

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
Phase II**

**CBNRM Roadmap
(2nd Draft)**

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International Development Center of Japan Inc.

Nippon Koei Co., LTD

2.7.2	MAF Development Partners (MAF DPs)	2-23
2.7.3	Key Issues identified.....	2-25
2.7.4	Potentials to Implement the Roadmap	2-26
2.7.5	Possible Linkages suggested by the Stakeholder Analysis	2-26
Chapter 3	Evaluation of the Watersheds	3-1
3.1	Process of the Evaluation.....	3-1
3.1.1	Evaluation Criteria	3-1
3.1.2	Overall Process of the Evaluation.....	3-1
3.1.3	Rating for the Evaluation	3-2
3.1.4	Data used for the Evaluation.....	3-3
3.2	Results of the Evaluation and Prioritization of the Watersheds	3-3
3.2.1	1 st Step: Evaluation of the Importance of the Watersheds	3-3
3.2.2	2nd Step: Evaluation of the Priority of the Watersheds	3-4
3.3	Profiles of the Priority Watersheds	3-6
Chapter 4	Overall Framework of the CB-NRM Mechanism	4-1
4.1	Objectives	4-1
4.2	Scope of the Work and Key Steps in the Process	4-1
4.2.1	Scope of the CB-NRM Mechanism	4-1
4.2.2	Overall Process	4-2
4.2.3	Implementation Procedures for the Establishment of the CB-NRM Mechanism	4-3
4.3	Expected Outputs of the CB-NRM Mechanism	4-3
4.4	Time Frame of the Processes	4-3
Chapter 5	Goal, Objectives and Strategies of the Roadmap.....	5-1
5.1	Major Issues and Opportunities in the Formulation of the Roadmap.....	5-1
5.1.1	Major Issues	5-1
5.1.2	Important Opportunities.....	5-1
5.2	Goal and Objectives of the Roadmap	5-2
5.2.1	Goal.....	5-2
5.2.2	Objectives of the Roadmap.....	5-2
5.3	Key Strategies to Achieve the Objectives of the Roadmap	5-3
Chapter 6	Action Plan of the Roadmap	6-1
6.1	Target Sucos and Time Frame of the Action Plan.....	6-1

6.1.1	Target Sucos	6-1
6.1.2	Time Frame of the Action Plan	6-2
6.2	Key Components of the Action Plan.....	6-2
6.3	Action Plan	6-4
6.3.1	Structure of the Action Plan of the Roadmap	6-4
6.3.2	Component 1: Expansion of the CB-NRM Mechanism	6-4
6.3.3	Component 2: Development of Watershed Management Mechanism.....	6-7
6.3.4	Component 3: Implementation of Community Forestry and Promotion of Sustainable Forest Management	6-10
6.3.5	Component 4: Public Awareness Raising	6-13
6.3.6	Component 5: Institutional and Capacity Development.....	6-17
6.3.7	Component 6: Program Management and M&E	6-20
Chapter 7	Mechanism and Institutional Framework for Implementation of the Roadmap	7-1
7.1	Implementation Mechanism	7-1
7.1.1	Prioritization of Post-Administratives in the Watersheds	7-1
7.1.2	Implementation Schedule of the Action Plan.....	7-2
7.1.3	Implementation Methods	7-3
7.1.4	Procurements necessary for Implementation	7-4
7.2	Institutional Framework for Implementation of the Action Plan.....	7-5
7.2.1	Organizational Set-ups for Implementation.....	7-5
7.2.2	Roles and Responsibilities of the Relevant Organizations	7-6
7.3	Financial Arrangements	7-8
Chapter 8	Estimation of Indicative Cost	8-1
Chapter 9	Proposed Monitoring Indicators/Milestones	9-1

List of Tables

Table 2-1	Area Distribution of Nine Types of Forests and Vegetation Covers in the 13 Municipalities.....	T-1
Table 2-2	Detailed Data of Major Stakeholders.....	T-2
Table 3-1	General Features of the 29 WatershedsT	T-9
Table 3-2	Results of the Assessment for Evaluation of the 29 Watersheds	T-14
Table 6-1	Activities and Procedures for Development of Watershed Management Mechanism	T-15
Table 6-2	Sucos with More Than 200 ha of the Dense Important Forests in the 14 Watersheds	T-16
Table 7-1	Results of Prioritization of the Post-Administratives	T-18
Table 7-2	Lists of Suco belonging to the High Priority Post-Administratives	T-19

List of Figures

Figure 2-1	Distribution of Sucos supported by the DPs	F-1
Figure 2-2 (1)	Activities by Development Partners (Afforestation/Reforestation).....	F-2
Figure 2-2 (2)	Activities by Development Partners (Sustainable Agriculture)	F-3
Figure 2-2 (3)	Activities by Development Partners (Farmer Managed Natural Regeneration).....	F-4
Figure 2-2 (4)	Activities by Development Partners (Horticulture or Home Garden) ...	F-5
Figure 2-2 (5)	Activities by Development Partners (Livelihood Improvement).....	F-6
Figure 2-2 (6)	Activities by Development Partners (Livestock)	F-7
Figure 2-2 (7)	Activities by Development Partners (PLUP)	F-8
Figure 2-2 (8)	Activities by Development Partners (Alternative Energy)	F-9
Figure 2-2 (9)	Activities by Development Partners (Climate Vulnerability Assessment)	F-10
Figure 2-2 (10)	Activities by Development Partners (Climate Vulnerability Assessment)	F-11
Figure 2-2 (11)	Activities by Development Partners (Community Based Adaptation) ..	F-12
Figure 4-1	Proposed Standard Schedule for Establishment of the CBNRM Mechanism.....	F-13
Figure 7-1	Tentative Implementation Schedule of the Roadmap	F-14

List of Appendixes

- Appendix 2-1 Gap Analysis based on the Current MAF DPs' Activities in the Important Watersheds
- Appendix 4-1 Key Activities in the Process and Procedures for Establishment of the CBNRM Mechanism at Suco Level

1. Introduction

1.1 Background

Forests in Timor-Leste have important values as they function as i) sources of food, firewood, timbers, and medicinal plants, ii) habitats of wildlife, iii) catchment of water, and iv) places for cultural ceremonies. However, deforestation and forest degradation have progressed over decades due to frequent forest fires, over harvesting of firewood and timber, conversion of forests into farmlands, and over grazing of livestock animals. The recent study made in 2013¹ revealed that the situations had gotten rather worse recently, reporting that approximately 184,000 ha of forest had disappeared between 2003 and 2012 and approximately 170,000 ha of dense forest had been converted into sparse forests for the same period. The same study indicated that the total area of forests in Timor-Leste in 2012 was approximately 869,000 ha, which accounted for about 60 % of the national land.

Community-based Natural Resource Management (CB-NRM) is an approach to sustainable management of forest and other forest-related resources (e.g., lands and water) balancing with improvement of local livelihoods. One of the most remarkable features of CB-NRM is to empower local communities to use and manage forests and other natural resources in the localities. In fact, community-based forest management is proposed as one of the key strategies/actions for achieving sustainable forest management in the National Forest Sector Policy in 2008 as well as the Forest Policy Law in 2016.

Japan International Cooperation Agency (JICA) has assisted the Ministry of Agriculture and Fisheries (MAF), particularly the National Directorate of Forest and Watershed Management (NDFWM) under the General Director of Forest, Coffee, and Industrial Plans (GDFCIP) in the promotion of the CB-NRM approach on the ground to reduce deforestation and forest degradation in the country, especially in hilly and mountainous areas, since 2005. The JICA and MAF Joint Project named the Project for Community-Based Sustainable Natural Resource Management (hereinafter referred to as “the CB-NRM Project”) developed the methodology for establishment of an effective and operational village-level mechanism of community-based natural resource management (hereinafter referred to as “the CB-NRM Mechanism”) in 2015 after field trials in several sucos in the Lacle and Comoro watersheds. Since then, the CB-NRM mechanism has been introduced in about 20 sucos in the country (as of May 2018) in collaboration with DGFCIP as well as some international agencies working in the agriculture and forestry sectors in Timor-Leste.

Because of its effectiveness and applicability to the socio-economic and cultural context of Timor-Leste, GDFCIP intends to mainstream the CB-NRM mechanism as a standard operating procedure for forest management and watershed conservation in Timor-Leste. It is also commonly understood that the CB-NRM mechanism could be the basis for community forestry or community-based forest management, which is expected to be the legal instrument for sustainable forest management in Timor-Leste as stipulated in the Forest Policy Law enacted in 2016.

In this connection, the GoTL/MAF and JICA started the second phase of the JICA-MAF CB-NRM Project (hereinafter referred to as “the CB-NRM Phase II Project”) with a mutual

¹ The National Forest Conservation Plan drafted by the Consultant from JICS (2013)

agreement to assist GDFCIP, especially NDFWM, in the development of a roadmap for expansion of the CB-NRM mechanism in the important watersheds in the country. Since 2016, a taskforce/working team composed by key officials of GDFCIP, namely national directors and heads of technical departments of NDFWM, NDNC, and NDCIP under GDFCIP, has had a series of discussions and analyses and developed the 2nd draft of the roadmap with technical assistance from the CB-NRM Phase II Project in April 2019.

1.2 Objectives of the Roadmap

The main objective of the roadmap is to guide NDFWM/NDNC/NDCIP and other relevant stakeholders in the forest and agriculture sectors toward sustainable forest management in the important watersheds effectively using the CB-NRM mechanism in a strategic and systematic manner. Thus, the roadmap specifically aims to:

- a. assess the current status of CB-NRM in Timor-Leste to identify gaps in policy, legislation, capacities, systems/tools, and financial mechanism for mainstreaming CB-NRM as a key methodology for sustainable watershed management,
- b. clarify the goals and targets (milestones) that the GoTL needs to achieve in the next 10 years;
- c. give basic strategies for rolling out the CB-NRM mechanism in the major important watersheds in Timor-Leste;
- d. enumerate and align relevant activities and interventions undertaken by the GoTL, MAF development partners and/or NGOs in the major important watersheds;
- e. identify necessary actions to be taken for expansion of the CB-NRM mechanism for sustainable watershed management in an efficient and effective manner; and
- f. propose an implementation plan of the proposed actions/interventions with a time schedule, indicative cost estimates, and an institutional framework for implementation, and roles/responsibility of the relevant stakeholders.

1.3 Scope of Work of the Taskforce/Working Team of GDFCIP

In May 2017, GDFCIP officially formed a taskforce/working team composed of the following members in accordance with the the GDFCIP's instruction (Ref.: 274/DGFCIP-MAP/V/2017), so as to draft and develop the roadmap on its initiative.

Team Director:	General Director of Forest, Coffee, and Industrial Plants
Team Leader:	National Director of NDFWM
Advisors:	National Directors of NDNC, and NDCIP
Secretariat cum members:	Experts of the JICA Project Team
Team Coordinators:	Head of Department of Watershed and Coastal Management, NDFWM (Main)
	Head of Department of Reforestation and Soil and Water Conservation, NDFWM (Acting Coordinator)
Members:	Heads of other technical departments of NDFWM, NDNC, and NDCIP
Observers:	Members of the MAF Project Team

The taskforce/working team has had a series of meetings since October 2016 to conduct assessments and analyses and develop a key strategic plan for expansion of the CB-NRM

mechanism. The following table shows the work schedule of the Taskforce/Working Team of GDFCIP.

Work Schedule of the Working Team

Meeting	Timing	Objectives
1 st kick-off meeting	Oct. 2016	Introduction of CBNRM and Roadmap Formation of a taskforce and working team
2 nd kick-off meeting	Feb. 2017	Same as above
3 rd meeting	Mar. 2017	CB-NRM study tour
4 th meeting	May. 2017	Work plan of the working team Outline / Skelton of the roadmap
5 th meeting	July 2017	Situation analysis Stakeholder analysis and existing CB-NRM-related activities
6 th meeting	Oct./Nov. 2017	Assessment of policy and legislative framework
7 th meeting	Feb. 2018	Evaluation of the watersheds
8 th meeting	May 2018	Goals and objectives Key strategies for expansion of CB-NRM
9 th meeting	Aug. 2018	Action plan for expansion of CB-NRM
10 th meeting	Nov. 2018	Institutional set-ups and indicative cost Monitoring and evaluation
11 th meeting	Feb. 2019	Draft Roadmap
12 th meeting	May. 2019	Preparation for consultation meetings
-	Jun-Oct. 2019	Consultations with relevant stakeholders
13 th meeting	Oct. 2019	Revision of the roadmap
14 th meeting	Jan. 2020	Finalization of the roadmap

Source: JICA Project Team (2018)

1.4 Composition of the Roadmap

The draft roadmap is composed of a total of nine (9) chapters. After introduction of the background and outline of the roadmap in Chapter 1, the current situations of the forest sector in Timor-Leste is analyzed and major drivers of deforestation and forest degradation are identified in Chapter 2. In Chapter 3, the existing watersheds in the country (191 watersheds) are evaluated for selection of important watersheds. The CB-NRM mechanism with its effects is outlined in Chapter 4. Chapter 5 indicates the goal, objectives, and strategies of the roadmap, followed by Chapter 6 which describes necessary actions and interventions for rolling out the CB-NRM mechanism in the important watersheds. Chapter 7 proposes the institutional framework and mechanism for implementation of the roadmap, and the following chapter, Chapter 8, estimates the indicative budgets necessary for implementation of the roadmap. The final chapter, Chapter 9, provides the monitoring indicators which can be used as milestones to assess the progress and effectiveness of the roadmap over the course of the implementation.

2. Present Conditions in the Forest Sector

2.1 Status of Forests in Timor-Leste

2.1.1 Current Conditions of Forests

(1) Overview

The assessment study conducted by the Forest Preservation Program¹ in 2012/2013 is the sole study to be referred for grasping the current status of forests in the country. The study analyzed the satellite images taken in the different years, namely 1990, 2003, and 2012 and developed the national forest status maps in 2003 and 2012 with verification by interpretation of aerial photos taken in 2001 and ground truth surveys in the field. The forest and vegetation covers in the country were classified into a total of nine types of forests and land uses as tabulated below.

Definition and Characteristics of Nine Types of Forests and Land Uses

Forest/land use		Descriptions
Forest	Dense Forest	Forest with crown cover of more than 60% is classified as Dense forest. This class includes various types of combination of tree species, which vary with regions and locations where forests stand. Coffee plantations with matured shade trees, such as <i>Falcataria</i> spp. and <i>Albizia</i> spp., are also included in this class.
	Sparse Forest	Forest with crown cover of 10-60% is classified as Sparse Forest. Although it uses the term of “Sparse,” this class also includes forests with medium crown density. A wide range of types of forest are included in the class.
Non-forest	Very Sparse Forest	Grasslands with sporadic <i>Eucalyptus Alba</i> stands and <i>Eucalyptus Alba</i> scrub whose basal diameter is more or less 10 cm are classified as “Very Sparse Forest.” As its crown density is below 10%, this class is categorized as one of the non-forest classes.
	Paddy Field	Bare lands confirmed as rice fields through ground truth surveys and aerial photo interpretation are classified as Paddy Field.
	Dry Field	Bare lands confirmed as upland crops farms such as permanent farms and shifting cultivation farms through ground truth surveys and aerial photo interpretation are classified as Dry Field.
	Grassland	Grasslands or pasture lands without any trees are classified as Grassland.
	Settlements	The populated areas, such as cities and towns, are classified as Settlements. This class does not include the areas where houses are built.
	Inland Water	The water bodies, such as lakes, marshes, and rivers, are classified as Inland water. Dry riverbeds are included in this class.
	Bare Land	Bare lands which are not classified into those described above are classified as Bare land. Slope failures are also included in this class.

Source: Revised by JICA Project Team (2017) based on Forest Conservation Plan in Timor-Leste (Draft)

Table 2-1 shows the area distribution of the respective forest types and land uses in the 13 municipalities. The following table is its summary.

Area Distribution of Nine Types of Forests and Vegetation Covers

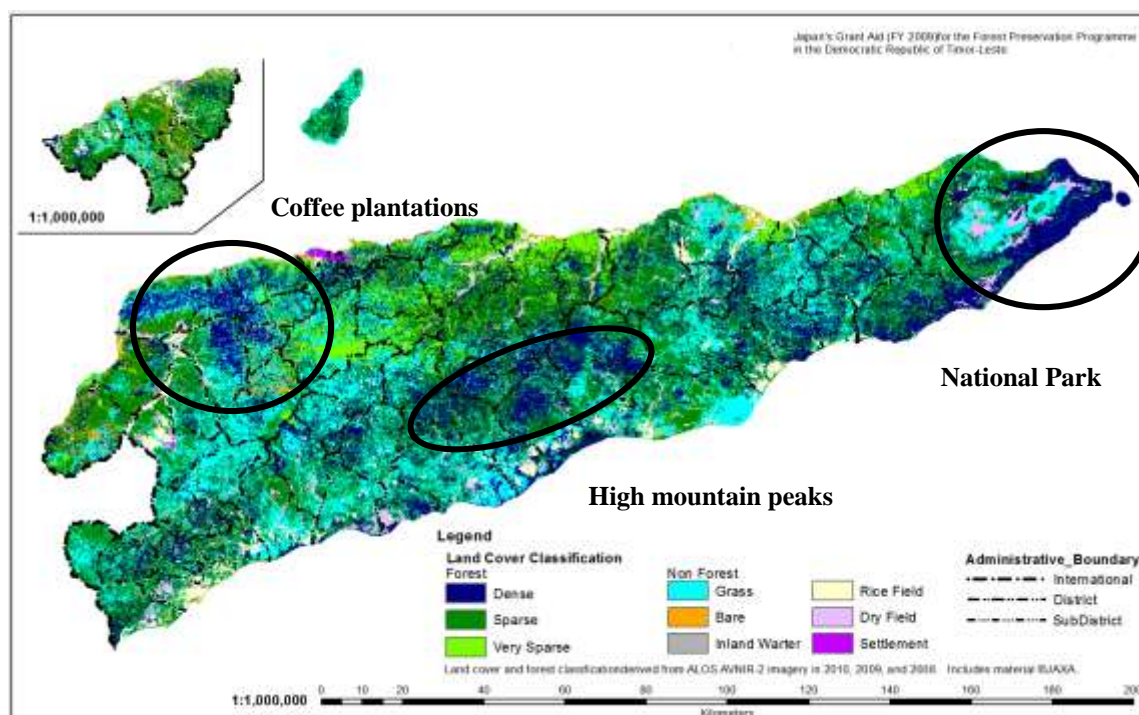
Land Use and Forest Type	Area (ha)	Ratio (%)
1. Forest Land	869,130	58.3
1.1 Dense Forest	312,930	21.0
1.2 Sparse Forest	556,200	37.3
2. Non-forest Land	604,543	40.5
2.1 Very Sparse Forest	63,173	4.2
2.2 Grassland	403,247	27.0
2.3 Dry Field	22,153	1.5
2.4 Paddy Field	41,387	2.8
2.5 Bare Land	48,717	3.3
2.6 Inland Water	22,877	1.5
2.7 Settlements	2,989	0.2

¹ The Forest Preservation Program in the Democratic Republic of Timor-Leste implemented by Japan International Cooperation System (JICS) in 2012/2013

Land Use and Forest Type	Area (ha)	Ratio (%)
3. No Data	18,213	1.2
Total	1,491,887	100.0

Source: Forest Conservation Plan (2012)

As shown above, the total forest cover in 2012 was approximately 869,100 ha or 58% of the national land, of which less than 40% (or approximately 312,900 ha) was dense forest. The land use and forest status map in 2012 also revealed that the majority of dense forests were rather fragmented into small patches except those remaining in high mountain peaks in the central part of the country, Nino Konis Santana national park in Municipality Lautem, and coffee plantations in Municipality Liquica and Ermera as shown below.



