metodos Artesanales y de Pequena Escala*	Oficina Regional de la FAO para America Latina y el Caribe	1998	"Small scale food processing of fruits and vegetable"1.Introduction, 2.Personal, 3.Hygiene and industrial sanitation, 4.Fruits, 5.Methodology of processing, 6.Recipes for every fruit, 7.Joint production in agricultural industries, 8.Structure of cost consideration in agricultural industries, 9.Countable system for application in the agricultural microenterprise, 10.Destination of production of fruits and vegetables processing	241
7	Ragam Umbi Padat Gizi	HARMONI	2001	"Concentrated nutrition of bulbs variety"1.Introduction, 2.table of contents, 3.39 recipes for cassava, 4.23 recipes for sweet potato, 5. 15 recipes for taro, 6.25 recipes for potato	156
8	Success case replication	ESCAP/FAO	2000	Section1: Philosophy and methodology, Section 2: nine step for income earning enterprises and groups, with case studies	63
9	What does it take? The role of incentives in forest plantation development in Asia and the Pacific	FAO	2004	Introduction 1.The role of incentives in forest plantation development in the Asia-Pacific region, 2.Plantations in the Asia-Pacific region: an expanding resource, 3. Incentives key concepts, typology and rationale, Country case Study: 4.- 10.Impact of incentives on the development of forest plantation resources in the Asia-pacific region: Australian case study, China, India, Indonesia, Sabah, Malaysia, New Zealand, and Philippines, 11.The development of forest plantations in Thailand, 12.markets, policy incentives and development of forest plantation resources in the United States of America, Summary and conclusions: 13.What does it take? Incentives and their impact on plantation development	278

10	Women's role in dynamic forest-based small scale enterprises	FAO	1991	1.Introduction, 2.Case study 1-Uppage collection, 3.Case study 2-Lac-turnery and the lacquer ware industry, 4.Conclusions	68
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Appendix-11 Lists of Technical References collected by the JICA Project Team

(5) Natural Resrouce Management

No.	Title	Author	Year of Issue	Contents	Pages
1	Asia-Pacific agroforestry Profiles: Second Edition	Asia-pacific Agroforestry Network, FAO Regional Office for Asia and the Pacific	1996	Overview of Agroforestry in Asia-Pacific, Bangladesh, China, India, Indonesia, LAO PDR, Nepal, Pakistan, Philippines, Sri Lank, Thailand, Vietnam	278
2	Budi Daya Tanaman Obat Komersial	Cheppy Syukur, Hernani	2001	"Commercial cultivation of medical plants" 1.Prospects for development of medical plant cultivation, 2.Basics of cultivation of medical plants, 3.Cultivation of medical plants (24 species), 4.Post harvest	136
3	Budidaya Tanaman Berhasiat Obat	G. Kartasapoetra	1992	"Cultivation of medical plants"1.The need for planting well done, 2. Plants whose leaves have medicinal matter(31 species), 3.Plants whose flowers, seeds and fruits have medicinal matter(25species), 4.Herbs and other plants whose roots, tubers and trunk have medicinal matter(40 species) , with illustration	135
4	Economic Botany	The New York Botanical Garden Press	2006	"Ethnobotany of East Timor" The traditional botanical knowledge of two East Timorese cultural group. 86 medicinal plants were identified. An analysis of the use of Plant products for commerce in Remote Aboriginal Communities of northern Australia"	102
5	Penghijauan Dengan Tanaman Potensial	Ade Iwan Setiawan	1993	"Potential plants for greening" 1.Prelimnary, 2.Identify reforestation program, 3.Class of land potential and reforestation target, 4.Technique of cultivation, 5.Plant species for greening(27 species)	150
6	Produksi Tanaman Hijuan Makanan Ternak Tropik	Prof. Dr. Soedomo Reksohadiproj o, M.Sc.	1981	"Production of tropic forage crops for livestock food" Illustration of each crop. Appendix1.Pasture evaluation by grazing experiments(19species), 2.Seeds yield of tropical grasses and regumes(23 species) 3.annual production of some tropical grasses and regumes(9species) 4.Relations value of foods and high levels of nutrients	368
7	Study on lessons Learned in Implementing Community Level Agricultural Resource Management Projects in Timor Leste	Oxfam	2004	1.Introduction, 2.Methodology, 3.lessons learned and approaches to development, 4.Case studies: government activities, UN and bilateral programs, NGO programs, 5.Issues to consider for future extension strategies, 6.Recommendations, 7.Conclusion, 8.References, 9.Annexes	50
8	Panduan Percontohan Tanaman Obat	Compiled by Endah Lasmadiwati	2005	"Pilot guides for medicinal plants" A pictorial book of Indonesian medical plants. Categorized by foreign and local name, crude drug, properties and benefits, examples of usage, multiplication	121
9	Community Based Natural Resource Management for Carbon Sequestration in East Timor (CBNRM-ET)	Care International	2004	Semi-Annual Progress Report (April-September 2004) on the Project of CBNRM-ET	28

Results of Training Needs Assessment Survey

1. Introduction

1.1 Background

One of the outputs that the Project for Community-Based Sustainable Natural Resource Management (hereinafter referred to as “the Project”) needs to achieve is to build the capacity of the counterparts (or the members of the Project Team of NDF/MAF) for sustainable natural resource management in a community-based or participatory manner. In order to enhance the capacity of the counterparts effectively and systematically in the course of the Project, a capacity development/training plan needs to be prepared based on the current capacity level of the counterparts. To this end, the needs for training among the counterparts should be assessed and identified.

1.2 Objectives

The main objective of the training need assessment is to identify the skills/techniques/knowledge that the counterparts need to strengthen to introduce and promote community-based natural resource management (CB-NRM) on a village level. Specifically, the assessment aims to:

- a. identify the gaps between the current capacity level of the counterparts and tasks that the counterparts should comply with;
- b. identify skills/techniques/knowledge/subjects to be particularly addressed to enable the counterparts to continue the project activities even after the end of the Project; and
- c. identify the effective methods for capacity development.

1.3 Target Group

This capacity development plan targets the following counterparts.

No.	Name	Position	Status
1	Fernando C. Araujo	Head of Department of Reforestation and Soil Conservation, NDF	Full-time
2	Vildito Ximenes	Staff of Watershed Management Section, Department of Reforestation and Soil Conservation, NDF	ditto
3	Mario Alves	Staff of Department of Protection and Forest Resource Management, NDF	ditto
4	Delfina da Costa Inacio	Staff of Department of Administration and Finance, NDF	ditto
5	Eduardo F. Martins	District Officer in Forestry (DOF) in Ermera District	ditto
6	Marcelino Perreira	DOF in Aileu District	ditto
7	Francisco Tiliman	Technical Staff in Forestry Section in Aileu District	ditto
8	Joao Roderigues	District Officer in Agriculture and Horticulture (DOAH) in Aileu District	ditto
9	Aleixo Mendonca	District Officer in Livestock (DOL) in Aileu District	ditto
10	Juliao Tilman Suri	District Officer in Coffee, Industrial Plant, and Agribusiness (DOCIPA) in Aileu District	ditto
11	Armando Mendonca	Forest Guard in Aileu District	ditto
12	Mayus Kling de Jesus	ditto	ditto
13	Benjamin de Suri	ditto	ditto

No.	Name	Position	Status
14	Leonio Martins	ditto	ditto
15	Fortunato Pinas	Senior Extensionist	ditto
16	Liberato Mesquita	Extensionist for Faturasa	ditto
17	Amelia Calvalho	Extensionist for Fadabloco and Hautoho	ditto
18	Andre Tolo	Extensionist for Tohometa	ditto
19	Carlos dos Santos	Extensionist for Madabeno	ditto
20	Alexio da Silva Cluz	Extensionist for Talitu	ditto

2. Present Capabilities of the Counterparts

2.1 Methodologies of Assessments

Two (2) types of questionnaire survey, namely i) self-assessment by the counterparts and ii) assessment by the supervisors of the counterparts (e.g., Head of Department of Reforestation and Soil Conservation, Senior Extensionist and Chief of technical department of MAF District Office in Aileu and Ermera) were carried out to assess the current capacity level of the CPs from different perspectives. The results of the questionnaire surveys were further supplemented by the literature review of the existing reports/documents on capacity assessment of the offices or staff of MAF.

(1) Questionnaire survey to the Counterparts

All the counterparts were given a set of questionnaire forms presented in Attachment-1 and requested to fill in with an instruction on entry of the form. The questionnaires cover the following topics:

- Main duties and/or tasks of the staff
- Education attainment and past training experience
- Self-assessment of competence for the present roles
- Topics/subjects/skills/techniques that the counterparts consider important
- Training methods effective for learning

(2) Questionnaire Survey to the Supervisor

The supervisors of the counterparts were also requested to answer another set of questionnaire forms (Please see Attachment-2), which are similar to those for the counterparts but focus on the assessment of the training needs of the counterparts from the supervisors' points of view. Specifically, the questionnaires aim to collect the following information:

- Duties and responsibilities of the counterparts;
- Roles and tasks of the organizations that the counterparts belong; and
- Topics/subjects/skills/techniques to be strengthened by training

The following persons were interviewed for this purpose.

For NDF staff: Mr. Fernando Araujo, Head of Department of Reforestation and Soil Conservation

For District technical officers: Mr. Joao Dos Santos, Director of District MAF in Aileu
Mr. Jose de Deus, Chief of department of technical

support in District MAF in Ermera
 For Forest Guards: Mr. Oscar M. Paulino, District livestock officer in Aileu
 For Extensionists: Mr. Fortunato Pinas, Senior extensionist in Aileu

2.2 Present Capabilities

2.2.1 Roles and Current Jobs of the Counterparts

As described in Section 1.2, the counterparts for the Project are from different positions and different offices, such as forest officer in the central NDF, district forest officer in the district MAF offices, district technical officer in other sectors in the district office, forest guards, and extensionists. The major roles of the counterparts vary with their positions as tabulated below.

Major Roles of the C/Ps		
Position	Major roles	No. of counterparts (person)
NDF staff	Planning, Implementation of plan/project, and Monitoring and supervision of project or field activities	3
DOF/Technical staff of silviculture	Planning, Implementation of plan/project, and Monitoring and supervision of project or field activities in the concerned district	3
Forest Guard	Protection and patrol works, and Solve issues in the field	4
Extensionist	Implementation of plan/project, Conduct of training services and Provision of extension services	6
Other District officers	Planning, Implementation of plan/project, and Monitoring and supervision of project or field activities in the respective specific sectors in the concerned district	3
Secretarial staff	Collection of statistic data, Management of office budget and Provision of administrative assistance	1
Total No.		20

Source: JICA Project Team (2011)

The counterparts responded that they engaged in all the roles and tasks given to them as their major roles except planning as shown below.

Current Jobs of the Counterparts	
Position	Current Jobs
NDF staff	Administrative affairs and Project Implementation, Monitoring and Evaluation
DOF/Technical staff of silviculture	Project Implementation, Monitoring and Evaluation and Extension
Forest Guard	Protection and patrolling, Implementation, Monitoring and Evaluation
Extensionist	Provision of extension services and training
Other District officers	Project Implementation, Monitoring and Evaluation, and Provision of training
Secretarial staff	Administration and Public relation

Source: JICA Project Team (2011)

2.2.2 Technical Area of the Counterparts

The technical fields of the counterparts also vary with the positions/titles that they are posted in. The following table shows the major expertise of the respective counterparts.

Technical Area of the C/Ps

Position	No. of staff assigned	Category	Answers / No. of staff
NDF staff	3	Watershed management	3/3
		Soil conservation	3/3
		Nursery production	2/3
		Protection/patrolling	1/3
DOF/Technical staff of silviculture	3	Afforestation/reforestation	3/3
		Nursery production	2/3
		Soil conservation	2/3
		Watershed management	1/3
DOAH	1	Soil conservation	1/1
		Crops (lowland/paddy)	1/1
		Crops (vegetable)	1/1
DOL	1	Afforestation/Reforestation	1/1
		Nursery production	1/1
		Agroforestry	1/1
DOCIPA	1	Nursery production	1/1
		Coffee/Industrial plants	1/1
Forest Guard	4	Afforestation / reforestation	3/4
		Nursery production	3/4
		Forest protection	3/4
		Community forestry	1/4
		Protection/patrolling	1/4
Extensionist	6	Afforestation / reforestation	2/6
		Nursery production	2/6
		Soil conservation	1/6
		Crops (lowland)	1/6
		Crops (upland)	1/6
		Crops (vegetables)	6/6
		Animal husbandary	5/6
Secretarial staff	1	-	1/1

Note: Plural answers were allowed in this question.

Source: JICA Project Team (2011)

2.3 Overall Assessment of the Capacities of the Counterparts

(1) General Training Needs

The results of the self-evaluation survey revealed that all the counterparts who responded showed their willingness to improve their current skills, although most of them were satisfied with their performance as well as current skill level as compared to their tasks and responsibilities.

Self-evaluation of Gap in their Capabilities

Topics	Answers from C/Ps					
	NDF	DOF*	Other District officers	Forest guards	Extensionists	Secretary
Willingness to improve skills	Yes	Yes	Yes	Yes	Yes	Yes
Matching of roles with qualification and abilities	Bit difficult-Just match	Just match	Just match – Personnel qualification	Too difficult - Just match	Bit difficult – Just match	Just enough

			is too high for present work			
Level of satisfaction about present performance	Need some improvement-Very satisfactory	Need some improvement-Very satisfactory	Need some improvement-Outstanding	Need some improvement-Outstanding	Fair-Outstanding	Very satisfactory
Present skill level compared with duties	Bit inadequate - Just enough	Just enough	Just enough	Just enough - More than enough	Just enough - More than enough	Just enough

Note*: Technical staff of silviculture is included.

Source: JICA Project Team (2011)

Interestingly, the supervisors were not necessarily satisfied with the CPs' knowledge and their performance of their duties. This is probably because they might not clearly understand their targets in their daily work or they might not be given clear guidance on their duties and responsibilities. In fact, it is also common that a self-evaluation often overestimates his/her performance than what he/she has actually done. Hence the results of the self-evaluation may need to be considered with a grain of salt.

Evaluation of Gap in the Capabilities of Counterparts by Supervisors

Topics	Answer from the Supervisor (SV)s				
	SV for NDF	SV for DFOs	SV for other district officers	SV for Forest Guards	SV for extensionists
Understanding level of duties/responsibilities	Fair	Fair-Relatively high	Fair	Fair	Fair
Fulfillment level of duties/responsibilities	Fair	Fair-Relatively high	Fair	Fair	Fair
Understanding level of roles and tasks of organization	Relatively low	Fair-Relatively high	Fair	Fair	Fair
Coordination between/among units of the office	Fair	Fair-Relatively high	Fair	Fair	Fair

Source: JICA Project Team (2011)

(2) Educational Background and History of Training

Three C/Ps, two from NDF and one from DOAH are BSc holders and the rest are just vocational/high school graduates. In addition, only five of them have had more than 5 training courses so far. Though they have had opportunities to participate in several training courses, most of them were short-term (less than 1 week) and ad hoc. The following matrix shows the past training activities that the counterparts have participated in.

Education level of C/Ps

Education level	Answers from C/Ps					
	NDF	DFO	Other District officers	Forest Guards	Extensionists	Secretary
Bachelor holders (No. of C/Ps)	2	0	1	0	0	0
Major in University	1 Agro-forestry, and 1 National Park Management	-	1 Pest Control	-	-	-
Vocational/high school (No. of C/Ps)	1	3	2	4	6	1

Source: JICA Project Team (2011)

Past training activities targeting C/Ps

No. of training courses attended	No. of C/Ps	Topic of training							
		WM /FM	NRM	CF /CP	Other FT	AGR	LVS	Coffee	Others
a. NDF									
3 courses	1	-	-	1	-	-	-	-	2
1 course	2	1	1	-	-	-	-	-	-
b. DOF/Technical staff of silviculture									
5 courses	2	6	1	-	1	1	-	-	1
1 course	1	1	-	-	-	-	-	-	-
c. DOAH									
4 courses	1	-	-	-	-	3	-	1	-
d. DOL									
4 courses	1	-	-	-	-	1	3	-	-
e. DOCIPA									
4 courses	1	-	-	-	-	3	-	-	1
f. Forest guards									
4 courses	1	2	-	1	-	1	-	-	-
3 courses	2	3	1	-	1	-	-	-	1
1 course	1	1	-	-	-	-	-	-	-
g. Extensionist									
6 courses	1	-	-	-	-	3	2	-	1
5 courses	2	1	-	-	-	6	2	-	1
4 courses	2	-	-	-	-	6	2	-	-
3 courses	1	1	-	-	-	2	-	-	-
h. Secretary									
4 courses	1	-	1	-	-	-	-	-	3
Total	20	16	4	2	2	26	9	1	10

Note*: Categories of training courses are: Watershed/Forest management (WM/FM), Community forestry/Community participation (CF/CP), Other forestry techniques (FT), Agriculture (AGR), Livestock (LVS), coffee and others (e.g, environment, computer skill, leadership training, etc.).