Land Use and Forest Status Map in 2012

Source: Forest Conservation Plan (2012)

(2) Forest Conditions in the Municipalities

The same study further characterized the forest conditions in the 13 municipalities as shown below.

Summary of Forest Conditions in the 13 Municipalities

Municipality	Descriptions
Lautem	Lautem has the largest area of dense forest which mainly consists of primary and sub-primary forests in the country. The primary and sub-primary forests are distributed in the eastern and southern parts of the municipality, while sub-tropical rainforests are sporadically found in the western margin mountains in the municipality.
Viqueque	The majority of forests are fragmented into small patches and scattered in a mosaic-like way throughout the municipality. A fair-sized dense natural forest with a variety of tree species remains in the western mountains of the municipality which adjacent to the Nino Konis Santana national park. Moreover, there are some dense coastal forests remaining in the southern seaside.
Baucau	Forests in the municipality are grouped into: i) very dry-cum-sparse forest in the northern part and ii) mosaic land use mixed with forests (dense and sparse) and other land use in the central part of the municipality. In general, dense forest remains only in steep slopes of mountainous areas and Sandalwood are confirmed growing in the central mountainous area.
Manatuto	Forest conditions in this municipality vary with the geographic locations of forests in the municipality which stretches from the north to south ends of the country. Forests can be broadly grouped into the following five (5) types: i) very dry and sparse forest along the northern coastal line; ii) dry Eucalyptus spp. forest in the northern and central hill areas; iii)

Municipality	Descriptions
	natural secondary forest with rich diversity of tree species in the central mountainous area; iv) pure matured Eucalyptus alba forest in the southern flat area; and v) coastal forest in the southern shoreline.
Manufahi	The majority of forests in the municipality are fragmented and mixed with non-forest land uses and become mosaic-like. Dense natural forests without human disturbance only remains in very steep slopes in the mountainous areas, particularly in the northwest part of Same town.
Ainaro	Forests in the municipality are broadly divided into two types: i) coffee plantation with shade trees of Albizia spp. and ii) dry Eucalyptus alba forest. Some dense natural secondary forests are also found in the central and western parts of the municipality, but the majority of them are in degraded conditions except coffee plantations.
Aileu	This is one of the municipalities whose forests have been severely degraded. Generally, sparse and very sparse forests are widely distributed in the municipality due to dry climate conditions and intensive human interventions such as burning and over exploitation. The major types of forests in this municipality are: i) coffee plantation, ii) sparse natural Eucalyptus urpophilla forest, and iii) sparse Eucalyptus alba forest.
Dili	The largest mangrove forests in Timor-Leste are found in this municipality. Sparse dry forest stretches in the shoreline in the municipality, while small dense natural secondary forest is scattered in the southern part of the municipality. In Atauro Island, dense natural forest is found in the central mountainous part of the island.
Liquica	Forests in the municipality extends from west to east as its territory stretches in the same manner. The forest patterns in the municipality are grouped into the following four (4) types: i) natural dense forest with a variety of tree species in the western mountainous part, ii) sparse dry forest in the northern coastal part, iii) coffee plantation with aged shade trees in the central part, and iv) mosaic-like forest mixed with other non-forest land uses in the southern part of the municipality.
Ermera	The municipality is famous for production of coffee. Hence, the dominant type of forest in the municipality is coffee plantation located in the central part. Dry sparse Eucalyptus spp. forest is found around the coffee plantations. The composition of forests in the municipality is rather simple.
Bobonaro	Sparse Acacia spp. forest is the most prominent type in the western part, while sparse natural Eucalyptus alba forest is found in the northern part of the municipality. Natural dense forest is sporadically found in the steep sloping areas in the central part.
Covalima	The municipality has one of the dense primary forests in the county in Post-Administrative Tiromar. In addition, natural dense secondary forest is scattered in the hilly areas in the southwestern and northwestern parts, while sparse forest is found in the western part of the municipality.
Oecusse	The majority of forests are located in the mountains in the eastern and western parts of the municipality, in which sparse forest is predominant except in concaved areas/valleys where dense forest still remains. There are also some patches of mangrove and coastal forests extending along the shorelines near the borders between Timor-Leste and Indonesia.

Source: Forest Resources in the Thirteen Districts in Timor-Leste in 2010-2012

The following table shows the municipality-wise distribution of dense and sparse forests in 2012.

Municipality-wise Distribution of Forests in 2012

Municipality	Dense Forest (ha)	Proportion to Municipality Area (%)	Sparse Forest (ha)	Proportion to Municipality Area (%)	Total Forest (ha)	Proportion to Municipality Area (%)
Lautem	59,285	32.7	66,468	36.7	125,752	69.4
Viqueque	45,638	24.3	72,808	38.8	118,446	63.1
Baucau	25,715	17.1	58,149	38.6	83,864	55.7
Manatuto	47,529	26.7	74,181	41.6	121,710	68.3
Manufahi	32,397	24.5	41,362	31.3	73,759	55.7
Ainaro	13,160	16.4	24,620	30.6	37,781	47.0
Aileu	9,255	12.6	24,426	33.1	33,681	45.7
Dili	6,012	16.4	13,890	37.8	19,901	54.2
Liquica	16,959	30.9	14,602	26.6	31,561	57.5
Ermera	16,062	20.9	18,626	24.2	34,688	45.1
Bobonaro	15,543	11.3	58,733	42.7	74,276	54.0
Covalima	19,354	16.1	47,593	39.6	66,947	55.7
Oecusse	6,023	7.4	40,741	50.1	46,764	57.5

Municipality	Dense Forest (ha)	Proportion to Municipality Area (%)	Sparse Forest (ha)	Proportion to Municipality Area (%)	Total Forest (ha)	Proportion to Municipality Area (%)
Total	312,931	21.0	556,200	37.3	869,130	58.3

Source: Forest Conservation Plan (2012)

The data shown above prove the descriptions of the forest conditions in the 13 districts. There are still a large area of dense forests remaining in Municipality Lautem, Manatuto, and Viqueque. while forest degradation or conversion into non-forest land uses has progressed in Municipality Dili, Aileu, Ainaro, Liquica, and Ermera.

2.1.2 Forest Changes from 2003 to 2012

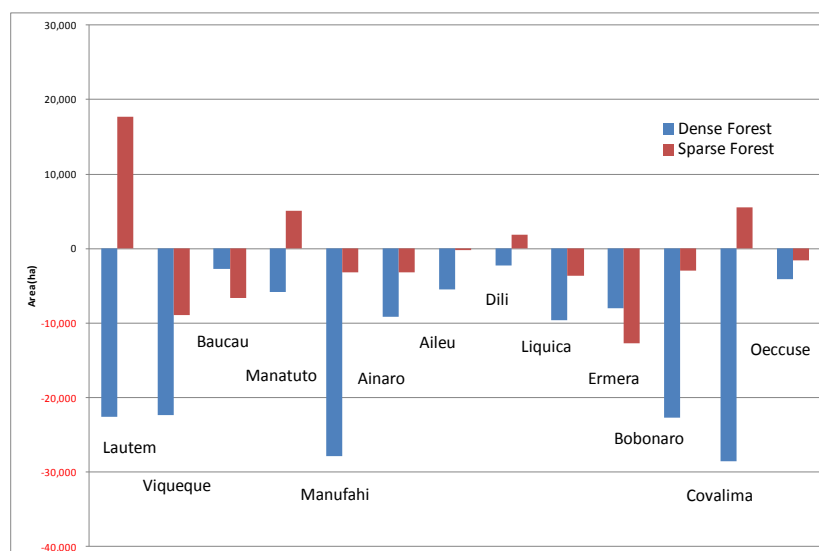
The Forest Preservation Program also assess the historical changes in forest and vegetation covers in the country between 2003 and 2012 by using the national forest status maps in the same periods. The table below indicates the changes in forest cover in the 13 municipalities.

Changes in Forests between 2003 and 2012

Municipality	2003			2012			Difference		
	Dense Forest (ha)	Sparse Forest (ha)	Total (ha)	Dense Forest (ha)	Sparse Forest (ha)	Total (ha)	Dense Forest (ha)	Sparse Forest (ha)	Total (ha)
Lautem	81,826	48,740	130,565	59,285	66,468	125,752	-22,541	17,728	-4,813
Viqueque	67,975	81,737	149,712	45,638	72,808	118,446	-22,337	-8,929	-31,266
Baucau	28,482	64,752	93,234	25,715	58,149	83,864	-2,767	-6,603	-9,369
Manatuto	53,330	69,088	122,418	47,529	74,181	121,710	-5,801	5,093	-708
Manufahi	60,227	44,511	104,738	32,397	41,362	73,759	-27,829	-3,149	-30,979
Ainaro	22,328	27,826	50,154	13,160	24,620	37,781	-9,167	-3,206	-12,373
Aileu	14,714	24,684	39,399	9,255	24,426	33,681	-5,459	-259	-5,718
Dili	8,313	11,994	20,307	6,012	13,890	19,901	-2,301	1,896	-405
Liquica	26,588	18,255	44,843	16,959	14,602	31,561	-9,629	-3,653	-13,282
Ermera	24,082	31,384	55,466	16,062	18,626	34,688	-8,021	-12,758	-20,779
Bobonaro	38,223	61,664	99,886	15,543	58,733	74,276	-22,680	-2,931	-25,611
Covalima	47,852	42,070	89,922	19,354	47,593	66,947	-28,498	5,523	-22,975
Oecusse	10,090	42,285	52,375	6,023	40,741	46,764	-4,067	-1,544	-5,611
Total	484,028	568,990	1,053,018	312,931	556,200	869,130	-171,097	-12,790	-183,888

Source: Revised by JICA Project Team (2017) based on Forest Transition of 1990, 2003 and 2010 in Timor-Leste

As shown above, about 183,900 ha of forests had been converted into non-forest land uses from 2003 to 2012. Particularly, about 171,100 ha of dense forests were degraded or converted into either sparse forests or non-forest land uses, such as grasslands and dry fields, for the same period. The results suggested that the extensive deforestation and forest degradation had occurred after the independence in 2002. The following drawing shows the deforestation trends in the 13 municipalities between 2003 and 2012.



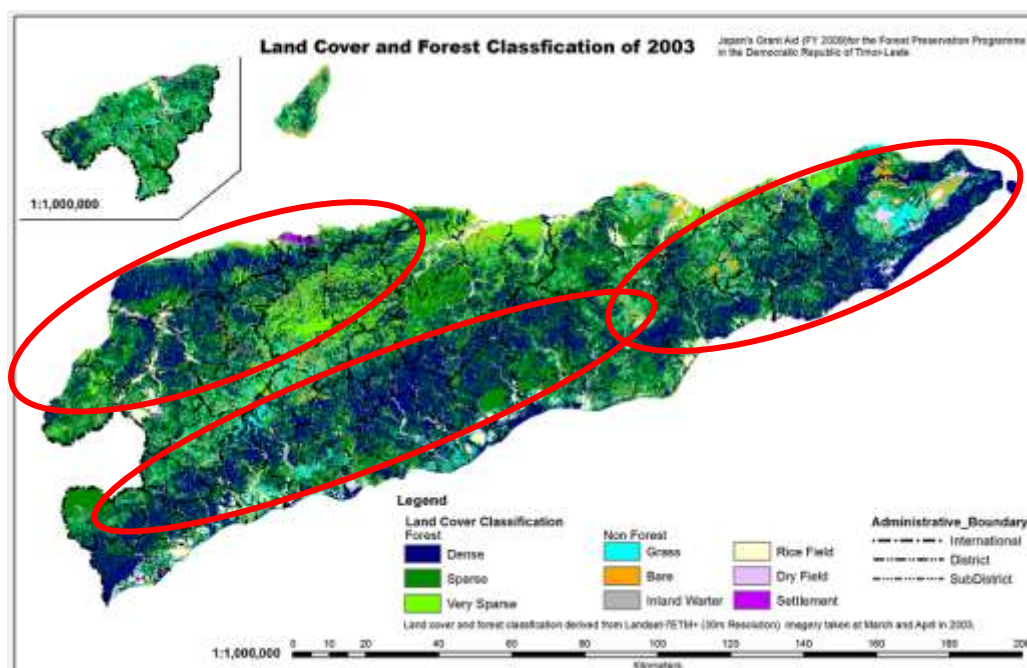
Transition of Forests in 13 Municipalities between 2003 and 2012

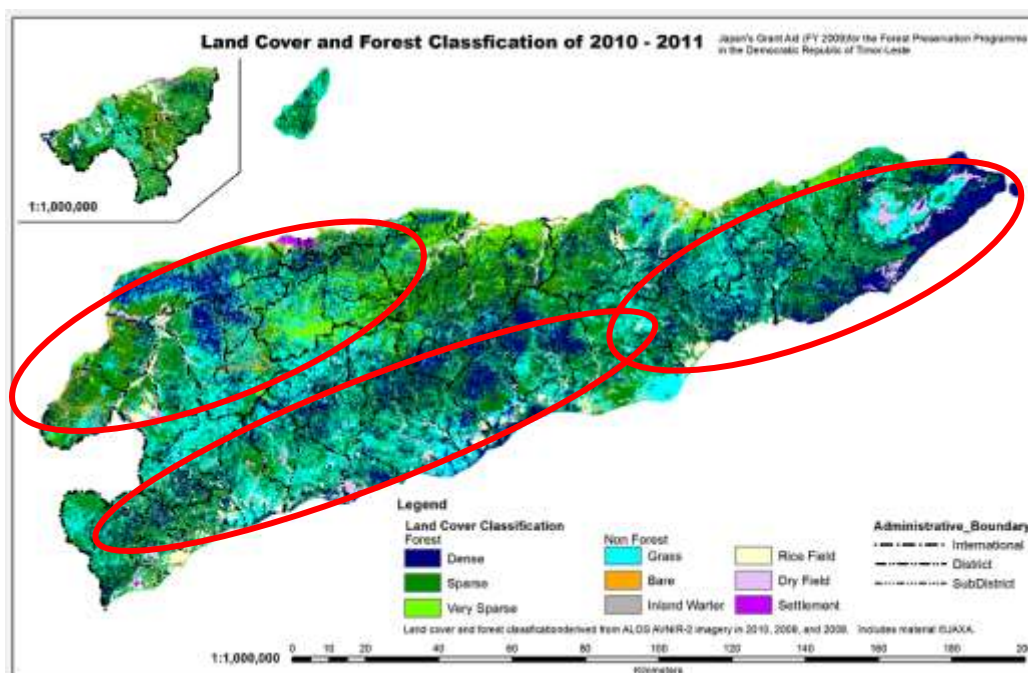
Source: Forest Conservation Plan (2012)

The deforestation trends in the municipalities can be broadly grouped into the following five (5) types:

- High Deforestation & High Forest Degradation: Viqueque, Manufahi, Bononaro, and Covalima
- High Deforestation & Medium Forest Degradation: Ermera, Liquica, and Ainaro
- Medium Deforestation & High Forest Degradation: Lautem
- Medium Deforestation & Medium Forest Degradation: Baucau, Aileu, and Oecussi
- Less Deforestation & Medium Forest Degradation: Manatuto and Dili

The maps shown below indicate how forests were changed into other forms of land use between 2003 and 2012.





Transition of Forests in 13 Municipalities between 2003 and 2012

Source: Forest Conservation Plan (2012)

The forest status maps shown above suggest that the significant areas of dense forests in the southern parts of the country were converted into grasslands, while the same in the northern parts were likely converted into sparse forests and grasslands evenly.

2.1.3 Major Drivers of Deforestation and Forest Degradation

As indicated in the previous section, deforestation and forest degradation seem to have progressed rapidly over the past decade. The Forest Conservation Plan² developed by the Forest Preservation Program projects that the total areas of forests and dense forests would come to approximately 735,332 ha and 192,769 ha, respectively, if the current deforestation and forest degradation trend was maintained as the status quo.

Prediction of Forest Area in the country by Forest Conservation Plan

	Dense forest	Sparse forest	Total	Remarks
Decreasing rate	4.73%	0.25%	-	
Year	Area (ha)			
2003	484,028	568,990	1,053,018	Result of the Forest Preservation Program
2004	461,134	567,568	1,028,701	
2005	439,322	566,149	1,005,471	
2006	418,542	564,733	983,275	
2007	398,745	563,322	962,067	
2008	379,884	561,913	941,798	Forest Policy was approved in this year
2009	361,916	560,508	922,424	
2010	344,797	559,107	903,904	
2011	328,488	557,709	886,198	
2012	312,951	556,315	869,266	Predicted areas are almost same as surveyed data
2013	298,148	554,924	853,073	
2014	284,046	553,537	837,583	
2015	270,610	552,153	822,764	
2016	257,811	550,773	808,583	
2017	245,616	549,396	795,012	
2018	233,999	548,022	782,021	
2019	222,930	546,652	769,583	
2020	212,386	545,286	757,671	Target year of Forest Policy
2021	202,340	543,922	746,262	
2022	192,769	542,563	735,332	

Source: Forest Conservation Plan (2012)

² Forest Conservation Plan in Timor-Leste (2012/2013) developed in the Forest Preservation Program by JICS in 2013

There has been no in-depth study made to clarify the mechanism of deforestation and forest degradation or to measure the extent of the impact of possible drivers of deforestation and forest degradation so far. Nevertheless, the following are considered as major drivers of deforestation and forest degradation from literature reviews of the existing documents and interviews to key officials of NDFWM.

(1) Forest Fire

Frequent forest fire is considered as one of the main cause of deforestation and forest degradation in Timor-Leste, although there is no statistical or cumulative data of forest fires in the country. High incidence of forest fires in the dry season, especially before the onset of the rainy season, is the common issue to be addressed for forest protection in the country. Shifting cultivation, bush fires for generation of new grasses, and hunting of wild animals are considered as major causes of forest fires.

(2) Conversion of Forest into Farm

It is speculated that many forests located in gentle and medium level slopes have been converted into farmlands by local communities since independence when they were allowed to use the areas where they used to use for crop production in the Portuguese colonial era. At present, the majority of the existing dense forests are located in either steep sloping lands or remote areas far from communities, which are not suitable for farming. The pace of deforestation may have become slower than that for a few years after independence as communities might have already opened enough farms to secure food for their families. Nevertheless, this issue is still one of the major drivers of deforestation along with shifting cultivation, and if anything, the situations might get worse in the future as the number of households increases with population increase.

(3) Shifting Cultivation

Shifting cultivation is still a common farming practice in Timor-Leste, particularly in the western and southern parts of the country. In general, a family uses a few to several plots for shifting cultivation on a rotation basis. As the fallow period is more or less 3 to 5 years on average, the areas used for shifting cultivation seem like bushes or grasslands in many cases. Those who do not have enough farms may further slash and burn forests for opening a new farm. Currently the direct impact of shifting cultivation may not be as high as that in the early 2000s as described above, but this practice is also considered as a major cause of forest fires in addition to the conversion of forests.

(4) Firewood Collection

Firewood is the most prevailing source of energy in Timor-Leste. In fact, the majority of families, even those in Dili, use firewood for cooking. Intensive firewood collection to supply fuel wood to the populated cities and towns has caused forest degradation in the suburbs, such as Post-Administrative Laulara and Metinaro. Nevertheless, the impact caused by firewood collection in the remote areas may not necessarily be significant, as human pressures might be balanced with natural regenerating capacity of existing forests.

(5) Illegal Logging

Illegal logging has been commonly found in Timor-Leste. Although it may not lead to large-scale deforestation, it is one of the causes of forest degradation throughout the country. Such an illegal act is conducted by not only communities but also groups organized by people from outsides.

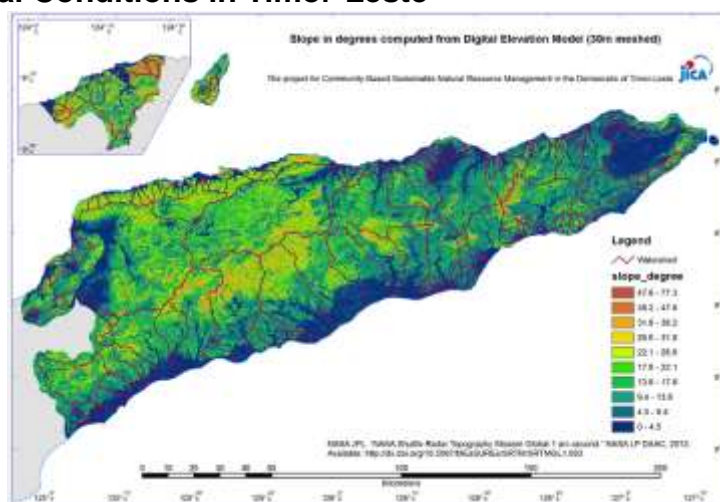
(6) Animal Free Grazing

Free animal grazing is a practice commonly found in Timor-Leste. In many areas of the country, communities graze their large animals (cow, buffalo, and horse) in dense and sparse forests in and around their villages. Such a practice does not directly cause deforestation, but it significantly affect natural regeneration of existing trees, particularly the growth of the understory vegetation. Furthermore, communities who used forests for animal grazing have often burned the areas to promote regeneration of new grasses for securing animal feed.

2.2 Overview of Other Natural Conditions in Timor-Leste

(1) Topography

The land of Timor-Leste is mainly composed of hills and mountains surrounded by narrow flat plains along the outlets of the major rivers. About 40 % of the national land have more than 15 degrees of slopes (more than 27% of slopes) as shown in the figure right and table below.



Slope Map of Timor-Leste

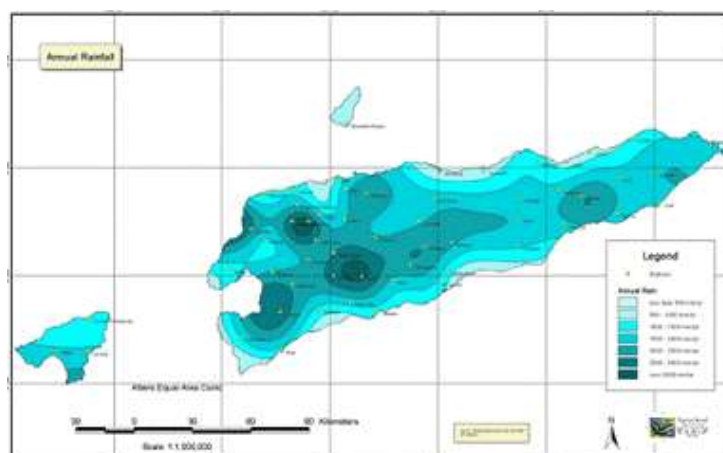
Sloping Conditions in Timor-Leste

Slope (degrees)	Area (km ²)	Ratio (%)
0 - 5	3,317.6	22.25
6 - 10	3,046.6	20.43
11 - 15	3,312.3	22.21
16 - 20	2,288.4	15.35
21 - 25	1,380.8	9.26
26 - 30	791.6	5.31
31 - 35	420.8	2.82
36 - 40	202.5	1.36
41 <	150.4	1.01

Source: JICA Project Team (2019)

(2) Climate (Rainfalls)

Annual rainfalls in the country vary from less than 500 mm/year along the northern coast to more than 2,500 mm/year in the mountains in the western and central parts of the country. The country is under the tropical monsoon climate, and therefore, torrential rains are commonly found. Rainfalls in the northern regions concentrate in 4 to 5 months, while the rainy season in the southern regions last for 9 months. Variation of annual rainfalls in the country is shown right.



(3) River Systems and Hydrologic Characteristics

Owing to its topographic conditions, Timor-Leste has a number of small-sized/short-distance primary rivers flowing from hills along the coastline. Technically speaking, there are more than 190 primary rivers existing in the country; however, the majority of them are single and short-distance streams as shown right.

Likewise, there are a total of 191 watersheds in the country but the majority of them are micro- and small-scale as shown right. Only 29 watersheds out of them have their basin areas of more than 10,000 ha. All the 10 critically degraded watersheds designated in the forest sector policy are included in the 29 watersheds.

2.3 Important Forests to be protected

The Forest Conservation Plan (2012/2013) identifies and demarcates important forests considering their functions for downstream areas and watershed environment.

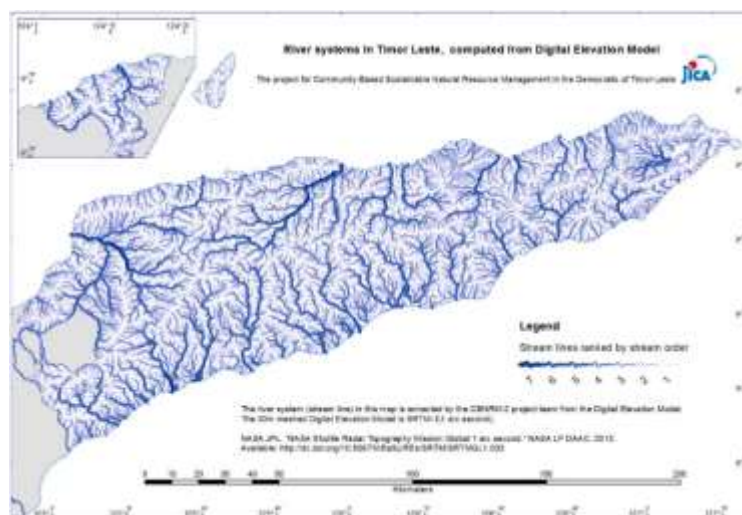
- a. Important forests for water resources
- b. Important forests for soil conservation
- c. Important forests for biodiversity conservation

The following table describes that criteria for identification and selection of the respective important forests.

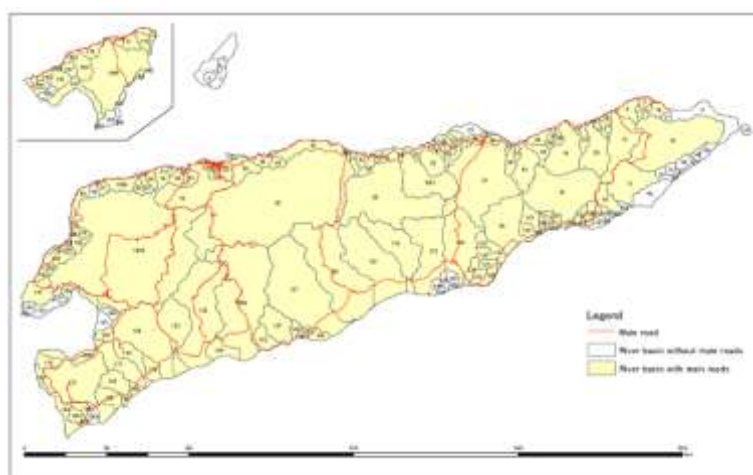
Criteria for Selection of the Important Forests

Important Forests	Criteria
Important Forests for Water Sources	Forests located in the upper catchment of a large scale of rice fields are selected as the important forests for water sources. At the same time, those located in the catchment of a source of water supplied to the populated areas, such as Dili city, are also selected as the important forests.
Important Forests for Soil Conservation	As forests located on the steep slopes have a crucial function to prevent soil erosion and reduce the risk of landslide, those on sloping lands of more than 25 degree are selected as the important forests for soil conservation.
Important Forests for Biodiversity Conservation	Forests which play an important role as habitats for precious species, namely those located in the protected areas, primary dense forests, and coastal/mangrove forests, are selected as the important forests for biodiversity conservation.

Source: Forest Conservation Plan (2012)

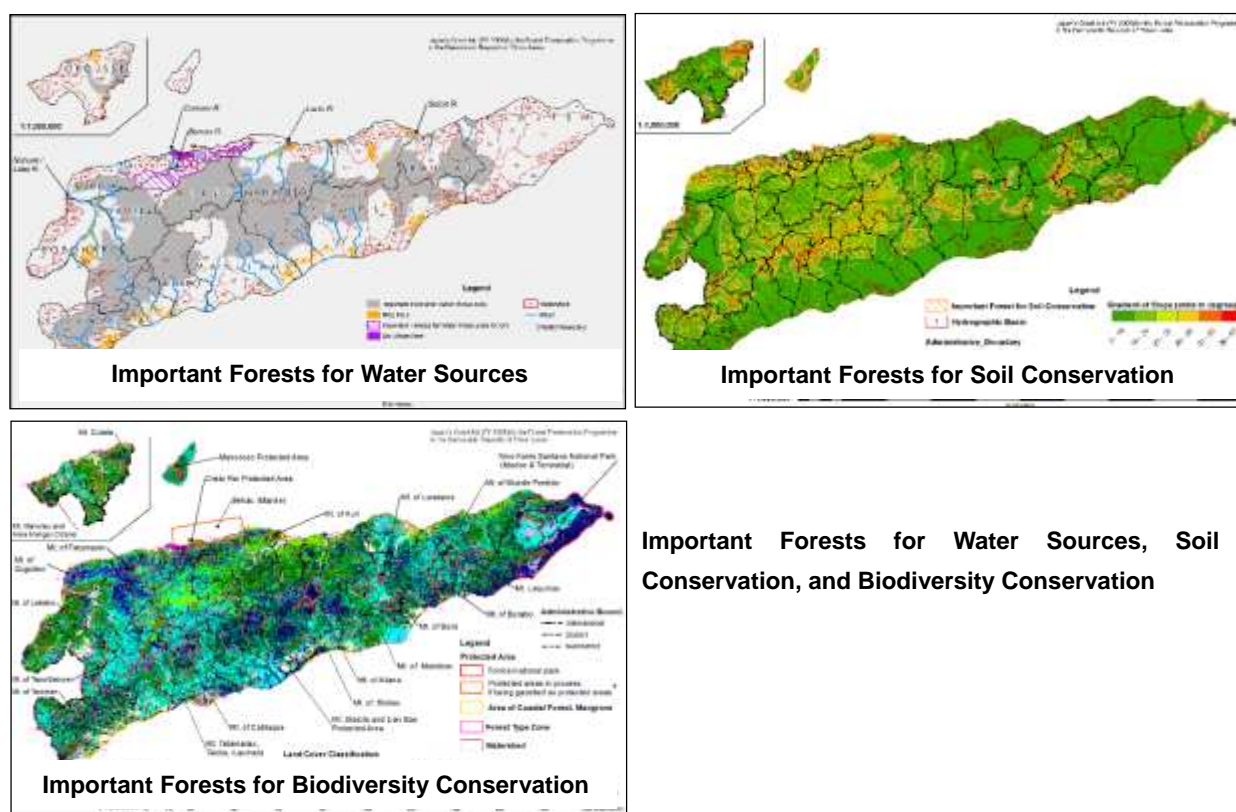


River Systems in Timor-Leste



Watersheds in Timor-Leste

The locations of the respective important forests are shown below.



Source: Forest Conservation Plan (2012)

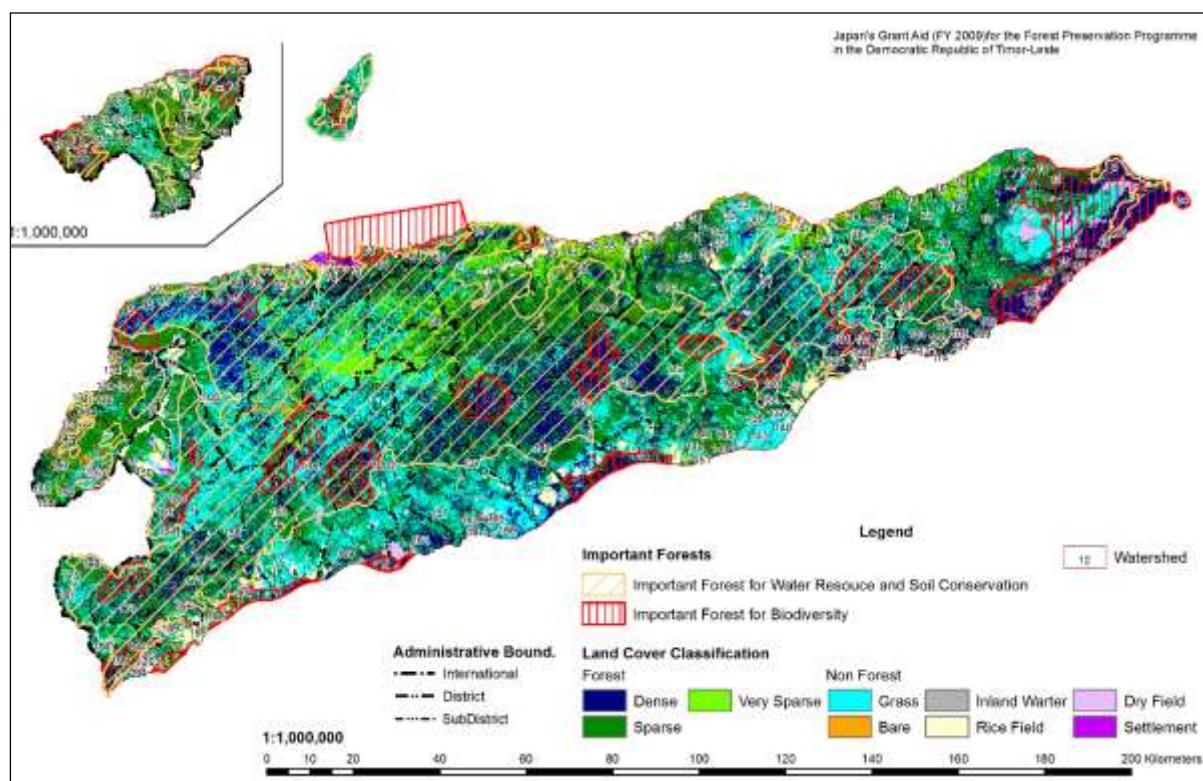
The table below shows the area distribution of the important forests in the 13 municipalities in the country.

Area Distribution of the Respective Types of Important Forests

Municipality	Important for water sources			Important for soil conservation			Important for biodiversity		
	Dense Forest (ha)	Sparse Forest (ha)	Total (ha)	Dense Forest (ha)	Sparse Forest (ha)	Total (ha)	Dense Forest (ha)	Sparse Forest (ha)	Total (ha)
Lautem	2,244	5,750	7,993	8,710	3,914	12,624	35,663	16,406	52,069
Viqueque	30,392	33,516	63,908	18,149	14,058	32,207	13,276	9,413	22,689
Baucau	14,999	23,777	38,776	6,744	8,527	15,270	4,616	5,606	10,222
Manatuto	34,373	48,740	83,113	30,316	43,767	74,083	8,032	4,988	13,019
Manufahi	12,240	14,588	26,828	14,756	18,890	33,647	2,984	2,092	5,075
Ainaro	8,407	12,656	21,062	8,686	11,544	20,230	4,555	5,017	9,572
Aileu	9,064	23,521	32,585	9,239	24,378	33,618	13	123	135
Dili	3,614	4,414	8,029	4,395	8,587	12,982	979	2,214	3,193
Liquica	8,456	2,525	10,981	16,062	6,939	23,001	3,273	2,252	5,524
Ermera	15,148	12,571	27,719	14,467	12,471	26,938	244	2,231	2,474
Bobonaro	7,506	17,146	24,652	9,877	21,506	31,384	1,136	2,074	3,210
Covalima	15,279	30,829	46,107	6,430	13,508	19,938	4,502	7,079	11,581
Oecusse	889	8,421	9,310	3,470	10,744	14,215	3,389	10,680	14,070
Total	162,610	238,453	401,063	151,303	198,833	350,136	82,661	70,174	152,835

Source: Forest Conservation Plan (2012)

Forests selected as the important forests overlap with one another, especially in the mountain ranges formed in the middle of the country as shown below.



Important Forests in the Country

Source: Forest Conservation Plan (2012)

Overall, about 569,300 ha of forests in the country are identified as the important forests for any of the functions. Particularly, about 241,500 ha of dense forests are considered quite crucial for security of human life, socio-economic development, environmental protection, and biodiversity conservation. A total of 409 sucos are geographically related to the important forests. The area distribution of the important forests in the 13 municipalities are shown below.

Area Distribution of the Important Forests in the Municipalities

Municipality	Dense Forest (ha)	Sparse Forest (ha)	Sub-total forest area (ha)	Number of Suco related
Lautem	40,947	23,178	64,125	27
Viqueque	34,658	37,871	72,530	30
Baucau	16,471	26,361	42,832	51
Manatuto	41,879	58,857	100,736	30
Manufahi	17,017	21,707	38,724	28
Ainaro	11,001	16,006	27,007	21
Aileu	9,245	24,382	33,627	30
Dili	5,341	10,468	15,809	23
Liquica	16,450	9,767	26,217	23
Ermera	15,602	14,128	29,731	50
Bobonaro	11,092	26,690	37,782	50
Covalima	17,278	37,837	55,115	31
Oecusse	4,554	20,480	25,034	15
Total	241,537	327,732	569,269	409

Source: Forest Conservation Plan (2012)

2.4 Current Socio-economic Conditions

2.4.1 Administrative Set-ups and Demography

The administrative structure in Timor-Leste is composed of three (3) layers: Municipality, Post-Administration, and Suco. The following table shows the numbers of Post-Administrations and Sucos in the respective 13 municipalities.