Source: JICA Project Team (2011)

Furthermore, the C/Ps consider that the following area shall be strengthened for project management.

Management Skills to be Improved

Category	Answers from C/Ps (No. of answers/Total No. of C/Ps by position)					
	NDF	DOF	Other District officers	Forest guards	Extensionists	Secretary
a. Data collection	1/3	2/3	1/3	-	2/6	1/1
b. Data analysis	1/3	3/3	1/3	1/4	-	-
c. Planning	3/3	2/3	1/3	-	2/6	-
d. Training /Extension service	2/3	-	2/3	2/4	6/6	-
e. Monitoring	1/3	1/3	1/3	2/4	2/6	1/1
f. Evaluation	-	-	-	1/4	1/6	1/1
g. Report Making	-	-	1/3	3/4	2/6	1/1

Source: JICA Project Team (2011)

The table above suggests that:

- the C/Ps from NDF and technical officers in the MAF district office may lack the holistic assessment skills in addition to the experiences in training and field extension services;
- extensionists and forest guards lack the experiences in training/extension services and

- monitoring and evaluation of the project; and
- c. likewise, extensionists and forest guards have difficulty in making a report.

2.4 Assessment of the Capacity to Implement CB-NRM

The CPs' capacity to implement CB-NRM activities were assessed in terms of two aspects, i.e., a) implementation of CB-NRM and b) technical skills required for CB-NRM.

2.4.1 Implementation of CB-NRM Project/Activity

The capacity for implementation of CB-NRM projects/activities was evaluated by assessing the CPs' knowledge of the proposed procedures for introduction of CB-NRM, namely, i) assessment of present condition of target area, ii) participatory land use planning (PLUP), iii) implementation of the CB-NRM activities and iv) other aspects relevant to project management. As mentioned in section 2.1, the evaluation was made on the basis of the results of self-assessment and supervisors' ones.

(1) Result of self-evaluation

Table 1 shows the result of the CPs' self-assessment of the capacity for assessment of the present condition of target area. Its summary is given below.

**Capacity Gaps of C/Ps in Implementation and Management of CB-NRM Project/Activity
(Self-Assessment)**

Question	Rating by C/Ps*1				
	NDF	DOF	Other DOs	FG*2	EXT*3
a. Assessment of Present Condition of Target Area					
1. Have you ever engaged in participatory rural appraisal (PRA) before?	5.0	3.3	5.0	4.0	3.0
2. Do you think PRA is a useful tool for your tasks?	5.0	5.0	5.0	5.0	4.0
3. How do you evaluate your abilities to do the following?					
3 (1) Use of PRA tools/methods at suco level	3.0	3.7	1.6	3.2	1.8
3 (2) Assessment of present condition on the topics related to your technical field at suco level	3.7	3.0	4.0	3.6	2.2
3 (3) Identification of causes and necessary measures related to your technical field at suco level	3.0	3.9	2.9	3.4	2.4
Average score of a.	3.9	3.8	3.7	3.8	2.7
b. PLUP					
1. Do you think that the assistance in development of a future land use plan and village regulations at suco level is related to your tasks?	5.0	3.3	-	4.0	-
2. How do you evaluate your abilities to conduct activities relevant to PLUP?	3.2	2.8	-	2.8	-
Average score of b.	4.1	3.1	-	3.4	-
c. Implementation of CB-NRM Activities					
1. Do you think that CB-NRM activities (or activities conducive to the achievement of a future land use plan and village regulations) are important for sustainable management of forest and other natural resources at suco level?	5.0	5.0	-	-	-
2. How do you evaluate your abilities on selection and planning of the micro-programs of CB-NRM?	4.1	3.1	-	-	-
3. Do you know the Field Farmers School?	-	-	5.0	-	-
4. Have you ever prepared a training plan of the Field Farmers School?	-	-	5.0	-	-
5. How do you evaluate your implementation skills of the community-based activities in your technical field?	-	-	3.2	3.1	2.3

6. Do you think if monitoring and evaluation of CB-NRM activities with local communities at suco level is important for sustainable management of forest and other natural resources?	5.0	5.0	-	-	-
7. How do you evaluate your skill in terms of monitoring and evaluation of the community-based activities?	3.2	2.8	-	-	-
8. How do you evaluate your skills of training management?	-	-	1.0	-	-
Average score of c.	4.3	4.0	3.6	3.1	2.3
d. Other Aspects Relevant to Project Management					
1. Do you think that the coordination with other stakeholders (e.g., NGOs, other government directorates/ministries, any other institutes) that would support sustainable forest and natural resource management at suco level?	3.3	5.0	-	-	-
2. How do you evaluate your abilities of identification of and coordination with the stakeholders in your works?	3.2	3.9	1.0	-	-
3. Have you ever prepared an annual work plan with a budget plan for your own unit for annual budget making?	1.7	5.0	5.0	-	-
4. How do you evaluate your ability to prepare an annual work plan with a budget plan for budget making of MAF/NDF?	2.7	3.7	1.0	-	-
5. How do you evaluate your ability on report making?	-	-	-	3.6	1.3
Average score of d.	3.0	4.3	2.3	3.4	1.8

* Note 1: Number is corresponding to the capacity level, 1 is the lowest while 5 is the highest.

2. FG: forest guard

3. EXT: extensionist

Source: JICA Project Team (2011)

The self-evaluation suggested that:

- most of the C/Ps except extensionists seemed to be satisfied with their knowledge and ability to implement the CB-NRM activities in general;
- C/Ps from DOAH, DOL and DOCIPA and extensionists seemed to realize their difficulties in applying PRA methods/tools in the field;
- CPs from NDF, DOF and forest guards judged that their knowledge on the participatory land use planning was fair although most of them had no experience in the participatory land use planning so far;
- The district technical officers in other sectors recognized their insufficiency of their capacity for training management; and
- CPs in general considered themselves rather incapable of preparing the annual work plan with a budget plan.

(2) Result of evaluation by supervisors

The results of evaluation by their supervisors are summarized below.

**Capacity Gaps in Assessment in Implementation and Management of CB-NRM Project/Activity
(Supervisor)**

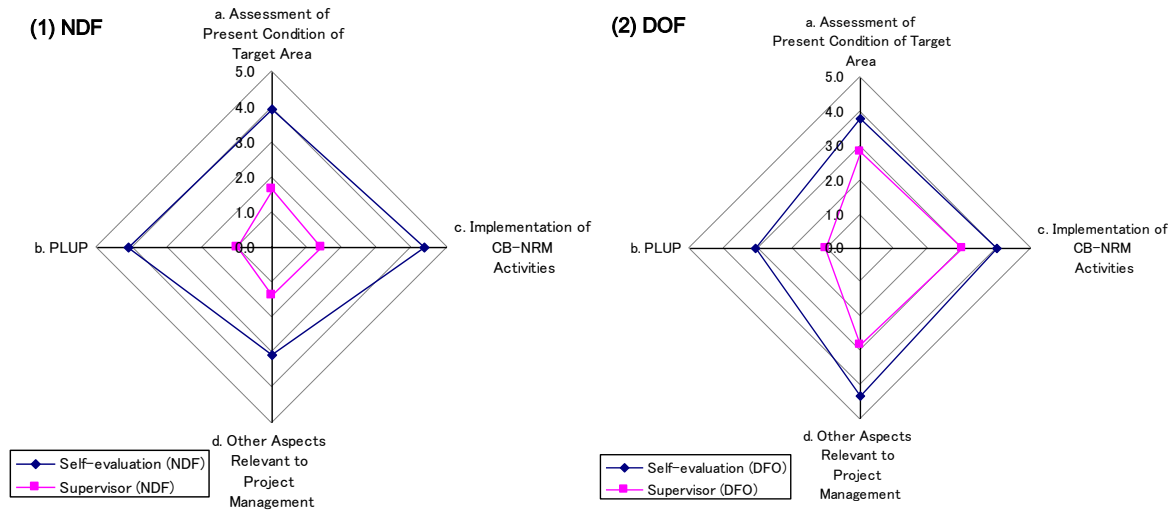
Question	Rating by Supervisor (SV) s				
	SV for NDF	SV for DOF	SV for other DO	SV for FGs	SV for EXTs
a. Assessment of Present Condition of Target Area					
1. How do you evaluate your staffs/subordinates' capacities for the following matters relevant to project management in general?					
1 (1) Assessment of present condition on the topics related to their technical field at suco level	1.0	2.5	3.0	3.0	2.0
1 (2) Assessment of present condition on the topics related to their technical field at suco level	2.0	2.5	3.0	3.0	3.0
1 (3) Identification of casuese and necessary measures related to	2.0	3.5	3.0	3.0	3.0

their technical field at suco level					
1 (4) Provision of the technical information which can help the communities to solve the issues mentioned above	-		-	-	3.0
Average score for a.	1.7	2.8	3.0	3.0	2.8
b. PLUP					
1. Skills and knowledge on implementation of PLUP	1.0	1.0	-	1.0	1.0
Average score for b	1.0	1.0	-	1.0	1.0
c. Implementation of CB-NRM Activities					
1. Participatory planning of a community-based project or activities (Preparation of a work plan of a community-based project in a participatory manner at suco level)	1.0	3.0	2.0	3.0	-
2. Designing of demonstration plots	-	-	-	-	3.0
3. Facilitation of community participation in the project activities	1.0	3.0	2.0	3.0	
4. Provision of technical guidance or extension services to local communities	2.0	3.0	2.0	3.0	3.0
5. Assistance to the communities in replicating the techniques introduced by the training in their own farms	-	-	-	-	3.0
6. Participatory monitoring of a community-based project (Monitoring of a community-based project in a participatory manner at suco level)	2.0	3.0	2.0	-	-
7. Participatory evaluation of a community-based project (Evaluation of a community-based project in a participatory manner at suco level)	1.0	3.0	2.0	-	-
Average score for c	1.4	3.0	2.0	3.0	3.0
d. Other Aspects Relevant to Project Management					
How do you evaluate your staffs/subordinates' capacities for the following matters relevant to project management in general?					
1. Coordination with MAF district office to take necessary measures at suco level	1.0	-	-	-	-
2. Selection of NGOs/other external organizations to implement a community-based project	1.0	-	-	-	-
3. Preparation of an integrated watershed management plan	1.0	-	-	-	-
4. Preparation of a work plan with a budget plan of the necessary activities	1.0	3.0	2.0	-	-
5. Monitoring of the project activities with preparation and submission of the reports	2.0	3.0	2.0	-	-
6. Determination of criteria/standards for evaluation of a community-based project	1.0	3.0	2.0	-	-
7. Evaluation of the performance of the NGOs hired for a community-based project	1.0	-	-	-	-
8. How do you evaluate your staffs/subordinates' skills in/knowledge of the following matters:					
8 (1) Computer skills	2.0	3.0	2.0	-	-
8 (2) Use of GIS	2.0	-	-	-	-
8 (3) Updated technologies in the advanced country	2.0	3.0	2.0	-	-
8(4) International trends in forest and natural resource management	1.0	-	-	-	-
8 (5) Use of PRA tools/method at suco level	-	-	3.0	2.0	2.0
8(6) Report making	-	2.0	2.0	2.0	2.0
8 (7) Prevention of forest fire	-	-	-	2.0	-
8(8) Forest protection in coordination/cooperation with communities	-	-	-	2.0	-
8 (9) Initial fire extinction	-	-	-	2.0	-
Average score for d	1.4	2.8	2.1	2.0	2.0

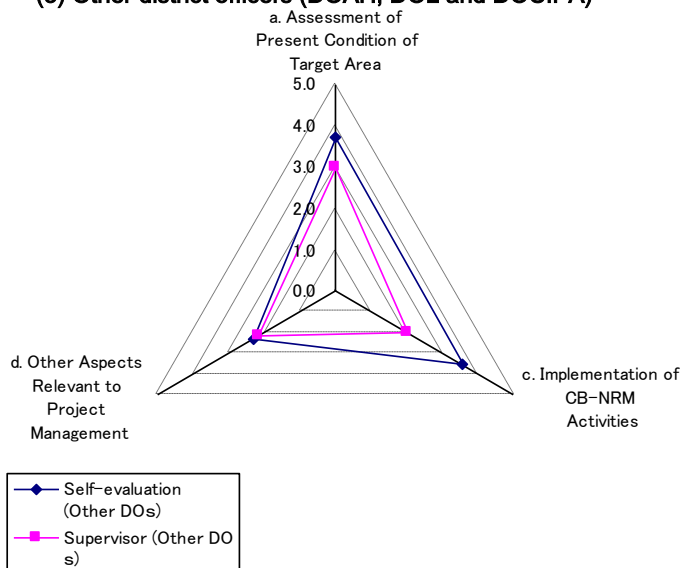
* Number is corresponding to the capacity level, 1 is the lowest while 5 is the highest.

Source: JICA Project Team (2011)

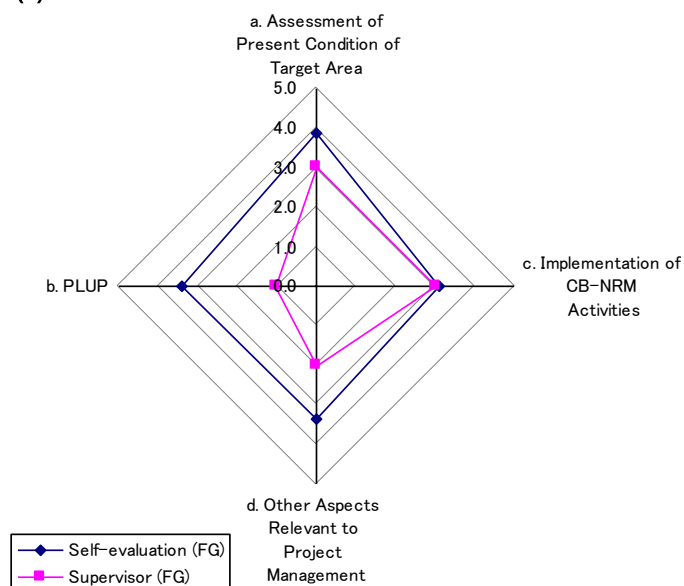
The results reveal that the supervisors consider that the capacities of the counterparts still need enhancing in most of the aspects in contrast of the results of the self-evaluation. The following charts show the gaps between the self-evaluations and those made by the supervisors.



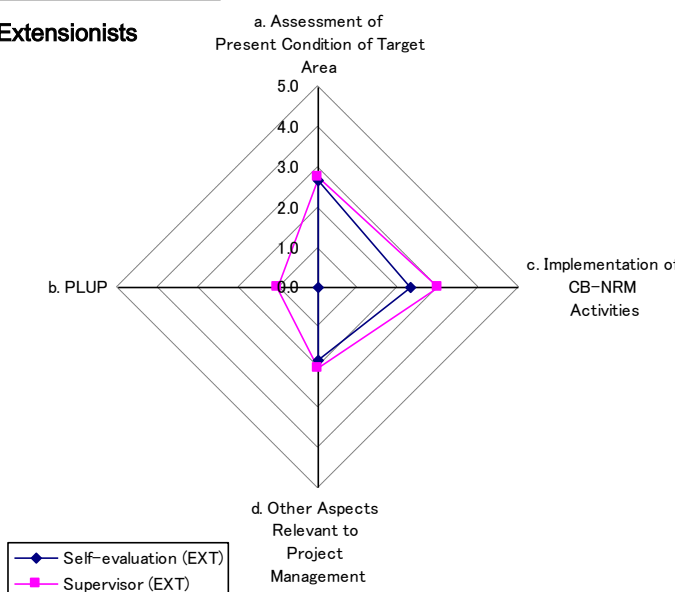
(3) Other district officers (DOAH, DOL and DOCIPA)



(4) Forest Guards



(5) Extensionists



Gaps of results of Self-evaluation and Evaluation by the Supervisor

The supervisors do not evaluate the skills and knowledge as high as the counterparts themselves do. In fact, they judge that their subordinates need to improve almost all the skills/techniques needed for implementation of a CB-NRM project. In particular, the following aspects should be emphasized.