Post-Administrations and Sucos in the Municipalities (2015)

Municipality	Area (km2)	Post- Administrations (No.)	Sucos (No.)	Households (Families.)	Population (Persons)	Population Density (Persons/km2)
Lautem	1,816.7	5	34	12,050	65,240	35.9
Viqueque	1,872.7	5	35	15,297	76,033	40.6
Baucau	1,504.2	6	59	23,976	123,203	81.9
Manatuto	1,783.3	6	29	7,467	48,619	26.1
Manufahi	1,332.5	4	29	9,023	53,691	40.3
Ainaro	802.6	4	21	10,691	63,136	78.7
Aileu	735.9	4	31	7,598	48,837	66.4
Dili	364.1	6	31	42,485	277,279	761.5
Liquica	559.9	3	23	11,885	71,972	128.5
Ermera	765.5	5	52	20,671	125,702	166.2
Bobonaro	1,378.1	6	50	17,635	97,762	70.9
Covalima	1,199.0	7	30	12,564	65,301	54.5
Oecusse	813.6	4	18	14,345	68,913	84.7
Total	14,918.7	65	442	204,597	1,183,643	79.3

Source: Timor-Leste Population and Housing Census 2015

Before the suco election in 2017, some sucos were divided and the total number of sucos in the whole country has been increased.

2.4.2 Major Economic Activities

Agriculture is the most prevailing economic activity in Timor-Leste, particularly in the rural areas. More than 90% of the total households in the country engage in agriculture either for home consumption or commercial purposes.³ Likewise, about 87 % of the households rear livestock animals, such as cattle, buffalo, pig, goat, and chicken, which are essential sources of cash income for local communities.⁴ Although no statistical data are available, forestry products such as firewood and non-timber forest products (NTFPs) are also crucial for local livelihoods, as the former is the major energy source in the country as well as one of the cash products in the vicinity of the populated towns (Dili and other capitals), while the latter is used as additional sources of food as well as seasonal sources of cash income.

2.4.3 Major Crops and Prevailing Farming Practices

The majority of rural households grow and produce upland crops, such as maize, cassava, sweet potato, beans, and vegetables due to the terrain conditions in Timor-Leste. As shown below, the municipalities which have flat plains have a high proportion of rice growers, while those located in the mountainous and hilly terrains, particularly Aileu, and Ermera, show high percentages of coffee growers.

Numbers of Households growing/producing Crops in the Municipalities (2015)

Municipality	Total HHs (No.)	Rice (No.)	Maize (No.)	Cassava (No.)	S. potato (No.)	Veggies (No.)	Beans (No.)	Coffee (No.)	Fruits (trees) (No.)	Timber (No.)
Lautem	12,050	3,487	9,652	7,863	6,604	4,750	6,136	2,195	6,247	5,174
Viqueque	15,297	9,115	11,343	11,590	10,777	10,082	9,654	4,307	8,919	8,556
Baucau	22,976	12,606	17,904	15,134	14,328	10,661	10,178	5,525	11,798	8,463
Manatuto	7,467	3,026	4,607	4,271	3,628	3,991	3,316	2,918	4,005	2,213
Manufahi	9,023	2,661	8,018	7,838	7,162	6,886	6,890	4,954	5,982	3,969
Ainaro	10,601	2,734	9,476	8,210	8,599	7,740	5,922	6,986	6,292	4,600
Aileu	7,598	2,586	7,039	6,885	6,520	6,015	5,684	6,224	5,399	2,457
Dili	42,485	3,013	7,999	7,542	5,198	4,808	6,238	3,512	7,019	4,576
Liquica	11,885	1,734	10,196	9,670	7,141	7,532	7,747	6,703	8,107	4,793
Ermera	20,671	4,659	17,271	17,125	16,091	13,639	11,851	16,939	10,506	6,914
Bobonaro	17,635	8,527	15,128	12,897	10,773	10,062	10,492	7,041	9,649	9,282

³ Timor-Leste Population and Housing Census 2015

⁴ Timor-Leste Population and Housing Census 2015

Municipality	Total HHs	Rice	Maize	Cassava	S. potato	Veggies	Beans	Coffee	Fruits (trees)	Timber
Covalima	12,564	4,099	10,335	10,049	6,802	9,721	9,218	4,271	7,670	8,122
Oecusse	14,345	13,294	13,393	11,596	8,802	10,528	9,807	5,253	9,123	7,185
Total	204,597	71,541	142,361	130,670	112,425	106,435	103,034	76,848	100,716	76,304

Source: Timor-Leste Population and Housing Census 2015

Conventional farming practices are still prevailing farming methods for the majority of households in the country. Shifting cultivation under rainfed conditions are the common practices found in hilly and mountainous areas in the country. There are about 50,000 ha of irrigated rice fields which are mainly located in the plains extending along the major rivers in the country.

The national average yields of maize and rice are as low as 1.25 ton/ha and 1.0 ton/ha, respectively.⁵ Low yields are mainly attributed to: low/no application of farm input (e.g., fertilizer and quality seeds) and rainfed farming.

Storage losses of maize caused by weevil is another critical issue to be addressed to ensure food security in the country as it is reported that about 20-25 % of the total maize production have been damaged during the storage period.

2.4.4 Livestock Animals and Raising Practices

About 87 % of the total households in the whole country rear/raise animals: about 419,000 heads of pigs, 222,000 heads of cattle, 199,000 heads of goats/sheep, 128,000 heads of buffalo, and 929,000 heads of chicken as shown below.

Numbers of Households and Numbers of Livestock Animals reared in the Municipalities

Municipality	Total HHs (No.)	HHs rearing animals (No.)	Chicken (Head)	Pigs (Head)	Sheep (Head)	Goats (Head)	Cattle (Head)	Buffalo (Head)	Horses (Head)
Lautem	12,050	11,420	91,241	35,442	4,052	8,444	25,884	18,179	4,965
Viqueque	15,297	14,557	96,652	40,792	2,183	15,356	31,224	28,881	8,996
Baucau	22,976	21,706	113,548	42,313	20,400	29,098	11,593	20,489	11,177
Manatuto	7,467	6,960	35,059	18,804	3,246	8,970	11,012	12,989	3,305
Manufahi	9,023	8,790	67,896	25,092	765	6,303	14,184	8,647	4,489
Ainaro	10,601	10,122	42,341	22,761	877	6,238	9,968	5,970	6,271
Aileu	7,598	7,344	30,482	14,555	918	6,883	7,099	2,438	2,602
Dili	42,485	24,452	99,709	43,993	1,446	15,010	4,324	1,709	531
Liquica	11,885	11,390	65,279	26,112	995	15,090	10,726	1,562	930
Ermera	20,671	19,063	82,984	31,537	1,709	8,874	14,172	3,500	2,621
Bobonaro	17,635	16,725	86,903	49,161	1,529	17,557	37,052	6,486	2,314
Covalima	12,564	12,116	65,077	39,604	1,502	8,380	33,525	4,443	1,557
Oecusse	14,345	13,718	51,635	29,003	876	12,264	11,004	12,969	993
Total	204,597	178,363	928,808	419,169	40,498	158,467	221,767	128,262	50,751

Source: Timor-Leste Population and Housing Census 2015

Livestock animals are important sources of cash income for local communities, particularly those living in rural areas, as they have limited opportunities to earn cash income. They are also important for Timorese societies, as they are closely associated with tradition and culture in Timor-Leste and used as sacrifices/offerings/betrothal gifts/condolence payments in the respective events.

2.4.5 Income/Poverty

The poverty ratio (the proportion of population below the national poverty line) in the country

⁵ Timor-Leste Strategic Development Plan 2012-2030.

still remains high although it has declined from 50.4% to 41.8% between 2007 and 2014.⁶ The poverty gap also declines from 13.8% to 10.4% for the same period. It is, therefore, judged that the economic conditions of poverty households have been gradually improved since 2007. The following table shows the changes in the poverty indices from 2007 to 2014 in the country.

Changes in Poverty Ratios and Poverty Gaps between 2007 and 2014

Municipality	Poverty ratio in 2007 (No.)	Poverty ratio in 2014 (No.)	Poverty gap in 2007 (Head)	Poverty gap in 2014 (Head)
1. Eastern Region	31.6	33.8	6.0	7.1
1.1 East Rural	32.2	36.0	6.1	7.7
1.2 East Urban	25.4	21.0	5.1	3.8
2. Central Region	54.6	40.0	15.4	9.8
2.1 Central Rural	64.4	48.3	19.4	12.6
2.2 Central Urban	39.1	26.4	9.2	5.3
3. Western Region	60.3	55.5	18.2	15.8
3.1 West Rural	62.7	57.6	19.2	16.8
3.2 West Urban	42.5	46.0	10.6	11.5
National Average	50.4	41.8	13.8	10.6
Rural	54.7	47.1	15.5	12.2
Urban	38.3	28.3	9.0	5.9

Source: Poverty in Timor-Leste, WB, 2014

The poverty levels are lower in the eastern region and higher in the western region. However, the central and western regions show the significant declines in both the poverty ratios and gaps between 2007 and 2014, while there was a slight increase in the poverty ratio in the eastern region due to the increase of rural poverty for the same period.

2.4.6 Gender

Timor-Leste is a patriarchal society where social norms and cultural values influence gender roles. Men are expected to be responsible for decision making in the household and are the major income earners in the formal economy⁷. Human Development Report made by UNDP indicates that Timor-Leste is ranked at 118 out of 149 countries on the gender inequality index (GII). The high GII is attributed to high maternal mortality and the large gender gap in labor force participation rates. Some highlights of the status and issues on gender equality in Timor-Leste are highlighted below.

Status and Issues on Gender Equality in Timor-Leste

Sector	Status and Gender Issues
Education	<ul style="list-style-type: none"> ■ School enrollments have rapidly increased with girls' rate exceeding boys' at each level of schooling in 2010. ■ However, repetition and dropout rates still remain high. Repetition and dropout are more common in boys than girls. ■ The most likely reasons for early dropout are a lack of school readiness and language barriers as many children do not speak Tetun or Portuguese. ■ Sexual harassment and violence still remain an issue in schools. ■ Among adults, women are much more likely to have missed out on schooling and less likely to have a secondary or tertiary education. More than half (58%) of women aged 25 and above have never been to school, compared with 43% of men. ■ The proportion of women teachers is about 36% in 2010.
Health and well-being	<ul style="list-style-type: none"> ■ Maternal and child mortality are key issues for women. The ratio of maternal deaths in 2009/2010 is 557 per 100,000 live births, though it has decreased from 660 in 2003. ■ The infant mortality rate has decreased from 60 deaths per 1,000 live births in 2003 to 45 in 2009/2010. Likewise, the under-five mortality rate fell from 83 deaths per 1,000 live births in 2003 to 64 in 2009/2010.

⁶ Poverty in Timor-Leste, WB, 2014

⁷ Timor-Leste County Gender Assessment, ADB, 2014

Sector	Status and Gender Issues
	<ul style="list-style-type: none"> ■ Hunger and poor nutrition are serious public health concerns, given that 27% of women aged 15-49 are malnourished. ■ The total fertility rate has decreased from 7.8 children per women in 2003 to 5.7 in 2009/2010, but it is the second-highest in Asian and the Pacific countries. ■ A lack of access to clean drinking water remains a significant health risk, especially in rural areas.
Work and Economic Empowerment	<ul style="list-style-type: none"> ■ Food production for household consumption and unpaid care work in the home are the works typically done by women. Such types of work are not counted as employment; therefore the gender gaps in labor force participation are significant. Only 27% of women are classified as economically active labor force as compared with 56% of men. ■ The proportion of wage-earning jobs has tripled over the last decade, but this has benefited men more than women. ■ The majority of women are engaged in vulnerable or informal employment, which are classified as “own account worker” and “contributing family worker” in the ILO classification. This is particularly true in rural areas, as women are mainly engaged in farming in their own plots and domestic works in the home. ■ The major tasks of women in crop production (particularly maize) are: selection and preparation of seeds, planting, harvesting, and storage and marketing of products, while men’s tasks are tilling, irrigation, and tending of crops in the farm.
Gender-based Violence	<ul style="list-style-type: none"> ■ More than a third (38%) of women have experienced physical violence during their adult lives. ■ Gender-based violence is a major issue exacerbated by traditional views on marriage and gender roles, as well as limited capacity of the formal criminal justice system. ■ Cases of domestic violence are generally resolved at the family level and only escalated to community, religious, and state authorities if solutions are not found. ■ The general legal framework, including the criminal and civil justice systems, is still under development. ■ Major barriers to accessing justice, especially for women, include the limited outreach of police, the low number of and long distance to courts, co-existence of customary and formal justice systems, language and literacy difficulties, insufficient resources, and long legal processes.

Source: Timor-Leste Country Gender Assessment, ADB, 2014

2.4.7 Land Tenure Systems

The land tenure in Timor-Leste is highly complicated especially in rural areas, due to a result of the combination of conflicting property regimes, complex customary land tenure systems, destruction of land records in 1999, limited government capacity, and weak government and civil society institutions (USAID, 2012). In general, the tenure types are classified into three main classifications: i) state property, ii) private property owned by individuals, and iii) communal lands. Customary land rights based on the origin and blood relationship are the primary land tenure systems in rural areas in the country. Clan groups or *Uma Lisan*, which are the origins of communities in a suco, are considered as the first pioneers and possessors of lands of suco. Families who have kinship ties with a clan group share rights over lands belonging to the group. In general, land ownerships over agricultural lands, particularly home/backyard garden and plantations, are highly individualized and recognized among communities.

Natural forests are often recognized as areas communally used for hunting, collection of firewood, animal grazing, and collection of non-timber forest products, though the areas belong to clan groups (or heads of clan groups) in a suco. However, felling/logging of trees and opening farms cannot be done without clan leader’s consent.

The Land Law recently promulgated by the GoTL in 2017 defines that areas to be protected for the purposes of safeguarding the common interests of local communities should be categorized and protected as “Community Protection Zones.” Although the definition of

“Community Protection Zone” and mechanisms to manage and protect the same are still not sure and need to wait for further clarification with supporting legislations to be put in place, customary rights over natural forests might be secured and maintained. Community-Based Forest Management (CBFM) and CB-NRM approaches are expected to be adopted to protect and manage natural resources in the community protection zone with local communities in a sustainable manner.

2.5 Existing Legislative and Policy Frameworks in the Forest Sector

Development of the legislative and policy frameworks for sustainable forest management has yet to be completed in the forestry sector, and in fact, it is one of the issues and challenges that MAF and GDFCIP must deal with to ensure the continuous efforts for sustainable forest management in collaboration with relevant stakeholders including non-government organizations, such as MAF Development Partners, NGOs, and local communities. The most important existing legislative and policy documents relating to forest management in Timor-Leste are i) National Forest Policy Law, ii) Land Law, iii) Decree on National System of Protected Areas, iv) Forest Sector Policy. More details of the respective documents are described below.

2.5.1 National Forest Policy Law

The national forest policy law has been discussed and approved by the parliament in July 2017 and been waiting for final issuance with the signature of the President. The law is composed of nine (9) chapters or 61 articles which cover roles and responsibilities of key stakeholders, policy instruments, reforestation, sustainable management and use of forest resources, forest extension, and monitoring and evaluation.

The main objective of the law is to achieve the goal and policy objectives of the forest sector policy; therefore, the law states that sustainable forest management, particularly sustainable community forest management, is the state’s priority. Toward this end, the law recognizes the customary rights of local communities over forest resources and classifies forests into three (3) categories: i) community forests (forests in community or state lands which shall be managed by communities under the agreement with the state) , ii) private forests (forests in private lands which shall be managed by land owners), and iii) state forests (forests in state lands which shall be managed by the state.).

Specifically, the law clearly defines that the Government shall:

- i) develop a mechanism that ensures i) open access to information, ii) equal sharing of benefits from forest resources and watersheds, and iii) active participation of communities and private sector in forest management;
- ii) develop a forest management plan and promote allocation of Community Forest Management Agreement (CFMA); and
- iii) assist communities in the development of community rules on forest and watershed management in line with the existing laws and regulations.

The contents of CFMA are also specified in the law, such as the rights and obligations of the parties, rules on sustainable forest management, rules on benefit sharing, and forest management plan, but more details of the agreement will be determined in the subsequent decree/law to be elaborated in the future. CBFM, which can share the basic principle with the CB-NRM mechanism, is to be recognized by the forest sector policy law as the main instrument

for sustainable forest management in Timor-Leste.

2.5.2 Land Law (Special Regime for the Definition of Ownership of Land)

The land law was also approved by the parliament in 2017 and is currently waiting for official issuance with the signature of the President. It is noted that the law recognizes the customary ownership rights (rights customarily/traditionally recognized) over real estate as legitimate.

In relation to forest management especially in rural areas, the law defines the community protection zones in “Chapter 4: Community Protection Zone and Community Real Estate” of the law, which stipulates that the areas essential for safeguarding the common interests of local communities, such as habitats for wildlife, farm lands, forests, sacred places, cultural heritages, pastures, water sources, and places where natural resources commonly used by communities are located, shall be protected by the state as the community protection zones. The law provides that the state shall be responsible for:

- i) ensuring that all customary practices in the zone conform to the Constitution and are participatory, non-discriminatory and respect gender equality;
- ii) promoting environmental and socio-cultural sustainability in the uses of natural resources and the way of life of each local communities; and
- iii) protecting community real estate from property speculation.

Because of its nature, natural forests are supposed to be included in the community protection zones, where CBFM/CB-NRM will be further introduced. The legal system for implementation of the community protection zone will be further developed in future.

2.5.3 Decree on National System of Protected Areas (Decree-Law No. 5/2016 on May 16, 2016)

Decree on National System of Protected Areas was enacted on May 16, 2016 with the following aims:

- i) to protect designated areas representing important ecosystems and critical habitats for endemic species, migratory species or other species protected by law;
- ii) to implement an ecosystem approach and ensure that ecosystems continue to provide the necessary services on which human well-being depends; and
- iii) to ensure that the ecosystems are resilient and able to play an important role in mitigating and adapting to natural and man-made pressures, including climate change.

The National System of Protected Areas (SNAP) defined by the decree-law shall be applied to all national terrestrial and coastal/marine ecosystems for creation and management of protected areas in a proper and sustainable manner. The decree-law stipulates that the projected areas shall be managed by the protected area management committee composed of local leaders (e.g, suco leaders, traditional leaders, women representatives, and youth representatives) and relevant government authorities in accordance with the protected area management plan including a land use/zoning plan and co-management agreement. Local communities are expected to play important roles in the preparation and implementation of the management plan and co-management agreement.

A total of 46 protected areas listed in the law shall be managed in accordance with the decree-law in principle.