- participatory land use planning especially for NDF, DOF and forest guards
- project management for all the counterparts

2.3.2 Technical Skills Required for CB-NRM

The CP's understanding level/technical skills on 1) the respective technical fields and 2) community facilitation were also assessed.

(1) Technical field of C/Ps

The results of self-evaluation and evaluation by the supervisors of the CP's knowledge/understanding level of the technical fields are summarized below.

Capacity Gaps of C/Ps in Technical Skills Required for CB-NRM (Technical field of C/Ps)

Question	Rating by C/Ps*1			Rating by Supervisors		
	NDF	DOF	Other DOs	NDF	DOF	Other DOs
1. Forestry	3.0	3.4	-	3.0	3.0	-
2. Agriculture	-	-	1.6	-	-	2.1
3. Livestock management	-	-	4.9	-	-	3.0
4. Coffee and industrial crops	-	-	3.7	-	-	2.1
5. Livelihood development relevant to their specialty of C/Ps	2.6	3.0	1.0	1.3	3.1	2.5

* Number is corresponding to the capacity level, 1 is the lowest while 5 is the highest.

Source: JICA Project Team (2011)

The results mentioned above indicate that:

- the counterparts from NDF and DOF seem to have knowledge on and experience in conventional forestry techniques, such as nursery development, seedling production, and plantation establishment;
- nevertheless, they may lack in experiences in livelihood development and possibly other new techniques to be implemented by the Project; and
- the knowledge of the district technical officer in Agriculture and Coffee and Industrial Crops are considered insufficient in the respective technical field by their supervisor.

(2) Community Participation

The results of evaluation of the capacity of C/Ps for community participation are summarized below.

Capacity Gaps of C/Ps in Community Facilitation

Position of C/Ps	Evaluation on Community Participation	
	Self-evaluation	Supervisor's evaluation
NDF	2	2
DOF	3	3
Other District Officers	3	2.5
Forest Guards	3.6	2
Extensionists	1.8	2

Source: JICA Project Team (2011)

The C/Ps from NDF and extensionists seemed to be not satisfied with their capacity to facilitate community participation, while the other counterparts considered that they had sufficient capacity to do so. However, the supervisors considered their facilitation skills still insufficient, especially for NDF, forest guards and extensionists.

Training Needs Assessment Survey

This survey aims to collect basic information of the counterparts for the JICA Project titled the Project for Community-Based Sustainable Natural Resource Management. Based on the data and information collected by this questionnaire will be used for making a capacity development/training plan for capacitating the counterparts to carry out the CB-NRM activities in the future. Therefore, your proper and careful answers would greatly help identify training needs to be addressed and define an effective training program, which eventually will improve your working ability.

It is noted that all data are confidential. The questionnaires will not be used by / presented to others to assess your skill level. They will be kept strictly confidential and disclosed only to the JICA Project Team.

Your kind understanding and assistance will be highly appreciated.

Yoji MIZUGUCHI
Chief Advisor
The Project for Community-Based Sustainable Natural Resource Management

Please write your name and office that you belong to.

Name: _____

Office _____

District _____

(In case you belong to the district office)

Section A: Yourself

1. Section and Department: (Please mention the section/department that you belong.)

Section: _____ and

Department: _____

2. Position and/or Your Level: (Please mention your position and level.)

Position: _____

Level: _____

3. Are you a permanent staff or contractual staff? (Please tick a box.)

1) Permanent 2) Contractual

4. How long have you been working in your office and also at your present post?

1) in the office _____ yrs 2) At present post _____ yrs

5. Educational Attainment (Please describe your educational background below.)

1) Master's degree , 2) Bachelor's degree , 3) Technical school/Vocational ,
 4) High school graduate , 5) Secondary level , 6) Others _____

Year of graduation: _____

If Bachelor's degree: Name of University: _____ Major: _____

If Master's degree: Name of University: _____ Major: _____

6. Please specify your major roles and responsibilities in your office (Please select up to Five (5) tasks which are the most relevant to your current roles.)

a. Make a plan <input type="checkbox"/>	b. Implement a plan/project <input type="checkbox"/>	c. Monitor/Supervise a project or field activities <input type="checkbox"/>
d. Make a policy <input type="checkbox"/>	e. Conduct forest inventory <input type="checkbox"/>	f. Collect statistic data <input type="checkbox"/>
g. Conduct training sessions for local communities <input type="checkbox"/>	h. Operate protection and patrolling works <input type="checkbox"/>	i. Provide extension services <input type="checkbox"/>
j. Solve issues in the field <input type="checkbox"/>	k. Coordinate with other directorates/organizations <input type="checkbox"/>	l. Manage office budget <input type="checkbox"/>
m. Others (specify _____) <input type="checkbox"/>		

7. Which category best describes the type of job of your staff? (Please select up to three fields which are the most applicable to your current tasks.)

a. Management & supervision <input type="checkbox"/>	b. Administrative affairs <input type="checkbox"/>	c. Public relations <input type="checkbox"/>
d. Planning <input type="checkbox"/>	e. Statistic (Data collection) <input type="checkbox"/>	f. Policy making <input type="checkbox"/>
g. Project implementation, monitoring & evaluation <input type="checkbox"/>	h. Research & development <input type="checkbox"/>	i. Extension <input type="checkbox"/>
j. Training <input type="checkbox"/>	k. Protection/Patrolling <input type="checkbox"/>	l. Financial management <input type="checkbox"/>
m. Others (_____) <input type="checkbox"/>		

8. If you categorize yourself as technical staff, what is their specialty? (Please select up to three fields which are the most applicable to your current tasks.)

a. Afforestation / Reforestation <input type="checkbox"/>	b. Nursery production <input type="checkbox"/>	c. Soil conservation <input type="checkbox"/>
d. Forestry engineering <input type="checkbox"/>	e. Forest protection <input type="checkbox"/>	f. Biodiversity <input type="checkbox"/>
g. Coffee/Industrial crops <input type="checkbox"/>	h. GIS <input type="checkbox"/>	i. Watershed management <input type="checkbox"/>
j. Community forestry <input type="checkbox"/>	k. Agroforestry <input type="checkbox"/>	l. Crops (upland) <input type="checkbox"/>
m. Crops (lowland/paddy) <input type="checkbox"/>	n. Crops (vegetables) <input type="checkbox"/>	o. Animal husbandry <input type="checkbox"/>
p. Others <input type="checkbox"/>		
()

9. How do you evaluate your performance in relation to your duties / responsibilities?

1) Outstanding , 2) Very satisfactory , 3) Fair , 4) Need some improvement , 5) Poor

10. How do you assess your skills/capabilities to fulfill your duties/ responsibilities?

1) More than enough 2) Just enough 3) Bit inadequate 4) Poor 5) Very poor

11. Do you like to improve (or upgrade) your skills / knowledge?

1) Yes 2) No

12. Which management skills do you like to improve? (Multiple answers are allowed.)

a. Data collection <input type="checkbox"/>	b. Data analysis <input type="checkbox"/>	c. Planning <input type="checkbox"/>
d. Training/Extension services <input type="checkbox"/>	e. Monitoring <input type="checkbox"/>	f. Evaluation <input type="checkbox"/>
g. Report making <input type="checkbox"/>	h. Computer skills <input type="checkbox"/>	i. Others <input type="checkbox"/>

13. Please enumerate major training courses, workshops and/or orientations you have participated before and how those courses produced effect on your work?

Title of training/workshops	Executing organization	Year of training	Duration	Effectiveness in work
1				<input type="checkbox"/> Effective <input type="checkbox"/> Not effective <input type="checkbox"/> Unknown
2				<input type="checkbox"/> Effective <input type="checkbox"/> Not effective <input type="checkbox"/> Unknown
3				<input type="checkbox"/> Effective <input type="checkbox"/> Not effective <input type="checkbox"/> Unknown
4				<input type="checkbox"/> Effective <input type="checkbox"/> Not effective <input type="checkbox"/> Unknown
5				<input type="checkbox"/> Effective <input type="checkbox"/> Not effective <input type="checkbox"/> Unknown
6				<input type="checkbox"/> Effective <input type="checkbox"/> Not effective <input type="checkbox"/> Unknown

Section B: About your office and working environment

14. Do you feel your roles and responsibilities have been clearly specified by your supervisors?

- 1) Yes 2) No

15. Do you think your roles match with your qualifications and abilities?

- 1) too difficult 2) bit difficult 3) just match 4) bit easy
 5) my qualification too high for the present work

16. What do you think are the major constraints on your work? (Please select up to three issues which you consider most important.)

a. Limited number of staff <input type="checkbox"/>	b. Limited knowledge <input type="checkbox"/>	c. Limited experience <input type="checkbox"/>
d. Lack of law/regulations <input type="checkbox"/>	f. Lack of guidelines/manuals <input type="checkbox"/>	g. Lack of plan <input type="checkbox"/>
h. Unclear plan <input type="checkbox"/>	i. Unclear instruction <input type="checkbox"/>	j. Lack of budget <input type="checkbox"/>
k. Lack of transportation means <input type="checkbox"/> Lack of budget	l. Lack of other equipment / facilities <input type="checkbox"/>	m. Insufficient coordination with other offices <input type="checkbox"/>
n. Others <input type="checkbox"/> (_____)		

Section C: Training

17. Which methods do you think more effective for training? Please RANK the following methods (from 1:most effective to 5: least effective, and do not tick same number twice).

	1. most	2.	3.	4.	5. least
1. On-the-job training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Seminar/Lecture (class room type)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Formal education (Studying abroad)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Cross visit / exchange program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Discussions and meetings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 Others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(_____)					

18. Which of the following materials and methods do you consider effective? (Please tick either YES or NO).

	Yes	No
1. Self-study training materials	<input type="checkbox"/>	<input type="checkbox"/>
2. Advisor / Trainer / Specialist	<input type="checkbox"/>	<input type="checkbox"/>
3. Technical guides / manuals	<input type="checkbox"/>	<input type="checkbox"/>
4. Special interest group discussions	<input type="checkbox"/>	<input type="checkbox"/>
5. Literature and academic research	<input type="checkbox"/>	<input type="checkbox"/>

19. Please evaluate the needs for capacity development using the attached form.

20. Please describe any comments on a training plan that the Project will make.

Thank you very much for your cooperation!!

Japan International Cooperation Agency (JICA)

Ministry of Agriculture and Fisheries (MAF)

Government of the Democratic Republic of Timor-Leste

The Project
for
Community-Based Sustainable Natural
Resource Management

Revised Capacity Development Plan

July 2013

NIPPON KOEI CO., LTD.

Revised Capacity Development Plan

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LIST OF ATTACHMENTS

Attachment-1 Results of Training Need Assessment Survey

Revised Capacity Development Plan
under the Project on Community-Based Sustainable Natural Resources
Management

1 Introduction

1.1 Background of the Report

The JICA Project Team (hereinafter referred to as “the Team”) developed the capacity development plan based on the results of an assessment of the gaps between the current capacities of the counterparts of the Project (or the members of the MAF Project Team) and those required for promotion of community-based natural resource management (CB-NRM) approaches in July 2011. Although the capacity development plan showed the comprehensive frameworks for development of the counterparts’ capacities as well as training curriculum tailored to the respective types of the counterparts, the plan needed to be reviewed and revised due to the following reasons:

- The goals of the capacity development for some counterparts were likely considered unrealistic or not-achievable as compared to the current conditions;
- The training curriculum for the respective types of the counterparts should be reviewed and revised, if necessary, according to the goals newly set for the respective counterparts; and
- The capacity development plan should also consider the institutional capacity of NDF so as to promote CB-NRM in the target river basins maximizing the counterparts’ capacity enhanced by the Project.

The JICA Project Team, therefore, revised the capacity development plan in May 2013. The draft revised plan is to be presented to NDF and MAF, especially the counterparts/members of the MAF Project Team, for their reviews.

1.2 Guidelines followed in the Revision

The following guidelines were employed for the revision of the capacity development plan.

- The results of the training need assessment can be used as references which show the capacity level of the counterparts;
- The goals and targets of the capacity development plan should be reviewed and re-set, if necessary, so that they could be realistic and achievable under the current circumstances;
- The frameworks for development of the capacities as well as training curriculum for the respective types of the counterparts should also be revised to fit the new goals and targets of the plan; and
- The ideal but achievable situation of NDF should be clarified with the necessary supports and interventions to strengthen its organizational capacities for promotion of CB-NRM.

1.3 Composition of the Revised Capacity Development Plan

This report is composed of the following six (6) chapters:

- Chapter 1: Introduction;
- Chapter 2: Objectives of the Capacity Development Plan;
- Chapter 3: Current Situations of NDF as well as the Counterparts;
- Chapter 4: Goals and Targets of the Capacity Development Plan;
- Chapter 5: Capacity Development Plan of the Counterparts; and
- Chapter 6: Institutional Development Plan for NDF.

In particular, the parts from Chapter 4 to 6 are the core of the capacity development plan, which show the overall frameworks of the plan and concrete measures for enhancement of the capacities of the staff as well as NDF to take over the task of promoting CB-NRM in the target river basins.

2 Objectives of the Capacity Development Plan

2.1 Objectives

The main objective of the capacity development plan is to show a road map to enhance the capacities of the counterparts and NDF to scale up the CB-NRM activities in the target river basins in the post-project period. Specifically, the plan aims to:

- clarify and share with the counterparts the goals and targets of the capacity development plan so that they could envisage their future visions in the post project period and have a sense of ownership of the training curriculum as well as courses;
- enable the counterparts to be capacitated to in a systematic way to achieve the respective goals in the capacity development plan; and
- clarify the necessary support and interventions that the Project can undertake for enhancing the capacity of NDF to promote a CB-NRM mechanism on a village level in the post project period.

2.2 Target Group

The capacity development plan is to target the counterparts of the Project or the members of the MAF Project Team in principle. The members of the MAF Project Team as of the end of May 2013 are listed below.

No.	Name	Position in NDF/MAF	Status in the Project Team
1	Fernando C. Araujo	Head of Department of Reforestation and Agroforestry, NDF	Project Manager
2	Vildito Ximenes	Staff of Watershed Management Section, Department of Reforestation and Soil Conservation, NDF	Central Forestry Officer
3	Mario Alves	Staff of Department of Protection and Forest Resource Management, NDF	Central Forestry Officer
4	Eduardo F. Martins	District Officer in Forestry (DOF) in Ermera District	District Forestry Officer (on-leave)
5	Marcelino Perreira	DOF in Aileu District	District Forestry Officer
6	Francisco Tiliman	Technical Staff in Forestry Section in Aileu District	
7	Joao Roderigues	District Officer in Agriculture and Horticulture (DOAH) in Aileu District	District Officer (Agriculture)
8	Aleixo Mendonca	District Officer in Livestock (DOL) in Aileu District	District Officer (Livestock)
9	Juliao Tilman Suri	District Officer in Coffee, Industrial Plant, and Agribusiness (DOCIPA) in Aileu District	District Officer (Coffee)
10	Almando Mendonca	Forest Guard in Aileu District	Forest Guard
11	Mayus Kling de Jesus	ditto	ditto
12	Benjamin de Suri	ditto	ditto
13	Leonio Martins	ditto	ditto

No.	Name	Position in NDF/MAF	Status in the Project Team
14	Fortunato Pinas	Senior Extensionist	District Officer (Extension)
15	Tobius do Santos	Coordinator of Extensionists in Laulara Sub-district	Coordinator of Extensionists
16	Liberato Mesquita	Coordinator of Extensionists in Remexio Sub-district Extensionist for Faturasa	Coordinator of Extensionists cum Extensionist
17	Amelia Calvalho	Extensionist for Fadabloco and Hautoho	Extensionist
18	Andre Tolo	Extensionist for Tohometa	ditto
19	Carlos dos Santos	Extensionist for Madabeno	ditto
20	Alexio da Silva Cluz	Extensionist for Talitu	ditto

2.3 Timeframe of the Capacity Development Plan

As described in the previous section, the first edition of the capacity development plan was prepared in July 2011 with a training curriculum for each type of counterpart from May 2011 to March 2015. As of the end of May 2013, the JICA Project Team has conducted/arranged a series of technical seminars and OJT in accordance with the training curricula in the capacity development plan. The new plan will, therefore, focus on specifying the training curricula and project interventions to be arranged from May 2013 to March 2015 so that the counterparts and NDF could be the responsible body for promotion of a CB-NRM mechanism in the post-project period.

3. Current Situations of NDF and the Counterparts

3.1 Expected Tasks of NDF and the Counterparts in MAF

3.1.1 Tasks and Functions of NDF

Decree-Law No. 18/2008 specifies the tasks and functions of MAF and its associated national directorates. Major tasks and functions of NDF defined by the decree are summarized below.

- to plan, implement, monitor and evaluate the forestry policy;
- to prepare and implement policies for forest management, wildlife conservation, and non-timber forest products (NTFPs) management;
- to coordinate and support the implementation of the forestry policy;
- to coordinate, gather, and analyze forestry data and information for use in planning and decision making;
- to prepare a national plan for forest management in collaboration with NDPP;
- to ensure and enforce the implementation of forestry legislation and a national forestry management plan;
- to take measures for reforestation and protection of vulnerable forests;
- to promote awareness raising campaigns to conserve forests;
- to promote the prevention and fighting of forest fires and take necessary actions against forest fires;
- to assist in designating forest reserves and national parks with necessary legislation;
- to participate in the preparation of a national plan for water resource management;
- to take measures and oversees the rational use of water resources;

- to ensure the quality of water resources in coordination with other national directorates;
- to prepare manuals on watershed management and agroforestry; and
- to impose sanctions on illegal and destructive activities against forests.

3.1.2 Tasks and Functions of District MAF

The same decree (Decree-Law No. 18/2008) also specifies that the District MAF Office orient, coordinate, and support farmers as well as promote and develop the community-based farming and fishing in the respective jurisdictions.

3.1.3 Major Tasks and Functions of NDF Officers, District Officers, Forest Guards, and Extensionists (Extension Officers)

As the counterparts of the Project are composed of the staff from different offices, their roles and responsibilities that they need to fulfill are basically different from each other as shown below.

Major Roles of the C/Ps

Position	Major Tasks and Functions
Program Manager (Head of Department of Reforestation)	Be responsible for i) planning, implementation, monitoring and evaluation of reforestation and agroforestry programs/projects; ii) management of the budget allocated to the department; iii) operations of the nursery in Maubara; and iv) management and supervision of the staff in the department.
NDF staff	Be responsible for planning, implementation, monitoring and supervision of projects or field activities planned by the associated departments.
DOF/Technical staff of silviculture	Be responsible for planning, implementation, monitoring and supervision of projects or field activities in the concerned districts.
Forest Guard	Be responsible for i) protection of forest-related resources in the concerned districts; and ii) control and regulate illegal exploitation of forest resources in the concerned districts.
Extensionist	Be responsible for i) provision of agricultural extension services to rural communities in the assigned villages and ii) dissemination of information on techniques and projects developed by MAF. Coordinate the implementation of MAF's projects with the relevant national directorates.
Other District officers	Be responsible for planning, implementation, monitoring and supervision of projects or field activities in the respective specific sectors in the concerned districts.

Source: JICA Project Team (2011)

Furthermore, the forest management bill finalized in 2008 also defined the roles and responsibilities of the staff of NDF (Central and District Officers and Forest Guards) as shown below.

- a. to support communities in the development and implementation of Community Forest Management Agreements and the enforcement of community regulations in cooperation and coordination with local authorities;
- b. to enforce and comply with the forest management decree and any other relevant laws, regulations or guidelines; and
- c. to coordinate and cooperate with other government authorities at the district and local levels.

3.2 Assessment of the Capacities of the Counterparts

3.2.1 Results of Training Need Assessment (TNA) Survey conducted in 2011

(1) Assessment of General Capacities of the Counterparts

The results of the self-evaluation survey revealed that all the counterparts who responded

were willing to improve their current skills, although most of them were satisfied with their performance as well as current skill level as compared to their tasks and responsibilities.

Self-evaluation of Gap in their Capabilities

Topics	Answers from C/Ps				
	NDF	DOF*	Other District officers	Forest guards	Extensionists
Willingness to improve skills	Yes	Yes	Yes	Yes	Yes
Matching of roles with qualification and abilities	Bit difficult-Just match	Just match	Just match – Personnel qualification is too high for present work	Too difficult - Just match	Bit difficult – Just match
Level of satisfaction about present performance	Need some improvement-Very satisfactory	Need some improvement-Very satisfactory	Need some improvement-Outstanding	Need some improvement-Outstanding	Fair-Outstanding
Present skill level compared with duties	Bit inadequate - Just enough	Just enough	Just enough	Just enough - More than enough	Just enough - More than enough

Note*: Technical staff of silviculture is included.

Source: JICA Project Team (2011)

Interestingly, the supervisors were not necessarily satisfied with the counterparts' knowledge and their performance. This was probably because the counterparts might not clearly understand their targets in their duties or they might not be given clear guidance on their responsibilities. In fact, it is also commonly observed that a self-evaluation often overestimates his/her performance than what he/she has actually done. Hence the results of the self-evaluation may need to be taken with a grain of salt.

Evaluation of Gap in the Capabilities of Counterparts by Supervisors

Topics	Answer from the Supervisors (SVs) for				
	NDF staff	DFOs	other district officers	Forest Guards	Extensionists
Understanding level of duties/responsibilities	Fair	Fair-Relatively high	Fair	Fair	Fair
Fulfillment level of duties/responsibilities	Fair	Fair-Relatively high	Fair	Fair	Fair
Understanding level of roles and tasks of organization	Relatively low	Fair-Relatively high	Fair	Fair	Fair
Coordination between/among units of the office	Fair	Fair-Relatively high	Fair	Fair	Fair

Source: JICA Project Team (2011)

(2) Educational Background

Three C/Ps, two from NDF and one from DOAH are BSc holders and the rest are just vocational/high school graduates. In addition, only five of them have had more than 5 training courses as of the time when the Project started. Though they have had opportunities to participate in several training courses, most of them were short-term (less than 1 week) and ad hoc.

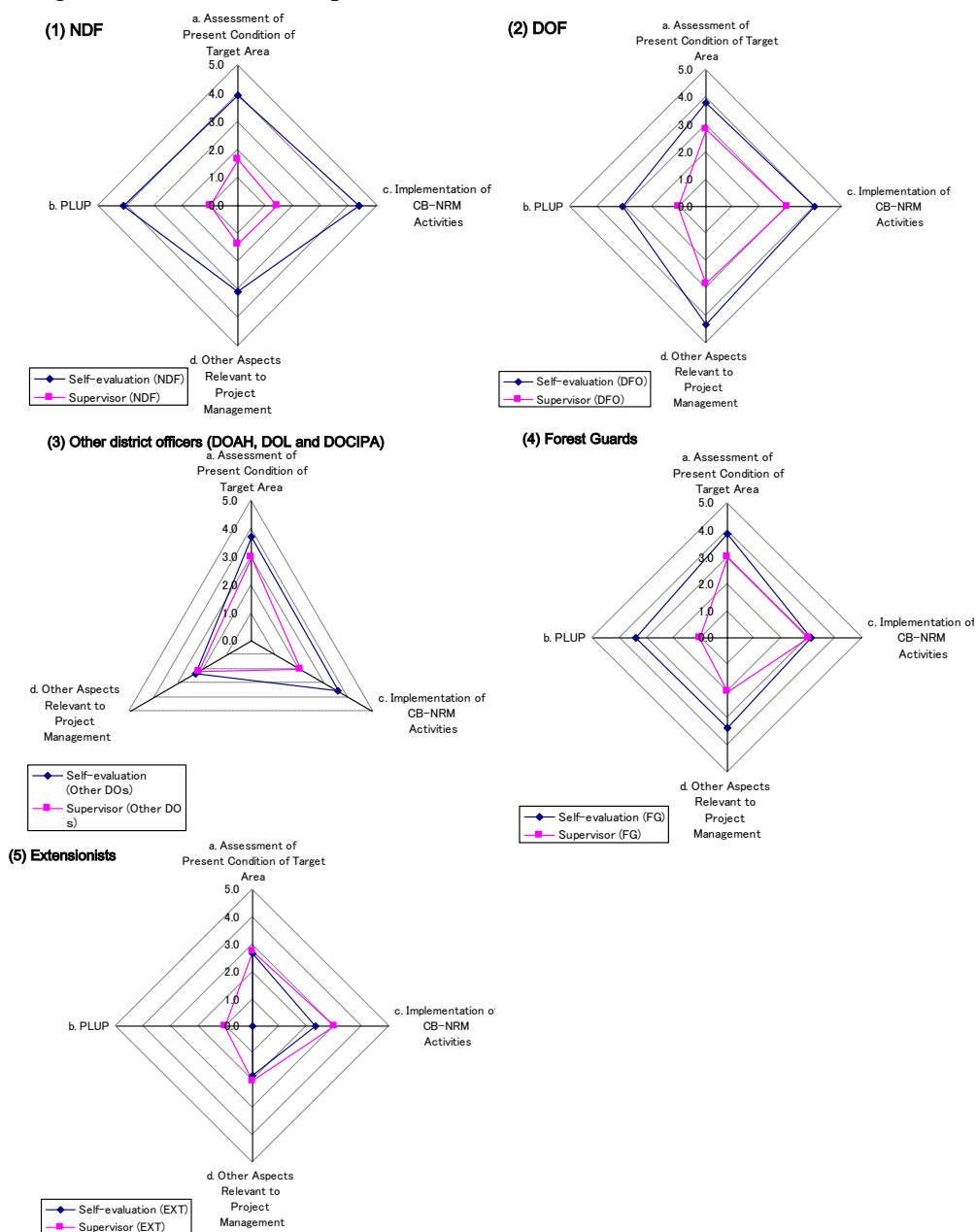
Education level of C/Ps

Education level	Answers from C/Ps				
	NDF	DFO	Other District officers	Forest Guards	Extensionists
<i>Bachelor holders (No. of C/Ps)</i>	2	0	1	0	0
Major in University	1 Agro- forestry, and 1 National Park Management	-	1 Pest Control	-	-
Vocational/high school (No. of C/Ps)	1	3	2	4	6

Source: JICA Project Team (2011)

(3) Assessment of the Capacity to Implement CB-NRM

The counterparts' capacities for implementation of a CB-NRM project/program or a project/program similar in nature to the JICA Project were evaluated in terms of the following four points: i) knowledge and skills on situation analysis of a target area; ii) knowledge and skills on participatory land use planning; iii) knowledge and skills on the implementation of CB-NRM activities; and iv) skills on other matters relevant to project management. The results of the surveys suggested that the counterparts should enhance their skills and knowledge of all the four points for them to implement a CB-NRM project in future. The following diagrams show the gaps between the self-evaluation and supervisors' evaluation of the knowledge level of the counterparts.



Gaps of the Results of Self-evaluation and Evaluation by the Supervisor

More detailed results of the assessment are shown in Attachment-1.

4. Goals of the Capacity Development Plan and Progress of the Plan

4.1 Goals set by the Capacity Development Plan

The following table shows the goals and targets set by the capacity development plan in 2011 for the respective types of the counterparts.

Goals and Targets of the Capacity Development Plan in 2011 for the Respective Counterparts

Counterparts	Specific target of the Capacity Development Plan
Central NDF officers	<ul style="list-style-type: none"> ➤ Enable CPs to prepare a realistic and attractive annual work plan for introduction and promotion of CB-NRM in the target river basins with a proper budget plan. ➤ Enable CPs to provide overall guidance on the concept and mechanism of CB-NRM to the staff in MAF district office/s, forest guards, and extensionists.
District forestry officers	<ul style="list-style-type: none"> ➤ Enable CPs to prepare an annual work plan with a budget plan for implementation of CB-NRM activities in the target sites in line with the work plan prepared by the central office. ➤ Enable CPs to provide guidance on the application of the CB-NRM activities to forest guards, and extensionists. ➤ Enable CPs to orient local communities towards sustainable forest and natural resource management in a participatory manner.
Forest Guards	<ul style="list-style-type: none"> ➤ Enable CPs to function as a facilitator in making a future land use plan with village regulations on a village level. ➤ Enable CPs to help local communities implement a future land use plan and village regulations on a village level. ➤ Enable CPs to coordinate with the district technical officers and extensionists to provide the extension services relevant to the promotion of community-based sustainable natural resource management.
Extensionist	<ul style="list-style-type: none"> ➤ Enable CPs to function as a co-facilitator in making a future land use plan with village regulations on a village level. ➤ Enable CPs to provide extension services, in coordination with the district technical officers, relevant to the promotion of community-based sustainable natural resource management. ➤ Enable CPs to coordinate with the district technical officers to organize a series of hands-on training for local communities on the relevant CB-NRM techniques.
District officers in other technical fields	<ul style="list-style-type: none"> ➤ Enable CPs to help the district forestry officer and forest guards to tackle issues which may hinder local communities from introducing CB-NRM or implementing a future land use plan with village regulations. ➤ Enable CPs to provide technical guidance to local communities in hands-on training on the respective subject matters. ➤ Enable CPs to coach extensionists for provision of the extension services on CB-NRM skills/techniques on a village level.

The premise given for setting up the goals and targets described above was to enable the counterparts to be the field implementers for introduction/promotion of a CB-NRM mechanism on a village level. However, given the limited capacity and insufficient organizational set-up of NDF/MAF for introduction of CB-NRM at present, being the field implementer might not be necessarily a realistic target that the Project should aim at as what the counterparts are supposed to be in the post-project period.

The current framework of the Project, in which the NGOs play a key role in the introduction of a CB-NRM mechanism on a village level, is therefore considered as a realistic model that NDF can follow at least in a few years after the end of the Project. Considering such circumstances, the JICA Project Team revised the goals of the capacity development plan for the respective counterparts to make them more realistic as shown below.

Proposed Goals and Targets of the Capacity Development Plan for the Counterparts

Counterparts	Specific target of the Capacity Development Plan
Central NDF officers	Enable CPs to: <ul style="list-style-type: none"> ➤ prepare a long-term and short-term work plans with budget plans for introduction and scaling up of CB-NRM in the target river basins; ➤ prepare the terms of reference for contracting out the field work to NGO or other contractors; ➤ supervise and evaluate the works of NGOs/contractors and prepare an annual report based on the results of the field works; ➤ provide overall guidance on the concept and mechanism of CB-NRM and technical advice to the staff in MAF district office/s, forest guards, and extensionists;

Counterparts	Specific target of the Capacity Development Plan
	<ul style="list-style-type: none"> ➤ provide local communities guidance on the concepts and mechanism of CB-NRM and orient them towards sustainable forest management; and ➤ provide guidance to NGOs/contractors, forest guards, and extensionists on their roles to play in the framework of CB-NRM.
District forestry officers	<p>Enable CPs to:</p> <ul style="list-style-type: none"> ➤ provide local communities guidance on the concepts and mechanism of CB-NRM and orient them towards sustainable forest management; ➤ prepare an annual work plan with a budget plan for implementation of CB-NRM activities in the target sites in line with the work plans prepared by the central office; ➤ monitor NGOs'/contractors' works in the field, especially the conduct of Participatory Land Use Planning (PLUP) activities and forest and agroforest extension works relevant to CB-NRM in coordination with extensionists; ➤ provide guidance and advice to local communities when they develop their own village regulations with a future land use plan and manage forests and natural resources in the village according to the village regulations; ➤ give technical advice and assistance to extensionists in the provision of forestry and agroforestry extension services, such as seedling production, plantation establishment, agroforestry, and soil and water conservation measures; ➤ perform as a resource person in technical training in the forestry and agroforestry techniques in coordination with extensionists; and ➤ provide guidance to the NGOs/contractors, forest guards, and extensionists on their roles to play in the framework of CB-NRM.
Forest Guards	<p>Enable CPs to:</p> <ul style="list-style-type: none"> ➤ assist Central and District Forestry Officers in the orientation of local communities toward sustainable forest management; ➤ provide guidance and advice to local communities when they develop their own village regulations with a future land use plan and manage forests and natural resources in the village according to the village regulations; ➤ monitor NGOs'/contractors' works in the field, especially the conduct of Participatory Land Use Planning (PLUP) activities and forest and agroforest extension works relevant to CB-NRM in coordination with extensionists; and ➤ assist District Forestry Officers in the provision of technical guidance to local communities on the forestry and agroforestry techniques, such as seedling production, tree planting, soil conservation, and agroforestry in coordination with extensionists.
Extensionist	<p>Enable CPs to:</p> <ul style="list-style-type: none"> ➤ assist NGOs/contractors in the conduct of PLUP and the selection of possible CB-NRM activities; ➤ assist NGOs/contractors in the provision of extension services on the CB-NRM activities, such as the application of sloping agriculture and agroforestry techniques, production of seedlings, planting of seedlings, improvement of crop productivity, and introduction of food processing; ➤ provide local communities extension services on the above-mentioned CB-NRM activities in coordination with the District Technical Officers (Forestry and other fields); and ➤ help local communities manage and protect forest and natural resources in the village according to the village regulations.
District officers in other technical fields	<p>Enable CPs to:</p> <ul style="list-style-type: none"> ➤ give technical advice and assistance to extensionists so that extensionists could provide effective extension services on the relevant subject matters of the respective technical fields; ➤ perform as a resource person in technical training on the CB-NRM techniques related to the relevant subject matter of the respective technical fields in coordination with extensionists; and ➤ Give technical advice to extensionists and local communities in the preparation of a future land use plan in coordination with the District Forestry Officers if necessary.