2.5.4 National Forest Sector Policy

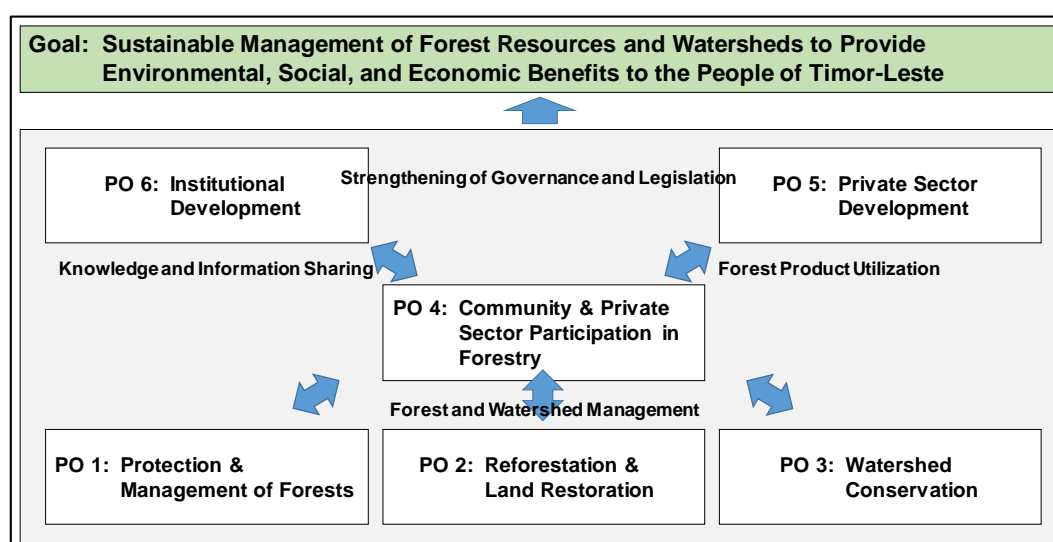
The National Forest Sector Policy was first issued in 2008, and has been reviewed and revised with technical assistance from FAO recently. The draft revised policy is currently being reviewed by GDFCIP for finalization. Both the original and revised versions of the policy have the same goal and policy objectives, namely:

Goal: “Sustainable management of forest resources and watersheds to provide environmental, social, and economic benefits to people of Timor-Leste.”

Policy objectives:

- 1) Protection and management of forest: Effective protection of the ecological integrity and biological composition of not less than 70% of the area of forests by 2030
- 2) Reforestation and land restoration: Reforestation and restoration of degraded land and forest to improve watershed and coastline protection, and maintain and expand wood resources
- 3) Watershed conservation: Long-term sustainable conservation of watersheds not later than 2035 to maintain and enhance natural water flows, to maintain high water quality and to minimize flooding and the erosion of rock and soils
- 4) Community and private participation in forestry: Harmonious and effective participation of forest communities and other private sector groups with the Government by the end of 2030
- 5) Private sector development: Development and maintenance of a private sector-based business environment for profitable forest ownership and the management, production, utilization and marketing of forest products, especially for the alleviation of poverty among rural communities
- 6) Institutional Development: Development of managerial, technical and administrative capacity and maintenance and development of forest sector institutions to effectively design, implement, manage, monitor, and adapt all the forest policy objectives and specific programs based on lessons learned from implementation.

The following diagram shows the structure of the goal and policy objectives of the forest sector policy.



Goal and Policy Objectives of the Forest Sector Policy

(Source: Draft Revised Forest Sector Policy in April 2017 adapted by the JICA Project Team, September 2017.)

Each policy objective has the tangible target with key actions necessary for achievement. The following table shows those set in the revised version of the policy.

Policy Objectives and Their Targets

Policy Objective	Targets	Targets
1. Protection and Management of Forest	Effective protection of the ecological integrity and biological composition of not less than 70% of the total forests by 2030	1) Effective community involvement and empowerment 2) Security of community rights based on recognition of customary rights 3) Forest management agreement and plan 4) Legislative development for priority conservation areas.
2. Reforestation and Land Restoration	Production of 50% of the nation's sawn timber supply from locally grown forest plantations by 2050 for building construction, furniture manufacture and other uses of timber	1) Participatory land use planning 2) Introduction of long-term land use and management agreements 3) Development of reforestation and regeneration strategies 4) Provision of high quality seeds and seedlings 5) Provision of accurate market information, 6) Support for inventories and researches.
3. Watershed conservation	Long-term sustainable conservation of watersheds, especially focusing on the restoration of 10 critically degraded watersheds, in order to maintain and enhance natural water flows, maintain high water quality, and minimize risks of flooding, soil erosion, and landslide.	1) Selection of priority areas based on evidence 2) Securing of long-term land use rights 3) Community empowerment 4) Application of a community-based watershed management approach 5) Introduction of multi stakeholder watershed governance 6) Inter-agency coordination and collaboration 7) Watershed management researches and studies
4. Community and private participation in forestry	Harmonious and effective participation of forest communities and other private sector groups in forestry activities by the end of 2030, specifically focusing on the provision of long-term land use rights to all forest-dependent communities by 2030	1) Securing of long-term land use rights 2) Introduction of collaborative management rights 3) Government support for community empowerment 4) Strengthening of customary practices and arrangements for conflict management 5) Ensuring of benefits from management 6) Enhancement of awareness of relevant policy and legal documents at national and local levels 7) Participatory land use planning 8) Effective forestry extension 9) Development of guidelines on and capacity for facilitation in establishing community forests 10) Studies on customary knowledge, practices and arrangements
5. Private sector development	Development and maintenance of a private sector-based business	1) Provision of legal and fiscal incentives 2) Monitoring of perverse effects of regulations

Policy Objective	Targets	Targets
	environment for profitable forest ownership and management, production, utilization and marketing of forest products, especially aiming at the encouragement of 50% of forest-dependent communities to acquire the knowledge, skills, experience and confidence to manage, utilize, and market forest resources as private forest owners by 2030	3) Promotion of private sector extension services to communities 4) Encouragement to enable communities to perform private sector's roles 5) Promotion of investment from private sector in private sector 6) Promotion of forest-related business opportunities, such as processing of forest products to add value, local timber production, and eco-tourism in partnership with local communities
6. Institutional development	Building of managerial, technical and administrative capacities of relevant stakeholders in the forest sector and development of forest sector institutions with a specific focus placed on the mobilization of capacity of NGOs and international development agencies to expand community forestry nationwide by training all potential human resources at national and sub-national level in community forestry facilitation and extension skills by 2023	1) Development of capable forest services 2) Securing of adequate budget 3) Human resource development through provision of training, education and enhancement of capacity for extension 4) Promotion of action learning approaches 5) Incorporation of customary management in procedures and guidelines 6) Intersectoral coordination and cooperation 7) Incorporation of forestry development in overall development plans 8) Harmonization of sectoral policies

Source: Draft Revised Forest Sector Policy in April 2017

The revised version of the policy also indicates a number of instruments effective for achievement of the policy objectives. The instruments are categorized into four groups: i) forest and watershed management, ii) forest product utilization, iii) knowledge and information, and iv) governance and legislation. Among other things, those grouped as the forest and watershed management are highly consistent with the process and actions required for establishment of the CB-NRM mechanism, such as land use planning, forest management agreement, watershed management agreement, reforestation, to name a few.

2.5.5 Overview

Overall, the current policy and legislative frameworks in the forestry sector are favorable for the promotion of the CB-NRM mechanism as it is considered as a key to achievement of sustainable forest management. However, there is still a need to develop and improve the legislative system for CB-NRM and/or CBFM so that key stakeholders, especially the relevant government officers, could fully understand and recognize that CB-NRM/CBFM is essential for sustainable management of community forests defined by the Forest Policy Law. Specifically, a decree-law, which defines CB-NRM/CBFM as a legalized mechanism for management of community forests, and its associated standard operating procedures are requisite for smooth expansion of the CB-NRM mechanism as a mainstream program of the GoTL on a large scale.

2.6 Existing Strategic and Overall Plans relating to Forest Management

In addition to the legislative and policy documents, the MAF strategic development plan (2012-2020) developed in 2012 and the National Forest Conservation Plan are considered as the existing upper level government plans to refer. The following sub-sections outline both the documents.

2.6.1 MAF Strategic Plan (2014-2020)

The MAF Strategic Plan (2014-2020) was developed in 2012 to set its strategies and priorities consistent with the guidelines and targets given by the national Strategic Development Plan 2011-2030. The plan is considered as its roadmap to guide stakeholders in i) implementing

development interventions to reduce poverty, ii) ensuring food and nutrition security, and iii) promoting employment and economic growth in the agriculture sector. The goals/development objectives of the strategic plan are:

- a. to improve rural income and livelihoods, and reduce poverty;
- b. to improve household food and nutrition security;
- c. to support the transition from subsistence farming to commercial farming; and
- d. to promote environmental sustainability and conservation of natural resources.

To achieve such goals, the strategic plan set five (5) strategic objectives, one of which is “the enhancement of sustainable resource management, conservation and utilization.” Under such a strategic objective, the following four (4) programs are proposed in the strategic plan.

- a. Sustainable natural resource management and utilization
- b. Increase of knowledge, protection, and utilization of the biodiversity within Timor-Leste
- c. Development and dissemination of environmentally friendly agricultural industry practices
- d. Promotion of conservation of national and cultural heritages

Among others, key activities of the program for sustainable natural resource management and utilization are the enhancement of the capacity of local communities for sustainable natural resource management through i) participatory land use planning and ii) improvement of local knowledge of natural ecosystems.

2.6.2 National Forest Conservation Plan

The National Forest Conservation Plan was developed under the Forest Preservation Program in 2013 to guide stakeholders in the forestry sector, especially the National Directorate of Forestry (predecessor of NDFWM and NDNC), toward the achievement of the goal of the forest sector policy, particularly the policy objectives of “forest protection,” “community participation,” and “watershed conservation” among the six (6) policy objectives.

Specifically, the forest conservation plan set the following goals:

- a. About 73% of dense forests which have important forest functions (the important forests) will be protected in partnership with local communities living in the vicinity of the forests to ensure forest functions by 2023;
- b. More than 53% of sucos located in the important forests will introduce the community based forest management by 2023; and
- c. Major parts of the forests within the boundaries of at least five (5) critically degraded watersheds will be managed in a proper and sustainable manner by 2023.

In order to achieve such goals, the plan proposes seven (7) programs composed of 24 sub-programs. One of the programs, Forest Conservation Program, specifically aims to introduce and promote a mechanism on community-based forest management to protect forests in collaboration with communities. The following sub-programs are proposed as the key actions to be taken.

- a. Introduction and promotion of a simple community-based forest management (CBFM) mechanism (or the CB-NRM mechanism)

- b. Allocation of CFMA
- c. Collaborative management of protected areas
- d. Demarcation of CF/CFMA forest and protected areas

The promotion of the CB-NRM mechanism is one of the sub-programs of the national forest conservation plan as the entry point activity for introduction of CBFM.

2.6.3 Overview

Although CB-NRM/CBFM is set a key approach in the existing upper level plans of MAF as well as GDFCIP, few actions have been taken by MAF/GDFCIP for the expansion of the CB-NRM mechanism so far. It may be because of a lack of awareness of the CB-NRM mechanism among key officers of MAF and also their tendency of focusing on physical development, e.g., reforestation and construction of check dams, in the planning.

2.7 Major Stakeholders in the Forest Sector

2.7.1 Stakeholders relevant to Watershed Management/Conservation

A number of organizations have been involved in forest management and watershed conservation in Timor-Leste. In the 4th meeting of the GDFCIP Taskforce/Working Team on July 27, 2017, the Taskforce/Working Team identified a total of 37 organizations/agencies/projects/programs as stakeholders relevant to watershed management/conservation in general and promotion of the CB-NRM mechanism in specific.

Identification of Stakeholders by the Taskforce

Stakeholders	Names of the Organizations/ Agencies
Ministries	<u>Ministry of Agriculture and Fisheries</u> ND of Agriculture and Horticulture, ND of Irrigation and Water Use Management, ND of Policy and Planning, ND of Agribusiness <u>Ministry of Commerce Industries and Environment</u> Secretary of the State for Environment ND of International Environmental Affairs and Climate Change, ND Environment, ND of Biodiversity Conservation <u>Ministry of Social Solidarity and Inclusion</u> ND Natural Disaster Management <u>Ministry of State Affairs - ESTATAL</u> <u>Ministry of Public Works – SAS</u>
MAF Development Partners/ Projects	UNDP Dili-Ainaro UNDP Building Shoreline Resilience Project (Mangroves), , World Bank-SAPIP, FAO-Pro-Resilience TL, USAID (AVANSA), DFAT-TOMAK Project, JICA CB-NRM Project, GCCA (CAMOES), GCCA (GIZ), EU-GIZ-PSAF Project
International NGOs	Hivos, Conservation International, Mercy Corps, Care International, OXFAM TL, PARCIC, Peace Wind Japan, Plan International
National NGOs	SANTALUM, HALARAE Foundation, RAEBIA TL, HASATIL, Haburas Foundation, Konservasaun Flora Fauna, PERMATI, PROSPEK, OHM, IMI, MALAEDO, ACHAE
Others	UNITAL, UNTL, UNPAZ

Source: Report on the 4th Meeting of the Working Team, JICA CB-NRM Project, 2017

One to one consultations/meetings were made with key stakeholders to grasp their attributes (e.g., missions, objectives, activities, interests, interests, and potentialities) to identify potential areas of cooperation/linkage with them and prospective challenges to be addressed in preparation and implementation of the roadmap. The detailed data of the major stakeholders are presented in **Table 2-2**.

2.7.2 MAF Development Partners (MAF DPs)

MAF Development Partners (MAF DPs) are considered the most influential stakeholders for implementation of the roadmap followed by some of the INGOs, such as Conservation International, Mercy Corps and Hivos which are working in the field of forestry and watershed management. The DPs as well as the INGOs have played a key role in the provision of financial and human resources for implementation of CB-NRM-related activities as well as watershed management. As of the end of March 2019, it is estimated that US\$ 114.5 million

Box 1: Resource available with key DP Projects				
DP	Project	Project period	Budget (million US\$)	No of Sucos
USAID	Avansa	2015-20	19.2	50
UNDP/GEF	DARDC	2014-19	5.25	26
UNDP/GEF	Mangroves	2016-20	7	51
UNDP/GEF	DARDC	2014-18	5.25	25
UNDP/GEF	Mangroves	2016-19	7	19
Conservation International	SNAP Project	2018-21	3.34	10
European Union	Agro-Forestry	2017-21	32.47	40
JICA/ CB-NRM	CB-NRM	2016-20	4	9
DFAT	TOMAK	2016-21	20	84
FAO	Pro-Resilience	2017-19	2.2	21
World Bank	SAPIP	2016-22	21	44
Total			114.46	337

Note: Projects completing in 2017 were not included.

would be earmarked by the DPs for implementation of projects related to forestry, agro-forestry, climate resilient agriculture, community based disaster risk reduction, and value chain development in agriculture and horticulture by 2021/22 (Please see Box 1). The data also reveals that the above-listed DPs will reach out to a total of 248 sucos, of which 89 sucos would have supports from multiple DP projects.

In addition to the on-going projects, there are also projects which have been recently completed, such as GCCA, IA4RA, BRACCE and BACC. GCCA supported by the European Union was implemented by Camoes I.P. and GIZ to enable communities and other actors to cope up with effects of climate change and enhance climate resilience practices in agriculture and natural resources. The project, which was implemented in 35 Sucos in Seical and Loes Watersheds, completed its tenure in Dec 2018. The key areas of interventions of the Project were a) strengthening the weather monitoring in 13 Municipalities, b) creating awareness in the communities on vulnerability to the climate change effects and adaptation practices, and c) implementation of pilot initiatives on agroforestry, agriculture, horticulture, tree planting etc. IARA, which stands for Integrated Actions for Resilience and Adaptation, supported by EU, aimed to introduce sustainable, low-carbon food production technologies for vulnerable households and also supported communities for rain water harvesting, planting of fuelwood species and adoption of improved and energy saving cook stoves in 6 sucos in the Raumoco watershed, Lautem. The World Vision had two projects in Aileu (BRACCE - 18 sucos) and Bobonaro (BACC - 13 sucos) to promote Farmer Managed Natural Regeneration and both the projects have completed their tenures in 2016 and 2017 respectively.

In terms of suco-wise geographical spread and coverage of the DPs support in the country, Baucau Municipality tops the list (Box 2). Nearly 70% of the target sucos where the DPs are and will be working are located in six (6) municipalities, i.e. Baucau, Ainaro, Ermera, Bobonaro, Lautem and Aileu. TOMAK, SAPIP, AVANSA, UNDP-DARDC and PDAF are the important DP projects covering a number of sucos in these Municipalities. **Figure 2-1** shows the distribution of sucos supported by the DPs in the country.

In terms of watershed-wise distribution, it is observed that project interventions of the DPs are

largely located in Loes, Seical and Lacro watersheds. Around 48 percent of villages targeted by the DPs are located in Loes, Seical and Lacro watersheds. All the big budget projects such as TOMAK, SAPIP Avansa, and PSAF have presence in these watersheds. The number of sucos with the DPs' interventions in the critically degraded watersheds are shown in the table below.

Box 2: Priority Municipalities by the DPs (top 6 Municipalities in terms of spread)*		
Municipality	No. of Sucos	DPs
Baucau	43	TOMAK, EU-GIZ-PSAF, FAO-Pro-Resilience, GEF-CI
Viqueque	30	TOMAK, EU-GIZ-PSAF, FAO-Pro-Resilience, GEF-CI, UNDP-Mangroves
Bobonaro	28	USAID-AVANSA, WB-SAPIP, TOMAK, UNDP-Mangroves
Ermera	25	USAID-AVANSA, WB-SAPIP, UNDP-DARDC, GEF-CI
Lautem	22	EU-GIZ-PSAF, FAO-Pro-Resilience, GEF-CI, WB-SAPIP
Aileu	22	USAID-AVANSA, JICA-CBNRM, UNDP-DARDC
Total	170	

*Note: * The villages to be targeted by EU Agroforestry have not been*

No. of Sucos targeted by Different DPs/ Projects in the Critically Degraded Watersheds		
Watershed	No. of Sucos	DPs/ Projects
Critically Degraded Watersheds		
Loes (Overlapping with neighboring watersheds)	55	WB-SAPIP, DFAT-Tomak, USAID-Avansa, UNDP Mangroves, UNDP-DARDC
Seical (Overlapping with neighboring watersheds)	37	EU-GIZ-PSAF, FAO-Pro-Resilience, DFAT-Tomak
Lacro (Overlapping with neighboring watersheds)	27	UNDP-DARDC, UNDP-Mangroves, FAO Pro-Resilience, JICA-CBNRM, USAID-Avansa, EU-GIZ-PSAF
Irabere (Overlapping with neighboring watersheds)	18	GEF-CI, DFAT-Tomak, EU-GIZ-PSAF, UNDP-Mangroves
Be Lulic (Overlapping with neighboring watersheds)	16	UNDP-DARDC, WB-SAPIP, USAID-Avansa, FAO-Pro-Resilience
Comoro (Overlapping with neighboring watersheds)	16	JICA-CBNRM, GEF-CI, USAID-Avansa
Tono	6	WB-SAPIP
Others		
Raumoco (Overlapping with neighboring watersheds)	9	WB-SAPIP
Other watersheds	64	FAO-Pro-Resilience, DFAT-Tomak, EU-GIZ-PSAF, USAID-Avansa, UNDP-Mangroves etc.
Total Sucos	248	

Source: JICA Project Team (2019)

A further analysis was made to identify types of the activities undertaken by the DP projects in the respective villages. As shown in the table below, sustainable agriculture, nurseries/tree planting/ agroforestry, water conservation/ resource management, and PLUP are the major interventions made by the DP projects at the suco level. **Figures 2-2 (1-11)** show the suco coverage of the respective interventions made by the DP projects. **Appendix 2-1** shows the database of the interventions made by the DPs at suco level in the country.