4.2 Training Courses arranged/organized in 2011 and 2012

4.2.1 Seminar Type Training Courses

The JICA Project Team have arranged and organized the following seminar-type training courses for the counterparts for the last two years in accordance with the training curriculum prepared in 2011.

Seminar-Type Training Courses conducted in 2011 and 2012

Seminar-type Training Courses	Date	No. of Participants
1. Overall concept of CB-NRM	May 26, 2011	11 CPs
	June 18, 2012	14 CPs
2. Concept and overall process of PLUP	June 2, 2011	13 CPs

Seminar-type Training Courses	Date	No. of Participants
3. Procedures for PLUP in the planning phase	June 8, 2011	13 CPs
4. Procedures for PLUP in the implementation phase	July 22, 2011	15 CPs
5. Selection of priority micro programs	October 7, 2011	7 CPs
6. Outlines of the selected micro programs	November 25, 2011	7 CPs
7. Group organization for implementation of micro programs	February 13, 2012	15 CPs
8. Major techniques introduced by the micro programs	June 8, 2012	12 CPs
9. Facilitation skills	October 8, 2012	14 CPs
10. Major techniques and skills of the micro programs	November 9, 2012	13 CPs
11. PRA	January 22, 2013	14 CPs
12. Participatory planning, monitoring, and evaluation	February 11, 2013	13 CPs

Although the training curricula were developed for the respective types of counterparts to achieve their goals mentioned above, the training courses were made open to any counterparts in principle since they usually share their tasks due to a shortage of staff not only in the Project but also in their daily works. As a result, the majority of the counterparts (about 70% of them) have participated in almost all the training courses regardless the relevance of the courses to the respective tasks or expected roles in CB-NRM.

4.2.2 OJT-Type Training Courses

Aside from the seminar type training courses, the counterparts have engaged in i) field monitoring of the project activities (e.g., PLUP and micro programs), ii) conducts of training courses on CB-NRM activities (e.g., seedling production, tree planting, and application of soil conservation measures), and iii) conduct on PRA on a trial basis as part of OJT-type training courses.

4.2.3 Effectiveness of the Training Courses arranged/organized in 2011/2012

In the feedback seminars with the counterparts in December 2012/January 2013, the counterparts evaluated their understanding level on the key topics relevant to CB-NRM reviewing the results of training courses that they have received in 2011 and 2012. The results of the self-assessment are summarized below.

Summary of Self-Assessment made by the Counterparts in the Forestry Sector

Topics	Forest Officers (incl. Forest Guards)	Extensionists (incl. District Officers)
1. Procedures for PLUP		
1.1 Procedures for the preparation of a present land use map	++	+ ~ ++
1.2 Preparation of a future land use map with the rules on land use	++	+ ~ ++
1.3 Review of Tara Bandu regulations in the past	++	+ ~ ++
1.4 Consultation with local communities about draft village regulations	++	+ ~ ++
1.5 Assistance in the enforcement of the village regulations	++	+ ~ ++
2. Implementation of Micro Program		
2.1 SPTPP-MP		
2.1.1. Establishment of a nursery	++ ~ +++	++
2.1.2. Seedbed making	++ ~ +++	++
2.1.3. Filling soils into poly bags	++ ~ +++	++
2.1.4. Transplanting of sprouts into poly bags	++ ~ +++	++
2.1.5. Maintenance of seedlings	++ ~ +++	++
2.2 SUFP-MP		
2.2.1. A-frame making	++ ~ +++	++
2.2.2. Delineation of contour lines using an A-frame	++ ~ +++	++
2.2.3. Application of contour composts	+ ~ ++	++
2.2.4. Application of bench terraces	+ ~ ++	++
2.2.5. Application of alley cropping technique	+ ~ ++	++
2.3 CBSE-MP		
2.3.1. Compost making	n.a.	++
2.3.2. Application of compost	n.a.	++

Topics	Forest Officers (incl. Forest Guards)	Extensionists (incl. District Officers)
2.3.3. Use of improved maize seeds	n.a.	+++
2.3.4. Application of liquid fertilizer	n.a.	++
2.3.5. Post-harvest of maize	n.a.	+++
2.4 IG/LD-MP		
2.4.1. Identification of potential livelihood development options	n.a.	+ ~ ++
2.4.2. Production of dried sweet potato	n.a.	+ ~ ++
2.4.3. Production of herb teas	n.a.	+ ~ ++
2.4.4. Production of salted vegetables	n.a.	+ ~ ++
2.4.5. Clothes making (Use of a sewing machine)	n.a.	+ ~ ++
2.4.6. Recycle bag making	n.a.	+ ~ ++
2.5. Facilitation Skills		
2.5.1. Objectives / Necessity of facilitation skills	+ ~ ++	++
2.5.2. Key elements to be considered before the meeting / workshop	++	++
2.5.3. Effective communication skills	++	++
2.5.4. Important features as a facilitator	++	++
2.5.5. Experience as a facilitator	++	++
3. Project Management		
3.1 Planning	+ ~ ++	n.a.
3.2 Report writing	++	n.a.
3.3 Monitoring	++	n.a.
3.4 Implementation (Management of local communities)	++	n.a.
3.5 Management of the Project	+ ~ ++	n.a.
3.6 Evaluation of the Project	+ ~ ++	n.a.

Remarks: +: Less understanding/Less confident, ++: Partial understanding/Partially confident, and +++: Full understanding/Fully confident

Source: JICA and MAF Project Teams (2013)

The counterparts working in the forestry sub-sector judged that they were able to gain the knowledge of almost all the topics except those related to agriculture and livelihood development, while those working in the other sub-sectors in the District MAF Office in Aileu, such as the District Officers and extensionists, evaluated their understanding level on the topics as partial or insufficient. In general, the counterparts still need to enhance their knowledge on CB-NRM and gain the experience in the application of CB-NRM techniques in the field.

5. Capacity Development Plan

5.1 Revised Framework of the Capacity Development Plan

The JICA Project Team further revised the framework of the capacity development plan on the basis of the revised goals and targets of the capacity development plan for the respective types of counterparts and the results of the training courses organized for the counterparts for the last two (2) years.

(1) Approaches to Capacity Development for the Counterparts

In order to enhance the capacity of C/Ps effectively, a phased approach in accordance with the capacity development phase, namely i) awareness; ii) understanding; and iii) practice, is proposed as a basic principle of the capacity development plan. The aim of the training courses shall vary with the capacity development phase as follows:

- a) Awareness phase: aims to enable C/Ps to get a clear picture of CB-NRM as well as its relevant techniques/skills through seminar-type training courses and field observation of the project activities as part of OJT;

- b) Understanding phase: aims to enable C/Ps to grasp the processes and procedures for introduction/promotion of CB-NRM and the application of techniques/skills relevant to CB-NRM through the involvement of monitoring activities, hands-on training on key CB-NRM techniques, discussions between/among the Project Teams, report making, and introduction of the project activities to other MAF and NDF staff; and
- c) Practice phase: aims to enable C/Ps to practice the techniques/skills and knowledge obtained through the training courses and eventually to fulfill the roles and responsibilities of the respective C/Ps in the implementation of a CB-NRM project/program similar in nature to the Project.

Hence several modes of training composed of Off-JT, OJT, and TOT shall be arranged simultaneously in an effective manner. In the awareness and understanding phases, Off-JT type training is the key methodology to broaden their views, while OJT and TOT are the essential means in the practice phase to deepen their knowledge and enhance their experiences.

(3) Frameworks of Capacity Development Plans for Each Counterpart

The following tables show the frameworks of capacity development plans for the respective types of the counterparts for the Project.

a. Central NDF Staff

Timeframe	Step 1 (Awareness phase)	Step 2 (Understanding phase)	Step 3 (Practice phase)
Aim of Cap Dev	<ul style="list-style-type: none"> ➢ Make C/Ps aware of the overall process of CB-NRM ➢ Make C/Ps aware of the process of introduction of CB-NRM on a village level 	<ul style="list-style-type: none"> ➢ Help C/Ps understand the processes and procedures for implementation of a CB-NRM project. ➢ Help CPs understand how to guide and orient local communities towards sustainable management of forest resources. ➢ Help C/Ps understand how to monitor and supervise the NGOs' activities and provide effective guidance to the NGOs. 	<ul style="list-style-type: none"> ➢ Develop C/Ps' capacity to implement a CB-NRM project in coordination with relevant stakeholders. ➢ Develop C/Ps' capacity to monitor, supervise and evaluate the NGO's/contractor's activities. ➢ Develop C/Ps' capacity to provide technical guidance to other NDF/MAF staff on the process of CB-NRM as well as the forest and agroforestry techniques.
Timing	May 2011 – March 2012	May 2011 – March 2015	May 2013 – October 2015 (to be extended by NDF)
Project Activities related	<ul style="list-style-type: none"> ➢ Regular meetings with JICA Project Team ➢ Guidance/Introductory meetings for MAF/NDF ➢ Technical seminars ➢ OJT in monitoring the project activities 	<ul style="list-style-type: none"> ➢ OJT in monitoring the project activities and making a monitoring report ➢ OJT in helping local leaders manage natural resources using the village regulations ➢ Technical seminars ➢ Regular meetings with JICA Project Team ➢ Guidance/Introductory seminars for the staff of NDF/MAF 	<ul style="list-style-type: none"> ➢ Seminar/workshop on annual planning ➢ Technical guidance for the staff of NDF and MAF (TOT) ➢ OJT in training local communities on the techniques related to the NDF's tasks ➢ OJT in the conducts of PRA and PLUP (Trial application of PRA and PLUP to the neighboring villages)
Responsible bodies	➢ JICA Project Team	<ul style="list-style-type: none"> ➢ JICA Project Team ➢ NGO (Supporter in OJT) 	<ul style="list-style-type: none"> ➢ NDF ➢ JICA Project Team
Target of the Phase	➢ CPs can explain i) the overall concept of CB-NRM and ii) effectiveness of CB-NRM.	<ul style="list-style-type: none"> ➢ CPs can explain: <ul style="list-style-type: none"> - the procedures for PLUP; - the process of selection of effective CB-NRM activities at the village level; - the major CB-NRM techniques related to NDF's tasks and their important points in the application; and - the major activities to monitor 	<ul style="list-style-type: none"> ➢ CPs can: <ul style="list-style-type: none"> - implement a CB-NRM Project with or without contracting-out of the work to a NGO/contractor; - develop an annual work plan with a budget plan for implement a CB-NRM project in the target river basins; and - monitor, supervise and evaluate the works of a NGO/contractor in a

Timeframe	Step 1 (Awareness phase)	Step 2 (Understanding phase)	Step 3 (Practice phase)
		and supervise the NGO's/contractor's works. ➤ CPs can provide guidance and advice to village leaders on the sustainable forest management using the village regulations.	proper manner. ➤ CPs can provide technical guidance to extensionists and forest guards on the process of PLUP and major techniques effective in CB-NRM.

b. District Forestry Officers

Timeframe	Step 1 (Awareness phase)	Step 2 (Understanding phase)	Step 3 (Practice phase)
Aim of Cap Dev	➤ Make C/Ps aware of the overall process of CB-NRM ➤ Make C/Ps aware of the process of introduction of CB-NRM on a village level	➤ Help C/Ps understand the processes and procedures for PLUP and selection of micro programs. ➤ Help C/P understand how to guide and orient local communities towards sustainable management of forest resources. ➤ Help C/Ps understand how to monitor and supervise the NGOs' activities and provide effective guidance to the NGOs.	➤ Develop C/P's capacity to make an annual work and budget plan for the conduct of CB-NRM activities in the district. ➤ Develop C/Ps' capacities to monitor, supervise and evaluate the NGO's/contractor's activities and to prepare a report on monitoring and evaluation. ➤ Develop C/Ps' capacity to provide technical guidance to extensionists and local communities on PLUP and the forestry/agroforestry techniques.
Timing	May 2011 – March 2012	May 2011 – March 2015	May 2013 – October 2015 (to be extended by NDF)
Project Activities related	➤ Regular meetings with JICA Project Team ➤ Guidance/Introductory meetings for MAF/NDF ➤ Technical seminars ➤ OJT in monitoring the project activities	➤ OJT in monitoring the project activities and making a monitoring report ➤ OJT in helping local leaders manage natural resources using the village regulations ➤ Technical seminars ➤ Regular meetings with JICA Project Team ➤ TOT seminars (Presentation / Guidance to other MAF Staff)	➤ Seminar/workshop on annual planning ➤ Technical guidance for the staff of NDF and MAF (TOT) ➤ OJT in training local communities on the techniques related to the NDF 's tasks ➤ OJT in the conducts of PRA and PLUP (Trial application of PRA and PLUP to the neighboring villages)
Responsible bodies	➤ JICA Project Team	➤ JICA Project Team ➤ NGO (Supporter in OJT)	➤ NDF ➤ JICA Project Team
Target of the Phase	➤ CPs can explain i) the process and procedures for introduction of CB-NRM mechanism on a village level and ii) effectiveness of CB-NRM.	➤ CPs can explain: - the procedures for PLUP; - the process of selection of effective CB-NRM activities at the village level; - the major CB-NRM techniques related to NDF's tasks and their important points in the application; and - the major activities to monitor and supervise the NGO's/contractor's works. ➤ CPs can provide guidance and advice to village leaders to assist them in properly using the village regulations.	➤ CPs can: - develop an annual work plan with a budget plan for implement a CB-NRM project in the district; - monitor and supervise the works of the NGO/contractor in a proper manner; and - prepare a report on monitoring of the NGO's/contractor's works. ➤ CPs can provide technical guidance to extensionists, forest guards, and local communities on the process of PLUP and the major techniques on the forestry and agroforestry matters.

c. Forest Guards

Timeframe	Step 1 (Awareness phase)	Step 2 (Understanding phase)	Step 3 (Practice phase)
Aim of Cap Dev	<ul style="list-style-type: none"> ➢ Make C/Ps aware of the importance/effectiveness of CB-NRM and overall process of PLUP 	<ul style="list-style-type: none"> ➢ Help C/Ps understand the processes and procedures for PLUP. ➢ Help C/Ps understand their roles in the enforcement and implementation of the village regulations to protect forest on a village level. ➢ Help C/Ps understand how to monitor and supervise the NGOs' activities. 	<ul style="list-style-type: none"> ➢ Develop C/Ps' capacity to assist the NGO/contractor or District Forestry Officer in the implementation of PLUP. ➢ Develop C/Ps' capacity to assist local leaders in the management and protection of forest and natural resources by using the village regulations. ➢ Develop C/Ps' capacity to monitor the activities of the NGO/contractor and make a monitoring report to NDF.
Timing	May 2011 – March 2012	May 2011 – March 2015	May 2013 – October 2015 (to be extended by NDF)
Project Activities related	<ul style="list-style-type: none"> ➢ Regular meetings with JICA Project Team ➢ Technical seminars ➢ OJT in monitoring the project activities 	<ul style="list-style-type: none"> ➢ OJT in monitoring the project activities and making a monitoring report ➢ OJT in helping local leaders manage natural resources using the village regulations ➢ Technical seminars ➢ Regular meetings with JICA Project Team ➢ TOT seminars (Presentation / Guidance to other MAF Staff) 	<ul style="list-style-type: none"> ➢ OJT in monitoring the project activities and making a monitoring report ➢ OJT in helping local leaders manage natural resources using the village regulations ➢ OJT in the conducts of PRA and PLUP (Trial application of PRA and PLUP to the neighboring villages) with Central NDF Staff and District Forestry Officer
Responsible bodies	<ul style="list-style-type: none"> ➢ JICA Project Team 	<ul style="list-style-type: none"> ➢ JICA Project Team 	<ul style="list-style-type: none"> ➢ NDF ➢ JICA Project Team
Target of the Phase	<ul style="list-style-type: none"> ➢ CPs can explain i) the importance and necessity of CB-NRM and ii) the overall procedures for PLUP (planning and implementing phases). 	<ul style="list-style-type: none"> ➢ CPs can explain: <ul style="list-style-type: none"> - the procedures for PLUP; - the process of selection of effective CB-NRM activities at the village level; and - the major activities to monitor and supervise the NGO's/contractor's works. 	<ul style="list-style-type: none"> ➢ CPs can: <ul style="list-style-type: none"> - monitor and supervise the works of the NGO/contractor in a proper manner; and - prepare a report on monitoring of the NGO's/contractor's works. ➢ CPs can provide guidance and advice to village leaders to assist them in properly using the village regulations.

d. Extensionists

Timeframe	Step 1 (Awareness phase)	Step 2 (Understanding phase)	Step 3 (Practice phase)
Aim of Cap Dev	<ul style="list-style-type: none"> ➢ Make C/Ps aware of the importance of CB-NRM and the overall process of CB-NRM. 	<ul style="list-style-type: none"> ➢ Help C/Ps understand the major techniques effective in CB-NRM and their important points in the application. ➢ Develop C/Ps' capacity to be an assistant for the NGO/contractor in the conducts of training on the CB-NRM techniques. 	<ul style="list-style-type: none"> ➢ Develop C/P's capacity to provide technical guidance and training on the relevant techniques effective in CB-NRM to local communities in coordination with District MAF Officers or the NGO/contractor.
Timing	May 2011 – March 2012	May 2011 – March 2015	May 2013 – October 2015 (to be extended by MAF)
Project Activities related	<ul style="list-style-type: none"> ➢ Regular meetings with JICA Project Team ➢ Technical seminars 	<ul style="list-style-type: none"> ➢ Regular meetings with JICA Project Team ➢ Technical seminars ➢ OJT in providing technical guidance to local communities in coordination with the NGOs. 	<ul style="list-style-type: none"> ➢ OJT in providing technical guidance to local communities in coordination with the NGOs.
Responsible bodies	<ul style="list-style-type: none"> ➢ JICA Project Team ➢ NGO (Supporter in OJT) 	<ul style="list-style-type: none"> ➢ JICA Project Team ➢ NGO (Supporter in OJT) 	<ul style="list-style-type: none"> ➢ MAF ➢ JICA Project Team
Target of the Phase	<ul style="list-style-type: none"> ➢ CPs can explain i) the importance of CB-NRM and ii) major techniques to be introduced on a village level. 	<ul style="list-style-type: none"> ➢ CPs can explain the major techniques effective in CB-NRM and important points in the application. ➢ CPs can assist local communities 	<ul style="list-style-type: none"> ➢ CPs can organize, in coordination with District MAF Officers and/or the NGO/contractor, hands-on training sessions / technical guidance on the key techniques

Timeframe	Step 1 (Awareness phase)	Step 2 (Understanding phase)	Step 3 (Practice phase)
		in the application of the CB-NRM techniques in the individual farms in coordination with the NGO/contractor or District Officer in Aileu District.	effective in CB-NRM, such as seedling production, tree planting, compost making, sloping agriculture, and upland farming.

e. District officers in other technical fields

Timeframe	Step 1 (Awareness phase)	Step 2 (Understanding phase)	Step 3 (Practice phase)
Aim of Cap Dev	➢ Make C/Ps aware of the importance and overall process of CB-NRM on a village level	➢ Help C/Ps understand the key techniques which are effective in CB-NRM and relevant to the respective technical fields. ➢ Make C/Ps aware of their roles in the introduction of CB-NRM on a village level.	➢ Develop C/Ps' capacity to provide training and technical guidance to extensionists and local communities on the key techniques relevant to the respective technical fields.
Timing	May 2011 – March 2012	May 2012 – March 2015	May 2013 – October 2015
Project Activities related	➢ Regular meetings with JICA Project Team ➢ Technical seminars	➢ Regular meetings with JICA Project Team ➢ Technical seminars ➢ OJT in monitoring the project activities	➢ OJT in monitoring the project activities ➢ OJT in providing technical guidance and training to local communities on the key techniques relevant to the respective technical fields in coordination with the NGOs.
Responsible bodies	➢ JICA Project Team ➢ NGO (Supporter in OJT)	➢ JICA Project Team ➢ NGO (Supporter in OJT)	➢ MAF ➢ JICA Project Team
Target of the Phase	➢ CPs can explain i) the importance of CB-NRM, ii) overall process of CB-NRM, and iii) their major roles in CB-NRM.	➢ CPs can explain the major techniques effective in CB-NRM and important points in the application. ➢ CPs can assist the NGO/contractor in the provision of training courses on the techniques effective in CBNRM.	➢ CPs, in coordination with the NGO/contractor, can assist local communities in the application of the key techniques to the individual farms. ➢ CPs can provide to extensionists and local communities technical guidance and training on the key techniques.

5.2 Proposed Training Curricula

(1) Off-JT-Type (Seminar-Type) and TOT-Type Training

The following table shows the training curricula of Off-JT-type and TOT-type training for the counterparts from May 2013 to March 2015.

Summary of Revised Training Curricula of Off-JT/TOT type Training from May 2013 to March 2015

a. NDF Staff, District Forestry Officer, and Forest Guards

Theme	Type of training	Time frame	Target Group
Training Curricula in 2013 (June 2013 – March 2014)			
1) Guidance on Terms of Reference for implementation of the micro programs	Guidance meeting /	1 day in June 2013	Central NDF staff
2) Guidance on work plans of the micro programs	Guidance meeting /	1 day in June 2013	All types of CPs
3) TOT on work plans of the micro programs	Seminar (OJT)	1 day in June 2013	Central and District NDF staff
4) Technical seminar on major techniques introduced by micro programs	Seminar	<u>2 days in June 2013</u>	All types of CPs
5) Technical seminars on facilitation skills	Seminar	1 day in July 2013	All types of CPs
6) Training of trainers on procedures for PLUP (Seminar to other district MAF)	Seminar (OJT)	Half day x 3 times / July 2013 (visiting 3 districts, Ermera, Liquica and Manatuto)	All types of CPs
7) Training of trainers on major techniques introduced by micro programs	Seminar (OJT)	6 days (2days for 1 district) / Oct 2013	Central and District NDF staff

Theme	Type of training	Time frame	Target Group
Training Curricula in 2013 (June 2013 – March 2014)			
8) Feedback seminar for assessment of training activities	Workshop	1 day / Jan 2014	All types of CPs
9) Annual planning workshop	Workshop	1 day / Jan 2014	Central and District NDF staff
Training Curricula in 2013 (May 2014 – March 2015)			
1) Training of trainers on procedures for PLUP (Seminar to other district MAF)	Seminar (OJT)	Half day x 2 times / July 2014	All types of CPs
2) Training of trainers on major techniques introduced by micro programs	Seminar (OJT)	4 days (2 days x 2 times) / Oct 2014	Central and District NDF staff
3) Feedback seminar for assessment of training activities	Workshop	1 day / Jan 2015	All types of CPs
4) Annual planning workshop	Workshop	1 day / Jan 2015	Central and District NDF staff

b. District Officers, Coordinators of Extensionists and Extensionists

Theme	Type of training	Time frame	Target Group
Training Curricula in 2013 (June 2013 – March 2014)			
1) Seminar on work plans of the micro programs	Seminar	1 day in June 2013	All types of CPs
2) Technical seminar on major techniques introduced by micro programs	Seminar	<u>2 days in June 2013</u>	All types of CPs
3) Technical seminars on facilitation skills	Seminar	1 day in July 2013	All types of CPs
4) Training of trainers on major techniques introduced by micro programs	Seminar (OJT)	6 days (2days for 1 district) / Oct 2013	District Officers and Coordinators of extensionists
5) Feedback seminar for assessment of training activities	Workshop	1 day / Jan 2014	All types of CPs
6) Annual planning workshop	Workshop	1 day / Jan 2014	District Officers and Coordinators of extensionists
Training Curricula in 2013 (May 2014 – March 2015)			
1) Training of trainers on major techniques introduced by micro programs	Seminar (OJT)	4 days (2 days x 2 times) / Oct 2014	District Officers and Coordinators of extensionists
2) Feedback seminar for assessment of training activities	Workshop	1 day / Jan 2015	All types of CPs
3) Annual planning workshop	Workshop	1 day / Jan 2015	District Officers and Coordinators of extensionists

Note: The parts underlined were revised by the counterparts.

Source: JICA Project Team (2012)

(2) OJT-Type Training

The following table shows the training curricula of OJT-type training for the counterparts in FY 2013 and FY 2014.

Summary of Revised Training Curricula of OJT type Training for the Counterparts in 2013 and 2014

a. NDF Staff, District Forestry Officer, and Forest Guards

Theme	Type of activity	Time frame	Target Group
Training Curricula in 2013 (June 2013 – March 2014)			
1) Monitoring of the implementation of the micro programs	Monitoring meeting	Once a week from June 2013- March 2014	All types of CPs
2) Monitoring of the field activities of the contractors	Field observation	Once a week from June 2013- March 2014	All types of CPs
3) Assistance to village leaders in the enforcement / implementation of the village regulations	Attendance at the monthly meetings	Once a month from June 2013- March 2014	Central and District NDF staff
4) Provision of technical guidance on the key CB-NRM techniques, i.e., seedling production, tree planting, agroforestry, and soil conservation measures <1	Field application	Once a week during the period when the Japanese Experts are assigned in Dili	All types of CPs
Training Curricula in 2013 (May 2014 – March 2015)			
1) Trial application of PLUP in Suco Fahiso a. Consultation b. Present land use mapping and use of GPS/GIS c. Future land use mapping d. Review of existing regulation e. Development of village regulation	Field application	18 days/ May to Sep 2014	All types of CPs

Theme	Type of activity	Time frame	Target Group
f. Consultation with communities g. Tara Bandu Ceremony			
2) Field facilitation to select micro programs in Fahiso a. Short listing of MPs b. Evaluation c. Selection of priority MPs d. Agreement on scope of MPs	Field application	4days/ Oct to Dec 2014	All types of CPs
5) Monitoring of the implementation of the micro programs	Monitoring meeting	Once a week from May 2014- March 2015	All types of CPs
6) Monitoring of the field activities of the contractors	Field observation	Once a week from May 2014- March 2015	All types of CPs
7) Assistance to village leaders in the enforcement / implementation of the village regulations	Attendance at the monthly meetings	Once a month from May 2014- March 2015	Central and District NDF staff
8) Provision of technical guidance on the key CB-NRM techniques, i.e., seedling production, tree planting, agroforestry, and soil conservation measures <1	Field application	Whenever appropriate, but especially during the period when the Japanese Experts are assigned in Dili	All types of CPs

Note: <1 Detailed OJT plans may be prepared by the respective topics.

Source: JICA Project Team (2012)

b. District Officers, Coordinators of Extensionists and Extensionists

Theme	Type of activity	Time frame	Target Group
Training Curricula in 2013 (June 2013 – March 2014)			
1) Monitoring of the implementation of the micro programs	Monitoring meeting	Once a week from June 2013- March 2014	Coordinators of extensionists
2) Monitoring of the field activities of the contractors	Field observation	Once a week to month from June 2013- March 2014	District Officers and Coordinators of extensionists
3) Assistance to village leaders in the enforcement / implementation of the village regulations	Attendance at the monthly meetings	Once a month from June 2013- March 2014	Extensionists
4) Coordination with the contractor to provide technical guidance on the key CB-NRM techniques, i.e., seedling production, tree planting, agroforestry, and soil conservation measures <1	Field application	Once to twice a week from June 2013- March 2014	Extensionists
5) Provision of technical guidance on the key CB-NRM techniques, i.e., seedling production, tree planting, agroforestry, and soil conservation measures <1	Field application	Whenever appropriate, but especially during the period when the Japanese Experts are assigned in Dili	All types of CPs
Training Curricula in 2013 (May 2014 – March 2015)			
1) Trial application of PLUP in Suco Fahiso a. Consultation b. Present land use mapping and use of GPS/GIS c. Future land use mapping d. Review of existing regulation e. Development of village regulation f. Consultation with communities g. Tara Bandu Ceremony	Field application	18 days/ May to Sep 2014	All types of CPs
2) Field facilitation to select micro programs in Fahiso a. Short listing of MPs b. Evaluation c. Selection of priority MPs d. Agreement on scope of MPs	Field application	4days/ Oct to Dec 2014	All types of CPs
3) Monitoring of the implementation of the micro programs	Monitoring meeting	Once a week from May 2014- March 2015	Coordinators of extensionists
4) Monitoring of the field activities of the contractors	Field observation	Once a week to month from May 2014- March 2015	District Officers and Coordinators of extensionists
5) Assistance to village leaders in the enforcement / implementation of the village regulations	Attendance at the monthly meetings	Once a month from May 2014- March 2015	Extensionists
6) Coordination with the contractor to provide technical guidance on the key CB-NRM techniques, i.e.,	Field application	Once to twice a week from May 2014- March	Extensionists

Theme	Type of activity	Time frame	Target Group
seedling production, tree planting, agroforestry, and soil conservation measures <1		2015	
7) Provision of technical guidance on the key CB-NRM techniques, i.e., seedling production, tree planting, agroforestry, and soil conservation measures <1	Field application	Whenever appropriate, but especially during the period when the Japanese Experts are assigned in Dili	All types of CPs

Note: <1 Detailed OJT plans may be prepared by the respective topics.

Source: JICA Project Team (2012)

5.3 Monitoring / Evaluation of Training

(1) Objectives

The capacity development activities shall be monitored and evaluated periodically in the course of the Project to examine the effectiveness of training courses and revise the curricula for the respective counterparts in response to changes of their capacities as well as circumstances. Specifically, the monitoring of training courses shall aim to:

- a examine the appropriateness of the training courses;
- b examine the participants' understanding of topics/techniques/skills handled by training courses/activities; and
- c assess how far the targets of the capacity development plan can be achieved.

(2) Methodologies of Monitoring and Evaluation

The monitoring and evaluation shall be undertaken at three phases: i) immediate after training courses; ii) at the end of the year; and iii) before the project end. The monitoring immediate after training courses aims to check the appropriateness of training courses, while the purpose of the year-end monitoring is to assess the effectiveness of the training courses arranged in a year and examine the necessity of repeating the same training courses in the following year. The evaluation before the project end aims to assess if the Project can achieve the targets set in the framework of the capacity development plans for the respective counterparts.

Outlines of Monitoring and Evaluation of the Capacity Development Plan

Purpose	Points of monitoring/Indicators	Timing	Method	Evaluation criteria
To evaluate the appropriateness of OFF-JT courses	- Appropriateness of topics handled by training course - Clearness of explanation/presentation of resource person - Understandability of training materials	Upon completion of each Off-JT course	Questionnaire Survey to participants by using a five-point scale scoring	On average, the participants give 4 points on a five-point scale in terms of "appropriateness," "clearness," and "understandability."
To evaluate the participants' understanding of techniques / skills handled by training courses	- Level of understanding of topics/techniques/skills - Level of acquisition of topics/techniques/skills - Effectiveness and efficient of training courses conducted	Once a year (at feedback seminar)	Questionnaire Survey to counterparts by using a three-point scale scoring	On average, the counterparts judge their understanding about the training topics as at least middle on three-point scale.
To evaluate the achievement of the capacity development plan	- Level of achievement of the targets set for the understanding phase in the frameworks of the capacity development plans for the respective counterparts	February 2015	Answer sheet examination survey to counterparts	On average, more than two-third of the counterparts reach the satisfactory level of the evaluation system set by the Project.
	- Level of achievement of the targets set for the practice phase in the frameworks for development of the capacities of the respective types of the counterparts	February 2015	Answer sheet examination survey to supervisors	On average, more than one-third of the counterparts reach the satisfactory level of the evaluation system set by the Project.

The questionnaires and evaluation criteria used for monitoring and evaluation of the training activities will be prepared and developed by the JICA Project Team prior to the conducts of the respective monitoring activities.

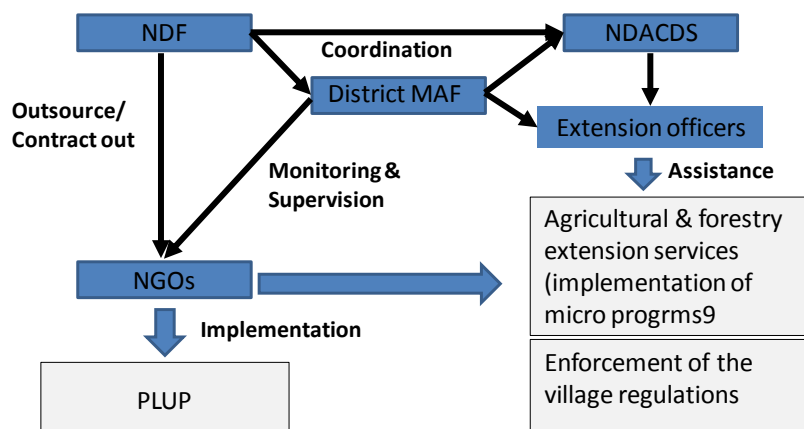
(3) Responsibility for Monitoring and Evaluation

The JICA Project Team has the responsibility of monitoring the capacity development activities conducted by the Project. Those to be conducted in the final evaluation of the Project may be carried out by the joint evaluation team composed of JICA and MAF staff.