Key Interventions by the Development Partners at Suco Level

Sl.	Key Project Interventions	No. of Sucos	Percentage
1	Sustainable Agriculture	176	71
2	Nursery, Tree Planting, Agroforestry	168	68
3	Water conservation/ resource management	118	48
4	PLUP	113	46
5	Sustainable Upland Management	99	40

Sl.	Key Project Interventions	No. of Sucos	Percentage
6	CBDRM/CCVA	92	37
7	Value Chain and Market Development	68	27
8	Livestock and Fisheries	46	19

Note: The data available from 278 Sucos were analysed for the project interventions

Source: JICA Project Team (2019)

Interventions relating to “sustainable agriculture,” which have been and will be introduced in a total of 176 sucos (71% of the total sucos targeted by DPs), mainly focus on the improvement of crop production/productivity through training, demonstration, input supply and conducts of farmer field schools, which also aim to build climate resiliency in agricultural practices. Those relating to “nursery, tree planting, and agroforestry” undertaken in 168 sucos (or about 68% of the total sucos targeted by DPs) mainly aim to produce seedlings of timber, fruit, industrial plants, and leguminous species and plant them in the lands owned by local communities. There are also few cases of reforestation in community land and restoration of mangroves in coastal areas.

In addition to community development or agriculture development, DPs have also adopted or will adopt the field-tested participatory planning methods, namely Participatory Land Use Planning (PLUP) and Climate Change Vulnerability Analysis (CCVA). The initial assessment estimates that PLUP would be adopted in about 113 Sucos, whereas the DPs would go for Climate Change Vulnerability Analysis / Community Based Disaster Risk Management in 92 Sucos.

2.7.3 Key Issues identified

- At present there are no exclusive policy and program on CB-NRM. Although CB-NRM is recognized by MAF, particularly DGFCIP, and MAF/DGFCIP has suggested to different DPs to adopt CB-NRM, particularly PLUP, as the standard operating procedure for implementing any projects, there are no budgetary allocations made in the Ministry’s annual work and budget plans. It is still important to enhance the awareness and understanding among high-up officials in MAF on CB-NRM.
- The same is the case with watershed management. There is no exclusive policy on watershed management although Inter Ministerial Technical Commission on Watershed Management was established in 2017. But operational frameworks and guidelines are yet to be developed for the national level commission. MAF does not allocate adequate resources for watershed management.
- The resources available for forestry planning, regeneration, management and conservation are very limited. The efforts of NDFWM are still limited to production of seedlings and reforestation.
- There has been less efforts made by NDFWM for preparation and implementation of forest management plans and protected areas management plans so far. Although MAF identifies a total of 46 sites as protected areas, which include two (2) National Parks officially gazetted, there are no management plans, skilled human resources, or secured budgets for protection and management of the protected areas.
- The roadmap should be used as a supporting document for GDFCIP/NDFWM to secure necessary budgets for expansion of CB-NRM and promotion of watershed management. Ideally, it should be approved by the Council of Ministers as a program of MAF so that GDFCIP/NDFWM could official acknowledgement of its mandate for implementation of

the roadmap. Similarly, the roadmap should be submitted by MAF/GDFCIP to the PMU in the Ministry of Finance (MoF), which oversees the investments from the Development Partners, so that MAF/GDFCIP could negotiate with DPs to implement the roadmap in coordination with MoF.

- Enhancement of the capacity of the national directorates under GDFCIP (i.e., NDFWM, NDNC, and NDCIP) and the MAF municipal offices is another challenge in implementation of the roadmap. It is also important to clarify the division of roles and responsibilities of the MAF national directorates and municipal offices for proper implementation of the roadmap as there are grey areas in coordination between the same.

2.7.4 Potentials to Implement the Roadmap

- As described in Sub-section 2.7.2, more than US\$ 90 million is available with only 4 DP-supported projects (USAID-Avansa, EU-Agroforestry, WB/GAFSP-SAPIP and DFAT-Tomak) and they would reach out about 200 sucos (though there would be some overlaps in sucos). The projects are expected to have components relating to agriculture and community development and adopt the process of community-based planning; hence they could be potential resources to be tapped for implementation of the roadmap as MAF/GDFCIP could effectively provide its directions and guidance to them on a timely manner.
- Significant efforts will be made by the DPs on capacity building at the national, municipal, and suco levels, which are expected to contribute to the enhancement of capacities of key stakeholders relevant to implementation of the roadmap

2.7.5 Possible Linkages suggested by the Stakeholder Analysis

- Some DP-supported projects, such as SAPIP, CI SNAP and EU Agroforestry, have started the application of the CB-NRM mechanism, particularly PLUP, in their project sucos (SAPIP – 44 suco, EU Agroforestry 40 sucos, CI SNAP – 9 Sucos).
- FAO Conservation Agriculture Project has already introduced PLUP in 13 project sucos and its subsequent project, namely FAO Pro-Resilience, will also explore the possibility of introduction of PLUP in its target sucos.
- GIZ-GCCA has initiated pilot for introduction of PLUP in Baucau to test if PLUP could be used along with CCVA for formulation of a community-based adaptation plan in an efficient and effective manner.
- FAO has been helping MAF/GDFCIP to have a National Community Forestry Strategy, in which the expansion of CB-NRM throughout the country would be one of the key actions to be taken for i promotion of community-based forest management (CBFM), as CB-NRM could lay the foundation for introduction of CBFM at suco level.
- In order to ensure the further expansion of CB-NRM, a legal and administrative approval of the roadmap by the GoTL is essential.
- The current coordination efforts between GDFCIP and MAF DPs will help enormously in implementation of the roadmap as the coordination meetings will be good opportunities for GDFCIP to convince the DPs to take part in the implementation of the roadmap for watershed management and sustainable forest management.
- The on-going efforts made by the DPs in coordination with GDFCIP and NDFWM are: i) the formulation of common guidelines for watershed management which includes CB-

NRM as one of key approaches and ii) the integration between CCVA and PLUP to develop a new planning tool for CB-NRM and CBA. Once the outcomes from such efforts are approved by MAF/GDFCIP and officially put in place as standard operating procedures, GDFCIP could further facilitate the expansion of CB-NRM in collaboration with MAF DPs.

- The important direction of GDFCIP-MAF DPs coordination is to give influence to MAF's policies, operating framework and practices of MAF. It is, therefore, expected that the DPs through the coordination efforts might be able to lobby for approval of the roadmap, necessary institutional arrangements and policy adjustments for implementation of the roadmap, and budget allocation for the same in the long-term and annual plans of MAF/GDFCIP. The DPs may be able to collectively help GDFCIP to develop a long-term national program on CB-NRM, community-based forest management, and watershed management and advocate the same for securing budget for implementation.
- It is necessary to enhance the awareness of CB-NRM among the stakeholders at the municipality level (e.g., MAF officers, NGOs, and local government units) for smooth introduction and implementation of CB-NRM. Ideally, MAF, DPs, and NGOs coordination should be established at the municipality level to this end. The on-going coordination efforts at the national level should plan and initiate some actions in this direction. The roadmap should also be introduced and explained to the stakeholders at the municipal level before and when it is officially approved by the GoTL.
- The GoTL has established a National Watershed Management Council. Furthermore, WB-SAPIP will promote the establishment of watershed management councils at the watershed and/or sub-watershed levels in their target watersheds. The same mechanism needs to be established in other important watersheds. MAF DPs through the GDFCIP-MAF DP coordination should advocate the formal recognition of watershed management councils as regional coordination mechanisms under the National Watershed Management Council so that the regional level councils could be established with necessary funds, other resources, and mandates for their sustainable and effective operations.
- Engagement with universities and existing training institutes in the country is crucial for implementation of the roadmap, especially for human resource development and popularization of CB-NRM. They might be able to provide short-term training courses to lay a foundation of human resources for future facilitators and extension workers and a sizable number of the universities could become the campaigners and agents for popularization of CB-NRM. University students in the Departments of Agriculture, Forestry, Natural Resources, Livestock, and Fisheries could be used as interns in national NGOs working in the fields of CB-NRM, CBFM and watershed management.

3. Evaluation of the Watersheds

As described in Section 2.2, there are a total of 191 watersheds existing in the country, which include minor-/small-scale watersheds of short-distance streams flowing from hills along the coastline. Only 29 watersheds of 191 watersheds have the basin areas of more than 10,000 ha. It is, therefore, important to identify and select the priority areas which the roadmap should focus on to maximize the effectiveness of interventions planned in the roadmap.

In order to develop an effective and realistic roadmap and implement the same in an efficient manner, the Taskforce/Working Team with the guidance of GDFCIP evaluated and prioritized all the 191 watersheds in the country in terms of its functions and necessity of forest and watershed conservation. The following sections describes the process and results of the evaluation.

3.1 Process of the Evaluation

3.1.1 Evaluation Criteria

The following evaluation criteria were used for assessment of all the existing watersheds (191 watersheds) to identify and select the priority watersheds in the country.

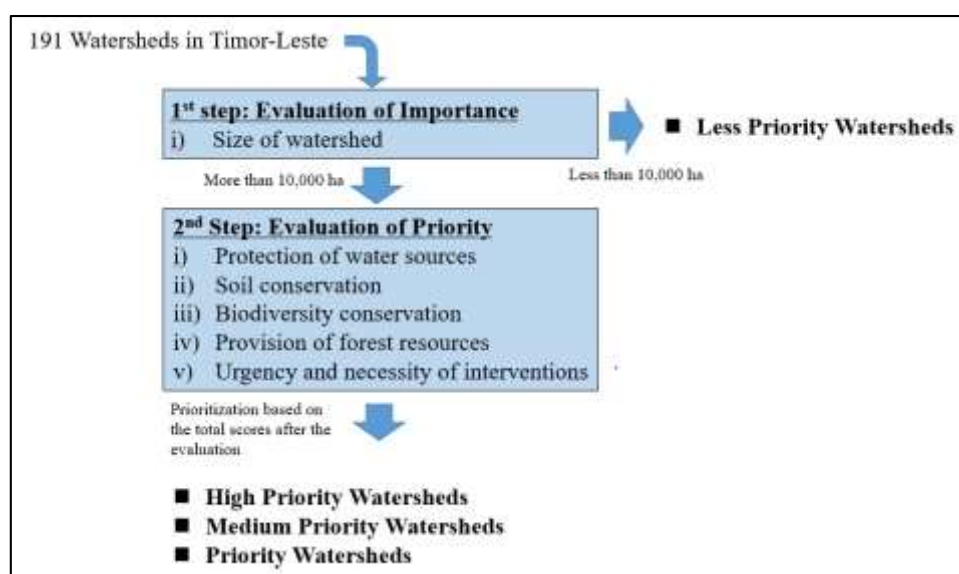
Evaluation Criteria for Assessment of the Watersheds

Criteria	Descriptions
i) Size of watershed	Any watersheds whose total area is less than 10,000 ha are categorized as low priority/important ones and eliminated from the list of watersheds for further evaluation as the majority of them are catchments of small rivers located in coastal areas and do not have any populated areas, large-scale rice fields, or important ecosystems within the boundaries.
ii) Protection of water sources	Watersheds which have a large-scale rice field in the downstream areas or a source of drinking water for the populated areas (e.g., town and city) within the boundaries are considered highly important for security of regional food and water supply.
iii) Soil conservation	Watersheds which have high risks of soil erosion and slope failure due to topographic conditions in the areas are given high priority as forests existing in such watersheds play an important role in prevention of soil erosion and slope failure.
iv) Biodiversity conservation	Watersheds which overlap their areas with the protected area are considered important for conservation of ecosystems as they contain habitats of precious species in the country.
v) Provision of forest resources	Watersheds which have high forest coverage rates and high proportion of dense forest in existing forests are prioritized as they have a crucial function to provide forest-related resources (e.g., timber and firewood) to not only communities in the watersheds but also populations in the major cities and towns.
vi) Urgency and necessity of interventions	Watersheds in which deforestation and forest degradations have progressed at high rates are given priority as they require interventions to reduce the tendency to forest degradation.

Source: JICA Project Team (2017)

3.1.2 Overall Process of the Evaluation

A two-step evaluation method was employed to assess the importance and priority of all the 191 watersheds in a systematic and efficient manner. The overall process of the evaluation is illustrated below.



Overall Process of the Evaluation

3.1.3 Rating for the Evaluation

A point rating system was used for the 2nd step evaluation in the process described above. The following table shows the indicators and the guidelines for scoring at each criterion.

Score of the Criteria

Criteria	Indicators and Scoring at Criteria
Protection of Water Source (for rice production)	<u>Indicator: Size of rice field in the downstream</u> 5-point: A watershed which has more than 2,000 ha of rice field in the downstream. 4-point: A watershed which has 1,000-2,000 ha of rice field in the downstream. 3-point: A watershed which has 500-1,000 ha of rice field in the downstream. 2-point: A watershed which has 250-500 ha of rice field in the downstream. 1-point: A watershed which has 0-250 ha of rice field in the downstream.
Protection of Water Source (for drinking water)	<u>Indicator: Existence of a water intake/source of a drinking water supply system</u> 5-point: A watershed which has a source of a drinking water supply system for a populated town/city. 0-point: A watershed which does not have a/n source of a drinking water supply system.
Soil Conservation	<u>Indicator: Proportion of steep sloping areas (over 26 degrees)</u> 5 point: A watershed where steep sloping areas comprise more than 20% of the total area. 4 point: A watershed where steep sloping areas comprise 15%~ 20% of the total area. 3 point: A watershed where steep sloping areas comprise 10%~ 15% of the total area. 2 point: A watershed where steep sloping areas comprise 5%~ 10% of the total area. 1 point: A watershed where steep sloping areas comprise less than 5% of the total area.
Biodiversity Conservation	<u>Indicator: Size of forests which overlap with the protected area</u> 5 point: A watershed which has more than 12,500 ha of forests located in the protected area. 4 point: A watershed which has 10,000 ha-12,500 ha of forests located in the protected area. 3 point: A watershed which has 7,500 ha-10,000 ha of forests located in the protected area. 2 point: A watershed which has 5,000 ha-7,500 ha of forests located in the protected area. 1 point: A watershed which has less than 5,000 ha of forests located in the protected area.
Forest Resources	The score is calculated by addition of the points of the following two indicators. <u>Indicator 1: Forest coverage rate</u> 4 point: A watershed of which the forest coverage rate is more than 75 %. 3 point: A watershed of which the forest coverage rate is between 50 % and 75 %. 2 point: A watershed of which the forest coverage rate is between 25 % and 50 %. 1 point: A watershed of which the forest coverage rate is less than 25 %. <u>Indicator 2: Ratio of dense forest in total forest area</u> 4 point: A watershed where dense forest comprises more than 75 % of the total forest area. 3 point: A watershed where dense forest comprises 50~75 % of the total forest area. 2 point: A watershed where dense forest comprises 25~50 % of the total forest area.

Criteria	Indicators and Scoring at Criteria
	1 point: A watershed where dense forest comprises 0~25 % of the total forest area.
Urgency	<u>Indicator: Average annual deforestation rate between 2003 and 2012</u> 5 point: A watershed whose average annual deforestation rate is estimated at more than 3.0%. 4 point: A watershed whose average annual deforestation rate is estimated at 2.25-3.0%. 3 point: A watershed whose average annual deforestation rate is estimated at 1.5-2.25%. 2 point: A watershed whose average annual deforestation rate is estimated at 0.75-1.5%. 1 point: A watershed whose average annual deforestation rate is estimated at 0.0-0.75%.

Source: JICA Project Team (2017)

3.1.4 Data used for the Evaluation

The data listed below were used for collection of data relating to the indicators of the respective evaluation criteria.

Data Sources of each criteria

Criteria	Sources of Data relating to the Indicators
Size of watershed	GIS data on the watersheds used by the Forest Conservation Plan (2012)
Protection of water source (for rice production)	Results of the assessment (GIS data) made by the Forest Conservation Plan on the important forest for water resources
Protection of water source (for drinking water)	Data on the locations of the water intake for major water supply systems in the country, which were provided by SAS
Soil conservation	Results of the assessment (GIS data) made by the Forest Conservation Plan on the important forest for soil conservation
Biodiversity conservation	Results of the assessment (GIS data) made by the Forest Conservation Plan on the important forest for biodiversity conservation
Forest resources	GIS data on the forest cover map prepared by the Forest Conservation Plan
Urgency	GIS data on the forest cover maps in 2003 and 2012 prepared by the Forest Conservation Plan

Source: JICA Project Team (2017)

3.2 Results of the Evaluation and Prioritization of the Watersheds

3.2.1 1st Step: Evaluation of the Importance of the Watersheds

Out of 191 watersheds in Timor-Leste, a total of 29 watersheds with the basin areas of more than 10,000 ha were selected as important watersheds. **Table 3-1** shows all the 29 watersheds with their general features (e.g., locations, post-administrative and sucos concerned, and its summary is also shown below.