6. Institutional Development of NDF

6.1 Institutional Framework for Implementation

Although the capacity of the counterparts could be enhanced through the capacity development activities, it might not be still easy for NDF/MAF to expand the project activities in the target river basins without the enhancement of the institutional capacity of NDF/MAF to do so, as NDF/MAF has no experience in implementing a project similar in nature to the JICA CB-NRM Project so far. In fact, the field works for PLUP and agricultural/forestry extension services may need to be outsourced to NGOs/contractors for the time being since it would be difficult for MAF/NDF to take over such tasks/responsibilities for a few years in the post-project period. The following figure shows the proposed institutional framework for introduction a mechanism on CB-NRM on a village level.



Framework for Introduction of a CB-NRM mechanism on a Village Level

6.2 Project Interventions to Strengthen the Institutional Capacity of NDF

In the course of the Project, the JICA Project has undertaken or will undertake the following interventions to enhance the institutional capacity of NDF to continue and expand the project activities in and around the target villages in the post-project period.

- a. provision of four (4) units of motorbike;
- b. provision of two (2) units of 4WD vehicles;
- c. development of a manual on/procedure for introduction of a CB-NRM mechanism on a village level;
- d. development of a technical manual on the major techniques effective in CB-NRM on

- a village level; and
- e. development of the policy recommendations with a new policy document for promotion of a CB-NRM mechanism in the target river basins.

Although the interventions mentioned above would help NDF take an initiative to promote CB-NRM in the target river basins, the following institutional development activities are still required to enable NDF to gain momentum of the promotion/expansion of CB-NRM in the target river basins.

- a Enactment of the pending Forest Management Bill
- b. Establishment of a new department of Community Forestry or Community-based Forest Management in NDF
- c. Issuance of CBFM/CBNRM sub-policy based on the new policy document for promotion of a CBNRM mechanism, which will be developed by the JICA Project
- d. Authorization of the manual on/procedure for introduction of a CB-NRM mechanism on a village level, which will also be developed by the JICA Project
- e. Budget allocation / external financial support for promotion of a CB-NRM mechanism

Attachment-1

Attachment-1: Results of Training Needs Assessment Survey

1. Introduction

1.1 Background

One of the outputs that the Project for Community-Based Sustainable Natural Resource Management (hereinafter referred to as “the Project”) needs to achieve is to build the capacity of the counterparts (or the members of the Project Team of NDF/MAF) for sustainable natural resource management in a community-based or participatory manner. In order to enhance the capacity of the counterparts effectively and systematically in the course of the Project, a capacity development/training plan needs to be prepared based on the current capacity level of the counterparts. To this end, the needs for training among the counterparts should be assessed and identified.

1.2 Objectives

The main objective of the training need assessment is to identify the skills/techniques/knowledge that the counterparts need to strengthen to introduce and promote community-based natural resource management (CB-NRM) on a village level. Specifically, the assessment aims to:

- a. identify the gaps between the current capacity level of the counterparts and tasks that the counterparts should comply with;
- b. identify skills/techniques/knowledge/subjects to be particularly addressed to enable the counterparts to continue the project activities even after the end of the Project; and
- c. identify the effective methods for capacity development.

1.3 Target Group

This capacity development plan targets the following counterparts.

No.	Name	Position	Status
1	Fernando C. Araujo	Head of Department of Reforestation and Soil Conservation, NDF	Full-time
2	Vildito Ximenes	Staff of Watershed Management Section, Department of Reforestation and Soil Conservation, NDF	ditto
3	Mario Alves	Staff of Department of Protection and Forest Resource Management, NDF	ditto
4	Delfina da Costa Inacio	Staff of Department of Administration and Finance, NDF	ditto
5	Eduardo F. Martins	District Officer in Forestry (DOF) in Ermera District	ditto
6	Marcelino Perreira	DOF in Aileu District	ditto
7	Francisco Tiliman	Technical Staff in Forestry Section in Aileu District	ditto
8	Joao Roderigues	District Officer in Agriculture and Horticulture (DOAH) in Aileu District	ditto
9	Aleixo Mendonca	District Officer in Livestock (DOL) in Aileu District	ditto
10	Juliao Tilman Suri	District Officer in Coffee, Industrial Plant, and Agribusiness (DOCIPA) in Aileu District	ditto
11	Armando Mendonca	Forest Guard in Aileu District	ditto
12	Mayus Kling de Jesus	ditto	ditto
13	Benjamin de Suri	ditto	ditto

No.	Name	Position	Status
14	Leonio Martins	ditto	ditto
15	Fortunato Pinas	Senior Extensionist	ditto
16	Liberato Mesquita	Extensionist for Faturasa	ditto
17	Amelia Calvalho	Extensionist for Fadabloco and Hautoho	ditto
18	Andre Tolo	Extensionist for Tohometa	ditto
19	Carlos dos Santos	Extensionist for Madabeno	ditto
20	Alexio da Silva Cluz	Extensionist for Talitu	ditto

2. Present Capabilities of the Counterparts

2.1 Methodologies of Assessments

Two (2) types of questionnaire survey, namely i) self-assessment by the counterparts and ii) assessment by the supervisors of the counterparts (e.g., Head of Department of Reforestation and Soil Conservation, Senior Extensionist and Chief of technical department of MAF District Office in Aileu and Ermera) were carried out to assess the current capacity level of the CPs from different perspectives. The results of the questionnaire surveys were further supplemented by the literature review of the existing reports/documents on capacity assessment of the offices or staff of MAF.

(1) Questionnaire survey to the Counterparts

All the counterparts were given a set of questionnaire forms and requested to fill in with an instruction on entry of the form. The questionnaires cover the following topics:

- Main duties and/or tasks of the staff
- Education attainment and past training experience
- Self-assessment of competence for the present roles
- Topics/subjects/skills/techniques that the counterparts consider important
- Training methods effective for learning

(2) Questionnaire Survey to the Supervisor

The supervisors of the counterparts were also requested to answer another set of questionnaire forms, which are similar to those for the counterparts but focus on the assessment of the training needs of the counterparts from the supervisors' points of view. Specifically, the questionnaires aim to collect the following information:

- Duties and responsibilities of the counterparts;
- Roles and tasks of the organizations that the counterparts belong; and
- Topics/subjects/skills/techniques to be strengthened by training

The following persons were interviewed for this purpose.

For NDF staff: Mr. Fernando Araujo, Head of Department of Reforestation and Soil Conservation

For District technical officers: Mr. Joao Dos Santos, Director of District MAF in Aileu
Mr. Jose de Deus, Chief of department of technical support in District MAF in Ermera

For Forest Guards: Mr. Oscar M. Paulino, District livestock officer in Aileu
 For Extensionists: Mr. Fortunato Pinas, Senior extensionist in Aileu

2.2 Present Capabilities

2.2.1 Roles and Current Jobs of the Counterparts

As described in Section 1.2, the counterparts for the Project are from different positions and different offices, such as forest officer in the central NDF, district forest officer in the district MAF offices, district technical officer in other sectors in the district office, forest guards, and extensionists. The major roles of the counterparts vary with their positions as tabulated below.

Major Roles of the C/Ps		
Position	Major roles	No. of counterparts (person)
NDF staff	Planning, Implementation of plan/project, and Monitoring and supervision of project or field activities	3
DOF/Technical staff of silviculture	Planning, Implementation of plan/project, and Monitoring and supervision of project or field activities in the concerned district	3
Forest Guard	Protection and patrol works, and Solve issues in the field	4
Extensionist	Implementation of plan/project, Conduct of training services and Provision of extension services	6
Other District officers	Planning, Implementation of plan/project, and Monitoring and supervision of project or field activities in the respective specific sectors in the concerned district	3
Secretarial staff	Collection of statistic data, Management of office budget and Provision of administrative assistance	1
Total No.		20

Source: JICA Project Team (2011)

The counterparts responded that they engaged in all the roles and tasks given to them as their major roles except planning as shown below.

Current Jobs of the Counterparts	
Position	Current Jobs
NDF staff	Administrative affairs and Project Implementation, Monitoring and Evaluation
DOF/Technical staff of silviculture	Project Implementation, Monitoring and Evaluation and Extension
Forest Guard	Protection and patrolling, Implementation, Monitoring and Evaluation
Extensionist	Provision of extension services and training
Other District officers	Project Implementation, Monitoring and Evaluation, and Provision of training
Secretarial staff	Administration and Public relation

Source: JICA Project Team (2011)

2.2.2 Technical Area of the Counterparts

The technical fields of the counterparts also vary with the positions/titles that they are posted in. The following table shows the major expertise of the respective counterparts.

Technical Area of the C/Ps

Position	No. of staff assigned	Category	Answers / No. of staff
NDF staff	3	Watershed management	3/3
		Soil conservation	3/3
		Nursery production	2/3
		Protection/patrolling	1/3
DOF/Technical staff of silviculture	3	Afforestation/reforestation	3/3
		Nursery production	2/3
		Soil conservation	2/3
		Watershed management	1/3
		Protection/patrolling	1/3
DOAH	1	Soil conservation	1/1
		Crops (lowland/paddy)	1/1
		Crops (vegetable)	1/1
DOL	1	Afforestation/Reforestation	1/1
		Nursery production	1/1
		Agroforestry	1/1
DOCIPA	1	Nursery production	1/1
		Coffee/Industrial plants	1/1
Forest Guard	4	Afforestation / reforestation	3/4
		Nursery production	3/4
		Forest protection	3/4
		Community forestry	1/4
		Protection/patrolling	1/4
Extensionist	6	Afforestation / reforestation	2/6
		Nursery production	2/6
		Soil conservation	1/6
		Crops (lowland)	1/6
		Crops (upland)	1/6
		Crops (vegetables)	6/6
		Animal husbandary	5/6
Secretarial staff	1	-	1/1

Note: Plural answers were allowed in this question.

Source: JICA Project Team (2011)

2.3 Overall Assessment of the Capacities of the Counterparts

(1) General Training Needs

The results of the self-evaluation survey revealed that all the counterparts who responded showed their willingness to improve their current skills, although most of them were satisfied with their performance as well as current skill level as compared to their tasks and responsibilities.

Self-evaluation of Gap in their Capabilities

Topics	Answers from C/Ps					
	NDF	DOF*	Other District officers	Forest guards	Extensionists	Secretary
Willingness to improve skills	Yes	Yes	Yes	Yes	Yes	Yes
Matching of roles with qualification and abilities	Bit difficult-Just match	Just match	Just match – Personnel qualification is too high for present work	Too difficult - Just match	Bit difficult – Just match	Just enough

Topics	Answers from C/Ps					
	NDF	DOF*	Other District officers	Forest guards	Extensionists	Secretary
Level of satisfaction about present performance	Need some improvement-Very satisfactory	Need some improvement-Very satisfactory	Need some improvement-Outstanding	Need some improvement-Outstanding	Fair-Outstanding	Very satisfactory
Present skill level compared with duties	Bit inadequate - Just enough	Just enough	Just enough	Just enough - More than enough	Just enough - More than enough	Just enough

Note*: Technical staff of silviculture is included.
Source: JICA Project Team (2011)

Interestingly, the supervisors were not necessarily satisfied with the CPs' knowledge and their performance of their duties. This is probably because they might not clearly understand their targets in their daily work or they might not be given clear guidance on their duties and responsibilities. In fact, it is also common that a self-evaluation often overestimates his/her performance than what he/she has actually done. Hence the results of the self-evaluation may need to be considered with a grain of salt.

Evaluation of Gap in the Capabilities of Counterparts by Supervisors

Topics	Answer from the Supervisor (SV)s				
	SV for NDF	SV for DFOs	SV for other district officers	SV for Forest Guards	SV for extensionists
Understanding level of duties/responsibilities	Fair	Fair-Relatively high	Fair	Fair	Fair
Fulfillment level of duties/responsibilities	Fair	Fair-Relatively high	Fair	Fair	Fair
Understanding level of roles and tasks of organization	Relatively low	Fair-Relatively high	Fair	Fair	Fair
Coordination between/among units of the office	Fair	Fair-Relatively high	Fair	Fair	Fair

Source: JICA Project Team (2011)

(2) Educational Background and History of Training

Three C/Ps, two from NDF and one from DOAH are BSc holders and the rest are just vocational/high school graduates. In addition, only five of them have had more than 5 training courses so far. Though they have had opportunities to participate in several training courses, most of them were short-term (less than 1 week) and ad hoc. The following matrix shows the past training activities that the counterparts have participated in.

Education level of C/Ps

Education level	Answers from C/Ps					
	NDF	DFO	Other District officers	Forest Guards	Extensionists	Secretary
Bachelor holders (No. of C/Ps)	2	0	1	0	0	0
Major in University	1 Agro-forestry, and 1 National Park Management	-	1 Pest Control	-	-	-
Vocational/high school (No. of C/Ps)	1	3	2	4	6	1

Source: JICA Project Team (2011)

Past training activities targeting C/Ps

No. of training courses attended	No. of C/Ps	Topic of training							
		WM /FM	NRM	CF /CP	Other FT	AGR	LVS	Coffee	Others
a. NDF									
3 courses	1	-	-	1	-	-	-	-	2
1 course	2	1	1	-	-	-	-	-	-
b. DOF/Technical staff of silviculture									
5 courses	2	6	1	-	1	1	-	-	1
1 course	1	1	-	-	-	-	-	-	-
c. DOAH									
4 courses	1	-	-	-	-	3	-	1	-
d. DOL									
4 courses	1	-	-	-	-	1	3	-	-
e. DOCIPA									
4 courses	1	-	-	-	-	3	-	-	1
f. Forest guards									
4 courses	1	2	-	1	-	1	-	-	-
3 courses	2	3	1	-	1	-	-	-	1
1 course	1	1	-	-	-	-	-	-	-
g. Extensionist									
6 courses	1	-	-	-	-	3	2	-	1
5 courses	2	1	-	-	-	6	2	-	1
4 courses	2	-	-	-	-	6	2	-	-
3 courses	1	1	-	-	-	2	-	-	-
h. Secretary									
4 courses	1	-	1	-	-	-	-	-	3
Total	20	16	4	2	2	26	9	1	10

Note*: Categories of training courses are: Watershed/Forest management (WM/FM), Community forestry/Community participation (CF/CP), Other forestry techniques (FT), Agriculture (AGR), Livestock (LVS), coffee and others (e.g. environment, computer skill, leadership training, etc.).

Source: JICA Project Team (2011)

Furthermore, the C/Ps consider that the following area shall be strengthened for project management.

Management Skills to be Improved

Category	Answers from C/Ps (No. of answers/Total No. of C/Ps by position)					
	NDF	DOF	Other District officers	Forest guards	Extensionists	Secretary
a. Data collection	1/3	2/3	1/3	-	2/6	1/1
b. Data analysis	1/3	3/3	1/3	1/4	-	-
c. Planning	3/3	2/3	1/3	-	2/6	-
d. Training /Extension service	2/3	-	2/3	2/4	6/6	-
e. Monitoring	1/3	1/3	1/3	2/4	2/6	1/1
f. Evaluation	-	-	-	1/4	1/6	1/1
g. Report Making	-	-	1/3	3/4	2/6	1/1

Source: JICA Project Team (2011)

The table above suggests that:

- the C/Ps from NDF and technical officers in the MAF district office may lack the holistic assessment skills in addition to the experiences in training and field extension services;
- extensionists and forest guards lack the experiences in training/extension services and monitoring and evaluation of the project; and

c. likewise, extensionists and forest guards have difficulty in making a report.

2.4 Assessment of the Capacity to Implement CB-NRM

The CPs' capacity to implement CB-NRM activities were assessed in terms of two aspects, i.e., a) implementation of CB-NRM and b) technical skills required for CB-NRM.

2.4.1 Implementation of CB-NRM Project/Activity

The capacity for implementation of CB-NRM projects/activities was evaluated by assessing the CPs' knowledge of the proposed procedures for introduction of CB-NRM, namely, i) assessment of present condition of target area, ii) participatory land use planning (PLUP), iii) implementation of the CB-NRM activities and iv) other aspects relevant to project management. As mentioned in section 2.1, the evaluation was made on the basis of the results of self-assessment and supervisors' ones.

(1) Result of self-evaluation

Table 1 shows the result of the CPs' self-assessment of the capacity for assessment of the present condition of target area. Its summary is given below.

**Capacity Gaps of C/Ps in Implementation and Management of CB-NRM Project/Activity
(Self-Assessment)**

Question	Rating by C/Ps*1				
	NDF	DOF	Other DOs	FG*2	EXT*3
a. Assessment of Present Condition of Target Area					
1. Have you ever engaged in participatory rural appraisal (PRA) before?	5.0	3.3	5.0	4.0	3.0
2. Do you think PRA is a useful tool for your tasks?	5.0	5.0	5.0	5.0	4.0
3. How do you evaluate your abilities to do the following?					
3 (1) Use of PRA tools/methods at suco level	3.0	3.7	1.6	3.2	1.8
3 (2) Assessment of present condition on the topics related to your technical field at suco level	3.7	3.0	4.0	3.6	2.2
3 (3) Identification of causes and necessary measures related to your technical field at suco level	3.0	3.9	2.9	3.4	2.4
Average score of a.	3.9	3.8	3.7	3.8	2.7
b. PLUP					
1. Do you think that the assistance in development of a future land use plan and village regulations at suco level is related to your tasks?	5.0	3.3	-	4.0	-
2. How do you evaluate your abilities to conduct activities relevant to PLUP?	3.2	2.8	-	2.8	-
Average score of b.	4.1	3.1	-	3.4	-
c. Implementation of CB-NRM Activities					
1. Do you think that CB-NRM activities (or activities conducive to the achievement of a future land use plan and village regulations) are important for sustainable management of forest and other natural resources at suco level?	5.0	5.0	-	-	-
2. How do you evaluate your abilities on selection and planning of the micro-programs of CB-NRM?	4.1	3.1	-	-	-
3. Do you know the Field Farmers School?	-	-	5.0	-	-
4. Have you ever prepared a training plan of the Field Farmers School?	-	-	5.0	-	-
5. How do you evaluate your implementation skills of the community-based activities in your technical field?	-	-	3.2	3.1	2.3

6. Do you think if monitoring and evaluation of CB-NRM activities with local communities at suco level is important for sustainable management of forest and other natural resources?	5.0	5.0	-	-	-
7. How do you evaluate your skill in terms of monitoring and evaluation of the community-based activities?	3.2	2.8	-	-	-
8. How do you evaluate your skills of training management?	-	-	1.0	-	-
Average score of c.	4.3	4.0	3.6	3.1	2.3
d. Other Aspects Relevant to Project Management					
1. Do you think that the coordination with other stakeholders (e.g., NGOs, other government directorates/ministries, any other institutes) that would support sustainable forest and natural resource management at suco level?	3.3	5.0	-	-	-
2. How do you evaluate your abilities of identification of and coordination with the stakeholders in your works?	3.2	3.9	1.0	-	-
3. Have you ever prepared an annual work plan with a budget plan for your own unit for annual budget making?	1.7	5.0	5.0	-	-
4. How do you evaluate your ability to prepare an annual work plan with a budget plan for budget making of MAF/NDF?	2.7	3.7	1.0	-	-
5. How do you evaluate your ability on report making?	-	-	-	3.6	1.3
Average score of d.	3.0	4.3	2.3	3.4	1.8

* Note 1: Number is corresponding to the capacity level, 1 is the lowest while 5 is the highest.

2. FG: forest guard

3. EXT: extensionist

Source: JICA Project Team (2011)

The self-evaluation suggested that:

- most of the C/Ps except extensionists seemed to be satisfied with their knowledge and ability to implement the CB-NRM activities in general;
- C/Ps from DOAH, DOL and DOCIPA and extensionists seemed to realize their difficulties in applying PRA methods/tools in the field;
- CPs from NDF, DOF and forest guards judged that their knowledge on the participatory land use planning was fair although most of them had no experience in the participatory land use planning so far;
- The district technical officers in other sectors recognized their insufficiency of their capacity for training management; and
- CPs in general considered themselves rather incapable of preparing the annual work plan with a budget plan.

(2) Result of evaluation by supervisors

The results of evaluation by their supervisors are summarized below.

**Capacity Gaps in Assessment in Implementation and Management of CB-NRM Project/Activity
(Supervisor)**

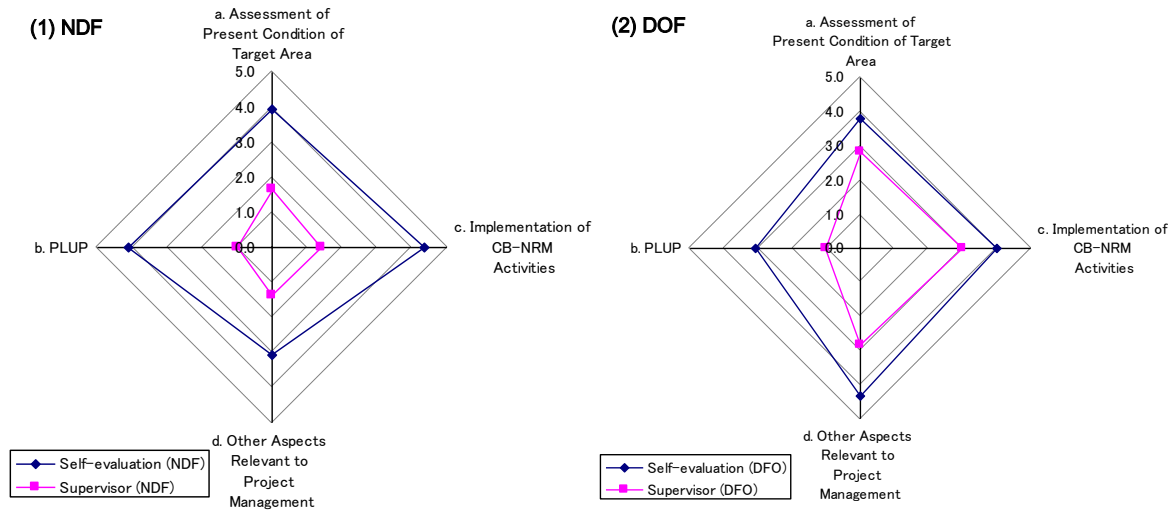
Question	Rating by Supervisor (SV) s				
	SV for NDF	SV for DOF	SV for other DO	SV for FGs	SV for EXTs
a. Assessment of Present Condition of Target Area					
1. How do you evaluate your staffs/subordinates' capacities for the following matters relevant to project management in general?					
1 (1) Assessment of present condition on the topics related to their technical field at suco level	1.0	2.5	3.0	3.0	2.0
1 (2) Assessment of present condition on the topics related to their technical field at suco level	2.0	2.5	3.0	3.0	3.0
1 (3) Identification of casuese and necessary measures related to	2.0	3.5	3.0	3.0	3.0

their technical field at suco level					
1 (4) Provision of the technical information which can help the communities to solve the issues mentioned above	-		-	-	3.0
Average score for a.	1.7	2.8	3.0	3.0	2.8
b. PLUP					
1. Skills and knowledge on implementation of PLUP	1.0	1.0	-	1.0	1.0
Average score for b	1.0	1.0	-	1.0	1.0
c. Implementation of CB-NRM Activities					
1. Participatory planning of a community-based project or activities (Preparation of a work plan of a community-based project in a participatory manner at suco level)	1.0	3.0	2.0	3.0	-
2. Designing of demonstration plots	-	-	-	-	3.0
3. Facilitation of community participation in the project activities	1.0	3.0	2.0	3.0	
4. Provision of technical guidance or extension services to local communities	2.0	3.0	2.0	3.0	3.0
5. Assistance to the communities in replicating the techniques introduced by the training in their own farms	-	-	-	-	3.0
6. Participatory monitoring of a community-based project (Monitoring of a community-based project in a participatory manner at suco level)	2.0	3.0	2.0	-	-
7. Participatory evaluation of a community-based project (Evaluation of a community-based project in a participatory manner at suco level)	1.0	3.0	2.0	-	-
Average score for c	1.4	3.0	2.0	3.0	3.0
d. Other Aspects Relevant to Project Management					
How do you evaluate your staffs/subordinates' capacities for the following matters relevant to project management in general?					
1. Coordination with MAF district office to take necessary measures at suco level	1.0	-	-	-	-
2. Selection of NGOs/other external organizations to implement a community-based project	1.0	-	-	-	-
3. Preparation of an integrated watershed management plan	1.0	-	-	-	-
4. Preparation of a work plan with a budget plan of the necessary activities	1.0	3.0	2.0	-	-
5. Monitoring of the project activities with preparation and submission of the reports	2.0	3.0	2.0	-	-
6. Determination of criteria/standards for evaluation of a community-based project	1.0	3.0	2.0	-	-
7. Evaluation of the performance of the NGOs hired for a community-based project	1.0	-	-	-	-
8. How do you evaluate your staffs/subordinates' skills in/knowledge of the following matters:					
8 (1) Computer skills	2.0	3.0	2.0	-	-
8 (2) Use of GIS	2.0	-	-	-	-
8 (3) Updated technologies in the advanced country	2.0	3.0	2.0	-	-
8(4) International trends in forest and natural resource management	1.0	-	-	-	-
8 (5) Use of PRA tools/method at suco level	-	-	3.0	2.0	2.0
8(6) Report making	-	2.0	2.0	2.0	2.0
8 (7) Prevention of forest fire	-	-	-	2.0	-
8(8) Forest protection in coordination/cooperation with communities	-	-	-	2.0	-
8 (9) Initial fire extinction	-	-	-	2.0	-
Average score for d	1.4	2.8	2.1	2.0	2.0

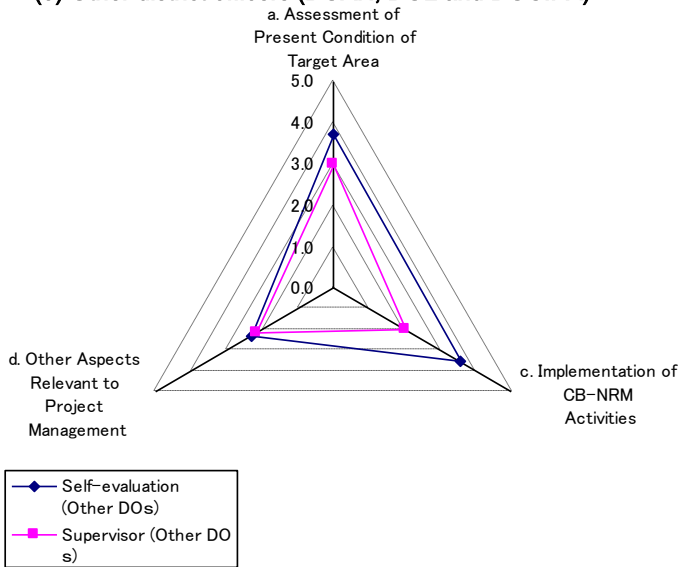
* Number is corresponding to the capacity level, 1 is the lowest while 5 is the highest.

Source: JICA Project Team (2011)

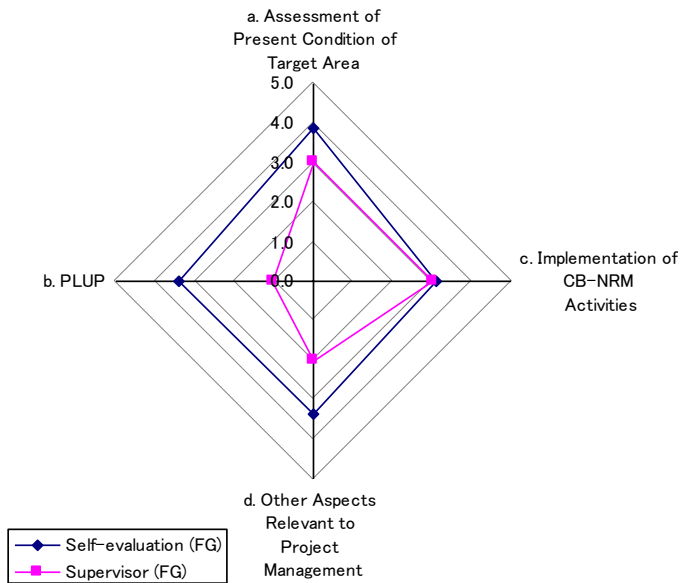
The results reveal that the supervisors consider that the capacities of the counterparts still need enhancing in most of the aspects in contrast of the results of the self-evaluation. The following charts show the gaps between the self-evaluations and those made by the supervisors.



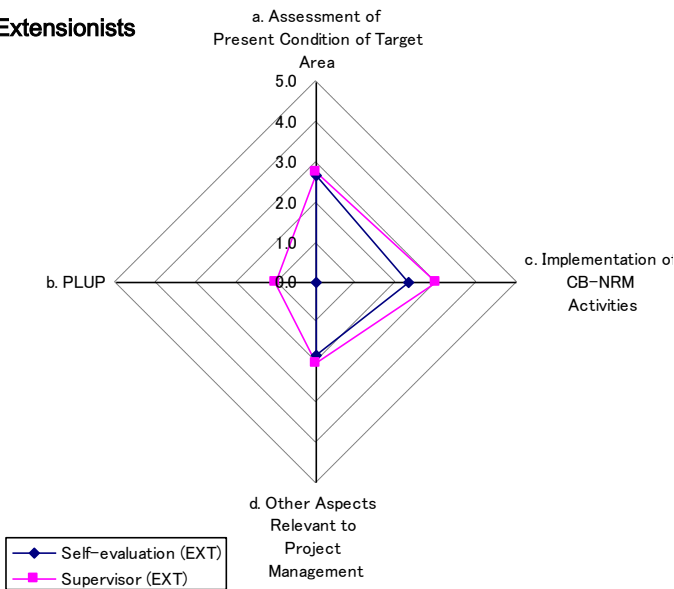
(3) Other district officers (DOAH, DOL and DOCIPA)



(4) Forest Guards



(5) Extensionists



Gaps of results of Self-evaluation and Evaluation by the Supervisor

The supervisors do not evaluate the skills and knowledge as high as the counterparts themselves do. In fact, they judge that their subordinates need to improve almost all the skills/techniques needed for implementation of a CB-NRM project. In particular, the following aspects should be emphasized.

- participatory land use planning especially for NDF, DOF and forest guards
- project management for all the counterparts

2.3.2 Technical Skills Required for CB-NRM

The CP's understanding level/technical skills on 1) the respective technical fields and 2) community facilitation were also assessed.

(1) Technical field of C/Ps

The results of self-evaluation and evaluation by the supervisors of the CP's knowledge/understanding level of the technical fields are summarized below.

Capacity Gaps of C/Ps in Technical Skills Required for CB-NRM (Technical field of C/Ps)

Question	Rating by C/Ps*1			Rating by Supervisors		
	NDF	DOF	Other DOs	NDF	DOF	Other DOs
1. Forestry	3.0	3.4	-	3.0	3.0	-
2. Agriculture	-		1.6	-	-	2.1
3. Livestock management	-		4.9	-	-	3.0
4. Coffee and industrial crops	-		3.7	-	-	2.1
5. Livelihood development relevant to their specialty of C/Ps	2.6	3.0	1.0	1.3	3.1	2.5

* Number is corresponding to the capacity level, 1 is the lowest while 5 is the highest.

Source: JICA Project Team (2011)

The results mentioned above indicate that:

- the counterparts from NDF and DOF seem to have knowledge on and experience in conventional forestry techniques, such as nursery development, seedling production, and plantation establishment;
- nevertheless, they may lack in experiences in livelihood development and possibly other new techniques to be implemented by the Project; and
- the knowledge of the district technical officer in Agriculture and Coffee and Industrial Crops are considered insufficient in the respective technical field by their supervisor.

(2) Community Participation

The results of evaluation of the capacity of C/Ps for community participation are summarized below.

Capacity Gaps of C/Ps in Community Facilitation

Position of C/Ps	Evaluation on Community Participation	
	Self-evaluation	Supervisor's evaluation
NDF	2	2
DOF	3	3
Other District Officers	3	2.5
Forest Guards	3.6	2
Extensionists	1.8	2

Source: JICA Project Team (2011)

The C/Ps from NDF and extensionists seemed to be not satisfied with their capacity to facilitate community participation, while the other counterparts considered that they had sufficient capacity to do so. However, the supervisors considered their facilitation skills still insufficient, especially for NDF, forest guards and extensionists.