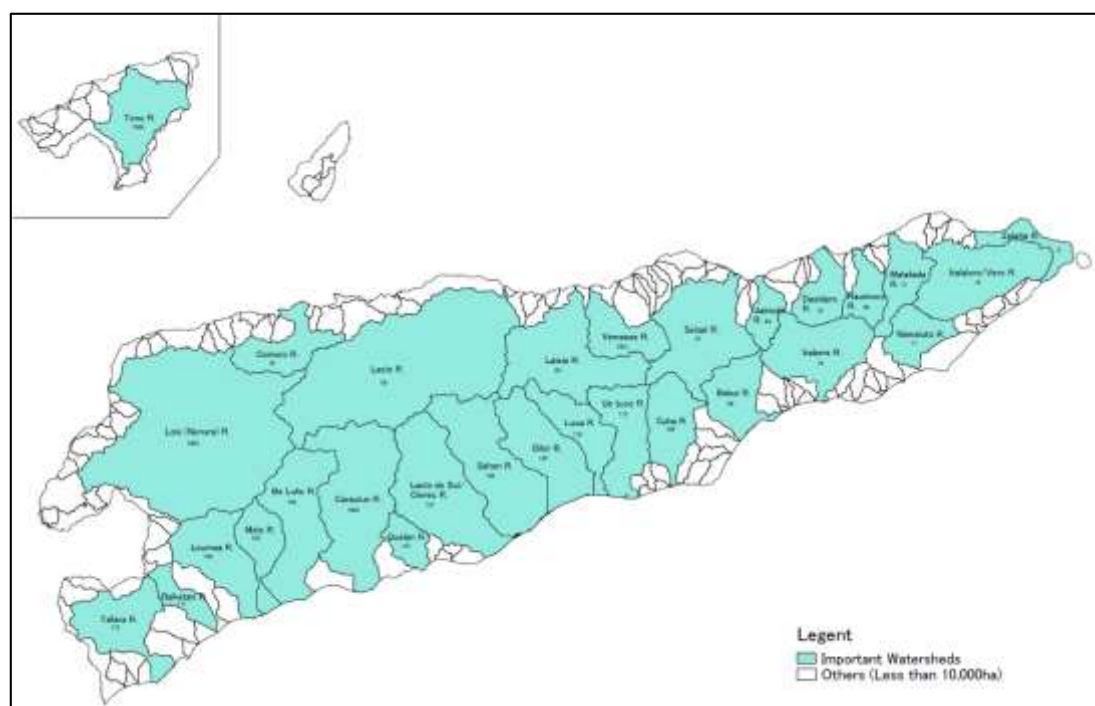
A List of Important Watersheds

Name of River/Watershed	Municipalities concerned	Catchment (km ²)	No.of sucos
Caraulun River	Aileu, Ainaro, Manufahi	647.80	36
Lois (Nunura) River	Aileu, Ainaro, Bobonaro, Ermera, Liquica	1,608.71	111
Laclo River	Alieu, Ainaro, Dili, Ermera, Manatuto, Manufahi	1,358.58	65
Comoro River	Aileu, Dili, Ermera, Liquica	231.82	27
Be Lulic River	Ainaro, Covalima, Ermera, Manufahi	460.92	21
Molo River	Ainaro, Bobonaro, Covalima, Ermera	185.81	15
Seisal River	Baucau, Viqueque	505.30	39
Uai Muhi River	Baucau	107.01	15
Laleia River	Baucau, Manatuto, Viqueque	537.17	18
Vemassee River	Baucau, Manatuto	211.14	13
Irabere River	Baucau, Lautem, Viqueque	373.62	31
Bebui River	Baucau, Viqueque	230.37	14
Loumea River	Bobonaro, Covalima	334.33	25
Raiketani River	Bobonaro, Covalima	110.22	8
Tafara River	Covalima	317.18	18

Name of River/Watershed	Municipalities concerned	Catchment (km ²)	No.of sucos
Dasidaro River	Baucau, Lautem	168.67	14
Zeheha River	Lautem	113.27	4
Malailada River	Lautem	182.60	13
Iralaloro/Vero River	Lautem	453.25	13
Raumoco River	Lautem	132.93	9
Namaluto River	Lautem	171.38	8
Luca River	Manatuto, Viqueque	233.70	8
Laclo do Sul/Clerec River	Manatuto, Manufahi	574.79	20
Dilor River	Manatuto, Viqueque	374.47	10
Sahen River	Manatuto, Manufahi	540.80	17
Quelan River	Manufahi	107.50	4
Tono River	Oeccuse	344.33	16
Cuha River	Viqueque	251.84	13
Ue tuco River	Viqueque	288.14	11
Total: 29 river watersheds	Total: 13 Municipalities	11,157.65	392

Source: JICA Project Team (2017)

The following figure shows the geographic distribution of the 29 watersheds in the country.



Important Watersheds (29 Watersheds) in the Country

3.2.2 2nd Step: Evaluation of the Priority of the Watersheds

The 29 watersheds were further assessed in terms of the six (6) criteria explained in sub-section 3.1.3. The results of the assessments are presented in **Table 3-2**. The watersheds were rearranged by the total scores gained in the evaluation as shown below.

Results of prioritization of watersheds

Name of watershed	Total Land Area (km ²)	Ranking	Total score	Score of each indicator					
				Protection of Water Source (for rice production)	Protection of Water Source (for drinking water)	Soil Conservation	Biodiversity Conservation	Forest Resources	Urgency
Lois (Nunura) R. watershed	1608.71	1	24	5	5	2	2	5	5
Caraulun R. watershed	647.80	2	23	2	5	4	2	5	5
Be Lulic R. watershed	460.92	3	22	4	5	3	2	4	4
Seisal R. watershed	505.30	4	20	5	5	1	1	5	3
Tafara R. watershed	317.18	5	18	1	5	2	1	5	4
Lacio R. watershed	1358.58	5	18	5	5	2	1	4	1
Cuha R. watershed	251.84	5	18	3	5	1	1	4	4
Comoro R. watershed	231.82	5	18	1	5	2	1	4	5
Sahen R. watershed	540.80	9	17	5	0	2	2	6	2
Irabere R. watershed	373.62	9	17	3	0	2	4	5	3
Tono R. watershed	344.33	9	17	4	5	1	1	4	2
Dilor R. watershed	374.47	9	17	4	0	1	2	6	4
Quelan R. watershed	107.50	9	17	1	0	1	5	5	5
Iralaloro/Vero R. watershed	453.25	9	17	1	5	1	5	5	0
Lacio do Sul/Cleres R. watershed	574.79	15	16	3	0	2	1	5	5
Loumea R. watershed	334.33	15	16	4	0	2	1	4	5
Uai Muhi R. watershed	107.01	17	15	3	0	3	1	4	4
Bebui R. watershed	230.37	18	14	4	0	1	1	5	3
Ue Iuco R. watershed	288.14	18	14	4	0	1	1	5	3
Luca R. watershed	233.70	18	14	2	0	2	1	6	3
Vernasse R. watershed	211.14	18	14	2	0	1	5	5	1
Zeheha R. watershed	113.27	22	13	1	0	1	4	7	0
Molo R. watershed	185.81	22	13	2	0	2	1	5	3
Rakefan R. watershed	110.22	22	13	2	0	1	1	5	4
Laleia R. watershed	537.17	25	11	3	0	1	1	5	1
Malalada R. watershed	182.60	25	11	1	0	1	1	6	2
Raumoco R. watershed	132.93	25	11	1	0	1	1	4	4
Namaluto R. watershed	171.38	25	11	1	0	1	1	6	2
Dasidaro R. watershed	168.67	29	9	2	0	1	1	4	1

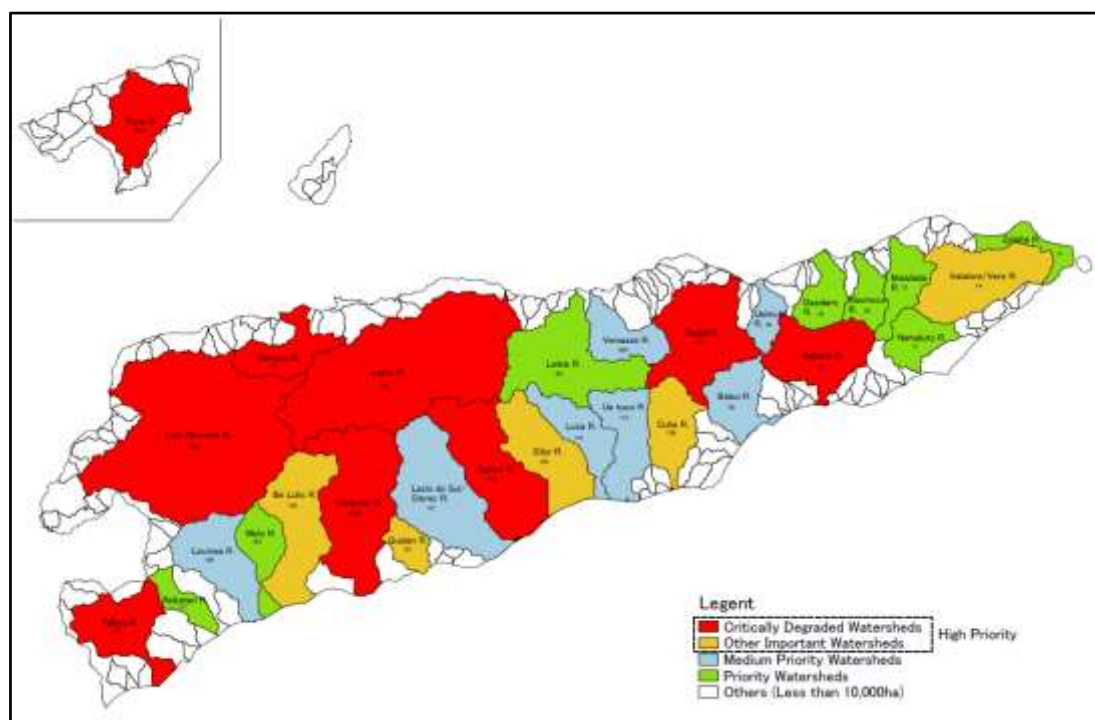
Note: The watersheds highlighted in yellow are designated as the critically-degraded but important watersheds by the Forest Sector Policy (2008).

Source: JICA Project Team (2017)

They were classified into three (3) groups according to ranking of the watersheds.

- High priority: Within 10th place
- Medium priority: Up to 20th place
- Priority: Up to 29th place

A total of 14 watersheds were classified as the high priority watersheds, which include all the critically degraded but important watersheds designated by the Forest Sector Policy. The following figure shows the distribution of the priority watersheds in the country.



Priority Watersheds in the Country

The 14 high priority watersheds comprise about 45% of the total land and more than 40% of the total forest area in the country as indicated below.

Areas covered by the Priority Watersheds

Priority	No. of Watersheds	Total Area (km ²)	Total Forest Area (km ²)
1. High priority	14	6,640.90	3,626.60
2. Medium Priority	7	2,914.69	1,742.40
3. Priority	8	1,602.05	1,140.30
Sub-total	29	11,157.64	6,509.30
4. Less priority	162	3,753.33	2,166.20
Total (Whole country)	191	14,910.97	8,675.50

Source: JICA Project Team (2017)

3.3 Profiles of the Priority Watersheds

Table 3-2 of this report shows the profiles of the watersheds selected as the high and medium priority watersheds. The profiles indicate the natural (geographic and vegetative) conditions and some socio-economic (administrative and demographic) data of the watersheds. The following table shows its summary.

Summary of Profiles of the High and Medium Priority Watersheds

Watershed	Socio-economic				Natural condition					
	Municipality	No. of Sucos (No.)	HHs (No.)	Population (persons)	Total area (km ²)	Dense forest (km ²)	Sparse forest (km ²)	Very sparse (km ²)	Farms (km ²)	Others (km ²)
Lois (Nunura) River	Aileu, Ainaro, Bobonaro, Ermera, Liquica	111	47,242	280,267	1,608.71	275.10	539.20	21.00	84.90	688.51
Caraulun River	Aileu, Ainaro, Manufahi	36	14,853	88,840	647.80	128.40	205.50	2.40	16.80	294.70
Be Lulic River	Ainaro, Covalima, Ermera, Manufahi	21	11,496	66,569	460.92	72.90	141.50	3.00	26.00	217.52
Seisal River	Baucau, Viqueque	39	17,668	93,771	505.30	111.70	164.90	8.20	40.70	179.80
Tafara River	Covalima	18	7,045	36,043	317.18	59.60	139.10	0.00	2.60	115.88
Laclo River	Aileu, Ainaro, Dili, Ermera, Manatuto, Manufahi	65	19,020	120,562	1,358.58	172.70	532.70	316.90	24.40	311.88
Cuha River	Viqueque	13	5,949	30,025	251.84	31.50	112.10	0.00	5.90	102.34
Comoro River	Aileu, Dili, Ermera, Liquica	27	27,423	174,082	231.82	53.00	57.70	13.80	1.90	105.42
Sahen River	Manatuto, Manufahi	17	3,373	21,881	540.80	199.40	183.20	4.10	34.00	120.10
Irabere River	Baucau, Lautem, Viqueque	31	8,647	43,385	373.62	103.50	139.50	0.00	6.00	124.62
Tono River	Oecusse	16	13,317	64,295	344.33	16.60	186.80	0.00	16.80	124.13
Dilor River	Manatuto, Viqueque	10	2,662	16,283	374.47	129.30	117.90	0.00	13.10	114.17
Quelan River	Manufahi	4	2,445	13,992	107.50	22.40	35.10	0.00	0.30	49.70
Iralaloro/Vero River	Lautem	13	7,185	39,751	453.25	123.00	94.50	0.00	63.70	172.05
Laclo do Sul/Clerec River	Manatuto, Manufahi	20	3,545	21,166	574.79	164.50	186.50	6.60	12.50	204.69
Loumea River	Bobonaro, Covalima	25	7,828	42,448	334.33	51.70	99.60	0.00	14.70	168.33
Uai Muhi River	Baucau	14	4,957	24,234	107.01	12.40	29.80	0.70	6.10	58.01
Bebui River	Baucau, Viqueque	14	6,332	29,775	230.37	72.20	84.80	0.00	15.00	58.37
Ue tuco River	Viqueque	11	4,877	23,770	288.14	53.60	134.90	0.00	13.70	85.94
Luca River	Manatuto, Viqueque	8	2,975	15,888	233.70	95.30	78.40	0.00	4.10	55.90
Vemassee River	Baucau, Manatuto	13	4,546	24,814	211.14	39.40	117.10	8.70	3.70	42.24

4. Overall Framework of the CB-NRM Mechanism

The CB-NRM mechanism was developed by the JICA CB-NRM Project (2010-2015)¹ as an approach to the achievement of sustainable management of forest and forest-related resources at suco level. The mechanism had been put to trial in six (6) sucos during the project period and proved effective in reduction of deforestation and forest degradation as well as enhancement of local livelihoods.

The mechanism have been further expanded by the succeeding project named JICA CB-NRM Project Phase 2 (2016-2020) in another seven (7) sucos since 2016. Other MAF DPs and DP-supported projects have also introduced the CB-NRM mechanism, particularly PLUP which is the key part of the mechanism, in their own project sucos. As of the end of 2017, the CB-NRM mechanism has been put in place in about 30 sucos including those supported by the JICA Projects.

4.1 Objectives

The principle objective of the CB-NRM mechanism is to ensure that village leaders and local communities could properly protect and manage natural resources, such as forests, waters, and lands, in the locality in collaboration with MAF and NDFWM/NDFC. Specifically, the mechanism aims to:

- a. develop an enabling environment for CB-NRM at the village level by developing a future land use plan with village regulations through a series of discussions with village leaders and local communities;
- b. empower local communities, especially village leaders, to protect, manage and use forests and other natural resources in the locality;
- c. enhance the capacity of local communities, especially village leaders, to properly manage forest and other natural resources in a wise and sustainable manner in accordance with the village regulations and future land use plan;
- d. improve livelihoods of local communities through enhancement of local capacity for improvement of land productivity, increase of crop production, and introduction of high-value trees (industrial and fruit trees) in a village; and
- e. establish a framework where MAF and NDFWM/NDFC and local communities can work on sustainable forest and natural resource management balancing with livelihood development of local communities.

4.2 Scope of the Work and Key Steps in the Process

4.2.1 Scope of the CB-NRM Mechanism

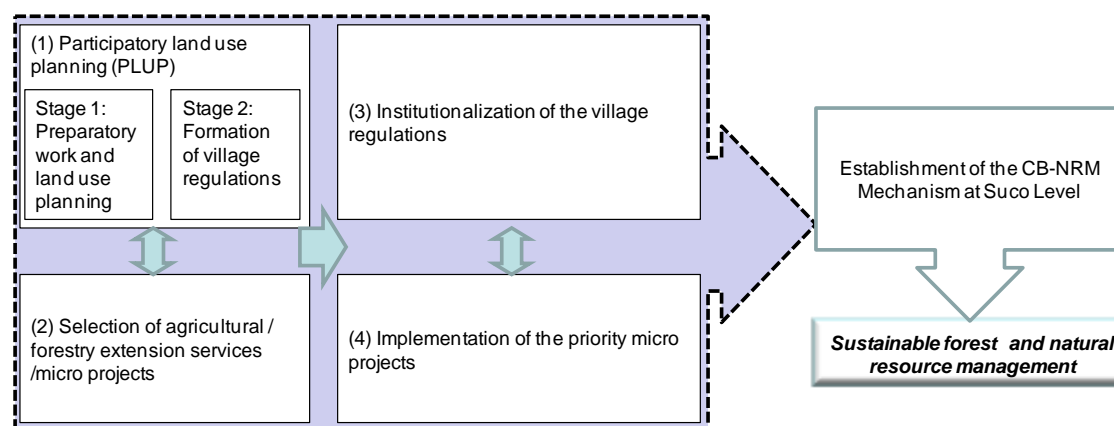
The CB-NRM mechanism shall deal with forest-related resources: namely i) forests including non-timber forest products, ii) lands, and iii) water sources. In principle, the mechanism is applicable to villages located in hilly and mountainous areas, since the mechanism is aimed as the reduction of deforestation and forest degradation in the upper catchments in the country. Nevertheless, the mechanism can be likely adopted in the lowland as well as coastal areas to promote sustainable natural resource management though its detailed procedures may need to be fine-tuned/adopted social and natural conditions in the respective areas.

¹ The Project for Community-Based Sustainable Natural Resource Management in Timor-Leste supported by Japan International Cooperation Agency (JICA) (2010-2015)

Suco (village) is the reasonable size for introduction of the CB-NRM mechanism. In fact, aldeia (sub-village) is too small to introduce and it would cause rather high transaction cost if the mechanism is introduced at aldeia level, while post-administrative (sub-district) is too large to make the mechanism effective and operational.

4.2.2 Overall Process

The overall process of the establishment of the CB-NRM mechanism is illustrated below.



Overall Process of Introduction and Establishment of the CB-NRM Mechanism

Source: Operation Manual for Establishment of the CB-NRM Mechanism (2015)

Each process is composed of a series of workshops/meetings and community's collective activities as listed below.

Key Processes and Steps/Activities associated with the respective Processes

Phase	Process	Stage/Steps
1. Assessment and planning	1.1 Participatory land use planning	<u>Stage 1: Preparatory works and land use planning</u> Step 1 Consultation with local leaders Step 2 Organization/Formation of the working group Step 3 Study tour to one of the JICA project villages Step 4 Present land use mapping Step 5 Future land use planning <u>Stage 2: Formulation of village regulations</u> Step 1 Review of the past and existing rules Step 2 Discussion of the draft village regulations Step 3 Review of the draft village regulations with future land use plan Step 4 Consultation with communities about the draft village regulations Step 5 Preparation for enforcement of the regulation in a traditional manner Step 6 Organization of Tar Bandu ceremony
	1.2 Selection of agriculture and forestry extension services/micro programs for achievement of a future land use plan	<u>Preparatory works</u> Step 1 Examination of possible extension services/micro programs for short-listing <u>Workshops/Meetings with local communities</u> Step 2 Evaluation of the short-listed extension services/micro programs for prioritization Step 3 Discussions of scope of the priority extension services/micro programs
2. Implementation and monitoring	2.1 Institutionalization of the village regulations	Step 1 Monthly monitoring meeting at suco level Step 2 Bi-monthly or quarterly meeting at aldeia level Step 3 Annual evaluation meeting at suco level

Phase	Process	Stage/Steps
	2.2 Implementation of the priority extension services / micro programs	Step 1 Organization of farmers' / beneficiaries' groups Step 2 Preparation of a work plan in a participatory manner Step 3 Conducts of a series of hands-on training courses / farmers' field schools (FFSs) on topics related to the priority extension services Step 4 Annual evaluation and planning of the work plan

Source: Operation Manual for Establishment of the CB-NRM Mechanism (2015)

4.2.3 Implementation Procedures for the Establishment of the CB-NRM Mechanism

The implementation procedures for introduction/establishment of the CB-NRM mechanism are detailed in the manual developed by the JICA CB-NRM Project in 2015². Major activities in the respective steps are outlined in **Appendix-4-1**

4.3 Expected Outputs of the CB-NRM Mechanism

The following outputs are expected to be generated by the establishment of the CB-NRM mechanism at suco level.

- The incidence of wild fire and illegal exploitation will be reduced.
- Crop damages caused by free grazing animals and unlawful acts will be reduced.
- Local communities can easily ensure the growth of crops and trees planted in their farms since the risk of crop damage is reduced.
- Productivity of agricultural crops will increase by amendment of soil fertility, improvement of farming practices, and utilization of improved seeds and organic fertilizer.
- Less productive or unproductive lands can be utilized for production purposes, namely, timber, fruits, coffee, and fodder crops/trees production.
- Local livelihood will be improved.

Furthermore, the following impacts might be generated on a sub-district or sub-watershed scale in the long run.

- Maintenance or increase of the forest cover
- Improvement of food security condition
- Reduction of soil run-off from
- Improvement of socio-economic conditions

4.4 Time Frame of the Processes

Participatory Land Use Planning (PLUP) should be first carried out as an entry point activity of the entire process. It is followed by the selection of agriculture and forestry extension services as the key output from PLUP, namely a future land use plan, can provide useful insights into potential agriculture and forestry extension services in the respective localities. After the final step of PLUP (an official announcement of the enforcement of the village regulations through Tara Bandu ceremony) and selection of the extension services/micro programs, the institutionalization of the village regulations and the implementation of the priority micro programs will start, respectively.

The standard time frames of the respective activities for the establishment of the CB-NRM mechanism are shown below.

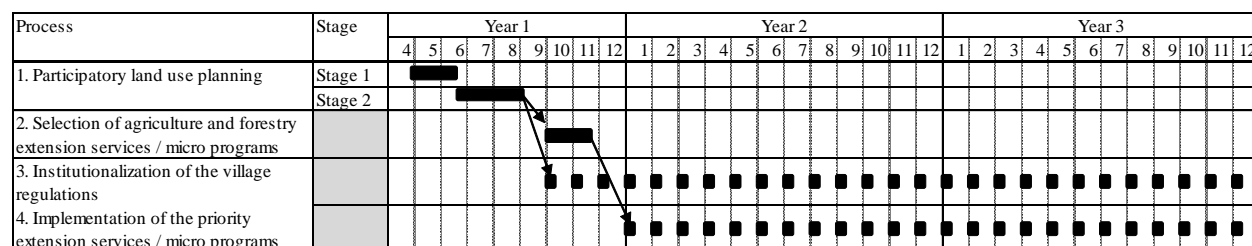
² Operation Manual for Establishment of the CB-NRM Mechanism at Suco Level (2015)

Key Processes and Steps/Activities associated with the respective Processes

Key Processes and Steps/Activities associated with the respective Processes				
Phase	Process	Stage	Timeframe	Remarks
1. Assessment and planning	1.1 Participatory land use planning	Stage 1	1~2 months	The process should begin in May or June so that the whole process of PLUP can be completed before September when communities start the land preparation.
		Stage 2	2~3 months	Likewise, the activities of stage 2 of PLUP should be completed before September to reduce the incidence of wildfires caused by a burning practice during land preparation.
	1.2 Selection of extension services/micro programs	-	1~2 months	The selection of extension services/micro programs can begin after the end of stage 1 of PLUP, as long as a field facilitator is capable to conduct the sessions of stage 2 of PLUP simultaneously with those for selection of extension services/micro programs. In case that the selection of extension services/micro programs starts is carried out after PLUP (stage 2 of PLUP), it could be completed before January/February so that the extension services/micro programs can begin in March/April.
2. Implementation and monitoring	2.1 Institutionalization of the village regulations	-	2 ~ 3 years	The monthly monitoring meeting should start from one month after the Tara Bandu ceremony.
	2.2 Implementation of the priority extension services/micro programs	-	2 ~ 3 years	If the extension services/ micro programs start their activities in March/April, hands-on training course/FFS on compost making and/or nursery establishment should be carried out in the same month.

Source: Operation Manual for Establishment of the CB-NRM Mechanism (2015)

The proposed standard time schedule of the activities is presented in **Figure 4-1** and summarized below.



Overall Implementation Schedules of the Respective Processes (Standard Version)

Source: Operation Manual for Establishment of the CB-NRM Mechanism (2015)

5. Goal, Objectives and Strategies of the Roadmap

5.1 Major Issues and Opportunities in the Formulation of the Roadmap

Prior to the identification of the goal, objectives, and strategies of the roadmap, the Taskforce/Working Team clarified major issues to be tackled in the roadmap and important opportunities to be tapped for implementation of the roadmap, on the basis of the results of the situation and stakeholder assessments and evaluation of the watersheds in the country.

5.1.1 Major Issues

Major issues that the roadmap should tackle in its implementation are enumerated below.

- A legislative document (bill) which supports for expansion of the CB-NRM mechanism in accordance with Basic Forest Policy Law (2017) should be developed and approved by the GoTL.
- A new department or a specific unit for CB-NRM/CBFM should be established within NDFWM and legally recognized by the GoTL so that NDFWM could secure necessary operating budget for expansion of the CB-NRM.
- The watershed management councils at the watershed/sub-watershed level should be established and officially recognized by the GoTL along with the introduction of the CB-NRM mechanism at suco level, to ensure the expansion of CB-NRM, especially PLUP, and the sustainability of the effectiveness of the mechanism.
- MAF/GDFCIP should allocate necessary budget for implementation of the roadmap, particularly for conduct of PLUP, in its mid-term and annual work and budget plans.
- MAF/GDFCIP should seek financial assistance from MAF DPs and/or their external funding institutions/organizations to supplement their budget and fill the financial gaps between their budgets and the amount required for implementation of the roadmap.
- The number of field facilitators equipped with CB-NRM-related techniques/skills need to be increased for smooth implementation of the roadmap; hence, the capacity of existing facilitators/field extension officers should be enhanced.

5.1.2 Important Opportunities

The following important opportunities should be taken into account in the preparation and implementation of the roadmap.

- Almost all the on-going/planned MAF DP-supported projects have activities relating to CB-NRM; hence, their activities should be fully utilized for establishment of the CB-NRM mechanism at suco level in the important watersheds.
- Among other things, several MAF DP-supported projects, such as SAPIP, CI-SNAP, and EU Agroforestry, show their intentions to incorporate the concept of CB-NRM, particularly PLUP, into their project designs. Their initiatives should be integrated in the roadmap.
- The current efforts of MAF DPs in the GDFIP-MAF DPs coordination, namely i) development of common guidelines/standard operating procedures and ii) development of an integrated method of PLUP and CCVA, could facilitate expansion of sucos where PLUP is implemented.
- FAO may further assist GDFCIP in the promotion of community forestry or

community-based forest management through development and implementation of the national community forestry strategy in Timor-Leste for the next 10 years. The promotion of CF/CBFM will further accelerate the expansion of the CB-NRM mechanism as it could be used for laying a foundation for introduction of the concept of CF/CBFM.

5.2 Goal and Objectives of the Roadmap

5.2.1 Goal

The principal aim of the roadmap is to contribute to the achievement of the goal of the revised forest sector policy through the expansion of the CB-NRM mechanism in the country. In particular, the roadmap will contribute to the achievement of the policy objectives of “Protection and Management of Forests,” “Watershed Conservation,” and “Community and Private Participation in Forestry.” Hence, the goal of the roadmap is set as follows:

Forests and other natural resources, e.g., lands and water in the 14 high priority watersheds¹ are protected and managed in collaboration with local communities in a proper and sustainable manner.

Specifically, the targets (or indicators) of the goal of the roadmap are set as follows.

- The CB-NRM mechanism will be put in place in all the sucos geographically related to the 14 high priority watershed by 2035.
- More than 70 % of existing forests in the 14 high priority watersheds should be protected and managed in a proper and sustainable manner by 2035.
- Long-term land use rights over forest resources will be given to local communities in sucos which have significant areas of important forest ecosystems for protection of water sources, prevention of soil erosion and conservation of biodiversity in their jurisdictional areas.

5.2.2 Objectives of the Roadmap

In order to achieve the goal and its specific targets, the main objective of the roadmap is set as follows:

All the sucos geographically related to the 14 high priority watersheds will introduce and establish the CB-NRM mechanism by the end of 2030.

Toward this end, the roadmap specifically aims to:

- undertake PLUP in all the sucos geographically related to the 14 high priority watersheds by the end of 2030;
- introduce at least one or two CB-NRM-related technique/s or practice/s effective in sustainable natural resource management, such as sloping land agriculture, sustainable upland farming, reforestation/afforestation, and coffee rehabilitation, in all the sucos geographically related to the 14 high priority watersheds by the end of 2030;
- develop capacities of local leaders and authorities concerned with the 14 high

¹ The 14 high priority watersheds are: 1) Loes, 2) Caraulun, 3) Be Lulic, 4) Seisal, 5) Tafara, 6) Laclo, 7) Cuha, 8) Comoro, 9) Sahen, 10) Irabere, 11) Tono, 12) Dilor, 13) Quelan, and 14) Vero.

priority watersheds to protect and manage forests and other natural resources in a sustainable manner through PLUP and institutionalization of village regulations by the end of 2030;

- develop the necessary policy and legislative frameworks along with technical references for GDFCIP and the national directorates concerned to provide long-term land use rights over forest resources to local communities in the sucos where the future land use plan and village regulations are in place by 2027.
- Start the allocation of the long-term use rights to community groups especially in the sucos where the future land use plan and village regulations are in place by 2027.

5.3 Key Strategies to Achieve the Objectives of the Roadmap

The key strategies to be taken to achieve the objective of the roadmap (or its specific targets) are mapped out and classified into three terms: short-term, medium-term, and long-term, as shown below.

Short-term strategies (2021-2023)

- Issue and enact the new policy documents to adopt the CB-NRM mechanism as one of the mainstream measures not only for sustainable forest management but also for adaptation to adverse effects of climate changes.
- Promote the integration of PLUP into on-going and pipelined MAF and DPs projects, especially those targeting any part of the 14 high priority watersheds.
- Encourage MAF and DPs projects which include any activities relating to the CB-NRM mechanism to implement their activities in the sucos located in the 14 priority watersheds.
- Strengthen the capacity of local facilitators (e.g., NGO facilitators, forest guards, extension officers, and other technical staff) who will play a leading role in introducing the CB-NRM mechanism, especially PLUP, in sucos geographically relating to the 14 high priority watersheds.
- Seek additional financial assistance from the potential funding schemes and institutions, such as GCF and GEF, and secure additional budgets to expand the CB-NRM mechanism in the 14 high priority watersheds.
- Restructure and strengthen the institutional framework of the GoTL, particularly MAF and DGFCIP, to take a major initiative in promoting the CB-NRM mechanism in a systematic manner.
- Introduce the CB-NRM mechanism² in sucos geographically relating to the 14 high priority watersheds using additional budgets secured from the potential funding schemes/institutions.
- Establish the watershed management councils at the watershed/sub-watershed level in the 14 high priority watersheds depending on their size and terrain and enhance the capacity of local leaders for natural resource management through operations of the councils.

² The CB-NRM mechanism is composed of PLUP, micro programs/extension services, and institutionalization of the village regulations in principle.

Medium-term strategies (2024-2026)

- Continuously introduce the CB-NRM mechanism in sucos geographically relating to the 14 high priority watersheds.
- Continuously establish the watershed management councils at the watershed/sub-watershed level in the 14 high priority watersheds and enhance the capacity of local leaders for natural resource management through operations of the councils.
- Assist local communities in sucos in the 14 high priority watersheds, especially those where CB-NRM is in place, in improvement of local livelihoods of communities in collaboration with the relevant MAF National Directorates, MAF and DPs projects, and NGOs.
- Develop a new MAF diploma with the standard operation procedures (SOPs) for allocation of the long-term land use rights over natural forests (e.g., Community Forest Management Agreement: CFMA).
- Enhance the capacity of NDFWM and NDNC staff (including forest guards) as well as those of NGOs for sustainable forest management, namely, i) forest resource assessment, ii) forest management planning, iii) forest management including silvicultural practices, and iv) sustainable harvesting and reforestation.

Long-term strategies (2027-2030)

- Continuously enhance the capacity of local leaders at the post-administrative and village levels for sustainable natural resource management through the operation of the watershed management councils and implementation of the village regulations.
- Continuously assist local communities in sucos in the 14 high priority watersheds in the improvement of local livelihoods.
- Allocate the long-term land use rights over natural forests (e.g., CFMA) in sucos where the CB-NRM mechanism is in place and sizable dense or valuable forests still remain according to the MAF diploma and SOPs.
- Help local communities in sucos where the long-term land use rights are allocated to manage natural forests in a proper and sustainable manner by conducting i) forest resource assessment, ii) forest management planning, iii) forest management with silvicultural practices; and iv) sustainable harvesting and reforestation.

6. Action Plan of the Roadmap

6.1 Target Sucos and Time Frame of the Action Plan

6.1.1 Target Sucos

As specified in the goal and objectives described in Chapter 5, the roadmap will aim to expand the CB-NRM mechanism in the 14 high priority watersheds for sustainable forest management and watershed conservation in the areas. A total area of the 14 watersheds is estimated at approximately 7,576 km². Suco-wise, the 14 watersheds overlap their areas with a total of 339 sucos of 60 post-administratives as shown below.

Numbers of P.As and Sucos geographically related to the 14 Watersheds

Municipality	No. of Post-Administratives	No. of Sucos
Aileu	4	32
Ainaro	4	21
Baucau	6	43
Bobonaro	5	38
Covalima	7	19
Dili	3	6
Ermera	5	52
Lautem	5	20
Liquica	3	17
Manatuto	5	25
Manufahi	4	25
Oecusse	4	16
Viqueque	5	25
Total	60	339

Source: JICA Project Team (2018)

The 339 sucos include the sucos whose areas are barely overlapped with the watersheds; hence, the sucos which have less than 50 ha of overlap with the 14 watersheds are excluded from the target sucos in consideration of the objectives of the roadmap and cost effectiveness of the action plan. As a result, a total of 317 sucos are selected as target sucos of the action plan.

Name and Number of Target Sucos

Municipality	Suco Name	No. of Sucos
Aileu	Aileu vila	32
	Aisirimou, Bandudato, Lahae, Lausi, Fahiria, Fatubosa, Hoholau, Saboria, Selo Malere, Selo Craic, Suco Liurai	
	Laulara	
	Liquidoe	
Ainaro	Remexio	21
	Acumau, Tulataqueo, Suco-Liurai, Faturasa, Fadabloc, Maumeta, Hautoho, Fahisoi	
	Hatu-Builico	
	Maubisse	
Baucau	Hatu-Udo	38
	Ainaro	
	Bahu, Buruma, Samalari, Seical, Gariuai, Buibau, Caibada-2, Triloca, Wailili, Trilolo	
	Quelica	
Bobonaro	Venilale	36
	Vemase	
	Baguia	
	Atabae	
Bobonaro	Balibo	36
	Bobonaro	
	Cailaco	
	Maliana	

Municipality	Suco Name		No. of Sucos
Covalima	Zumalai Fatululic Fatumean Forohem Maukatar Suai Tilomar	Raimea Fatululic, Taroman Belulik Leten, Fatumea, Nanu Dato Rua, Dato Tolu, Fohoren, Lactos Holpilat, Ogues Debos, Suai Loro Casabauc, Foholulic, Lalawa, Maudemo	18
Dili	Metinaro Dom Aleixo Vera Cruz	Duyung (Sereia) Bairro Pite, Comoro Dare	4
Ermera	Railaco Atsabe Ermera Hatolia Letefoho	Deleco, Fatuquero, Lihu, Matata, Railaco Craic, Railaco Leten, Samalete, Taraco, Tocoluli Atadame/Malabe, Atara, Baboi Craic, Batumanu, Beboi Leten, Lasaun, Lacro, Laubono, Leimea Leten, Obulo, Paramin, Tiarlelo Estado, Humboe, Lauala, Leguimea, Mirtutu, Poetete, Ponilala, Raimerhei, Riheu, Talimoro Ailelo, Asulau, Coliate-Leotelo, Fatubolu, Fatuessi, Leimeacraic, Hatolia, Lemia Sorimbalu, Lissapat, Manusae, Mau-Ubu, Samara, Urahou Catrai-Craic, Catrai Leten, Ducurai, Eraulo, Goulolo, Hatugau, Haupu, Lauana	52
Lautem	Lautem Lospalos Tutuala Iliomar Luro	Com, Pairara, Parlamento Bauro, Fuiloro, Muapitine, Raca Mehara, Tutuala Cainliu, Fuat, Tirilolo Afabubu, Lacawa	14
Liquica	Bazartete Liquica Maubara	Leorema, Metagou, Tibar, Fahilebo, Ulmera Acumano, Darulete, Hatuquessi, Leoteala, Luculai Lissadila, Maubaralissa, Gugleur, Guico, Vatuboro, Vatuvou	16
Manatuto	Laclo Laclubar Manatuto Barique/Natarbora Soibada	Lacumesac, Umacaduac, Uma Naruc, Hohorai Batara, Fatumaquerec, Funar, Manelima, Orlalan, Sanana'In Aiteas, Cribas, Sau, Ailili, Iliheu Abat Oan, Aubeon, Barigue, Manehat, Uma Boco Fatumacerec, Leo Hat, Manlala, Manufahi, Samoro	25
Manufahi	Turiscas Same Fatuberliu Alas	Aitemua, Beremana, Caimauc, Fatucalo, Foholau, Lesuata, Liurai, Matorec, Manumera, Mindelo, Orana Babulu, Betano, Daisua, Grotu, Letefoho, Holarua, Rotuto, Tutuluro Clacuc, Fatucahi, Fahinehan Taitudac, Mahaquidan	24
Oecusse	Nitibe Oesilo Pante Macasar Passabe	Banafi, Lela-Ufe, Usi-Taco Bobometo, Usi-Tacae, Usi-Taqueno Bobocase, Costa, Cunha, Lalisuc, Lifau, Naimeco, Nipani, Taiboco Abani, Malelat	16
Viqueque	Ossu Uatucarbau Viqueque Lacluta	Builale, Loi-Huno, Nahareca, Ossorua, Uabubo, Uaibobo, Ossu De Cima Afaloicai, Bahatata, Irabin De Baixo, Irabin De Cima, Uani Uma, Loi Ulu Carabalo, Luca, Uai Mori, Maluro, Uma Uain Craic, Uma Quic Laline, Ahic	21
Total			317

Source: JICA Project Team (2018)

6.1.2 Time Frame of the Action Plan

The action plan is to be implemented for 10 years (January 2021 to December 2030).

6.2 Key Components of the Action Plan

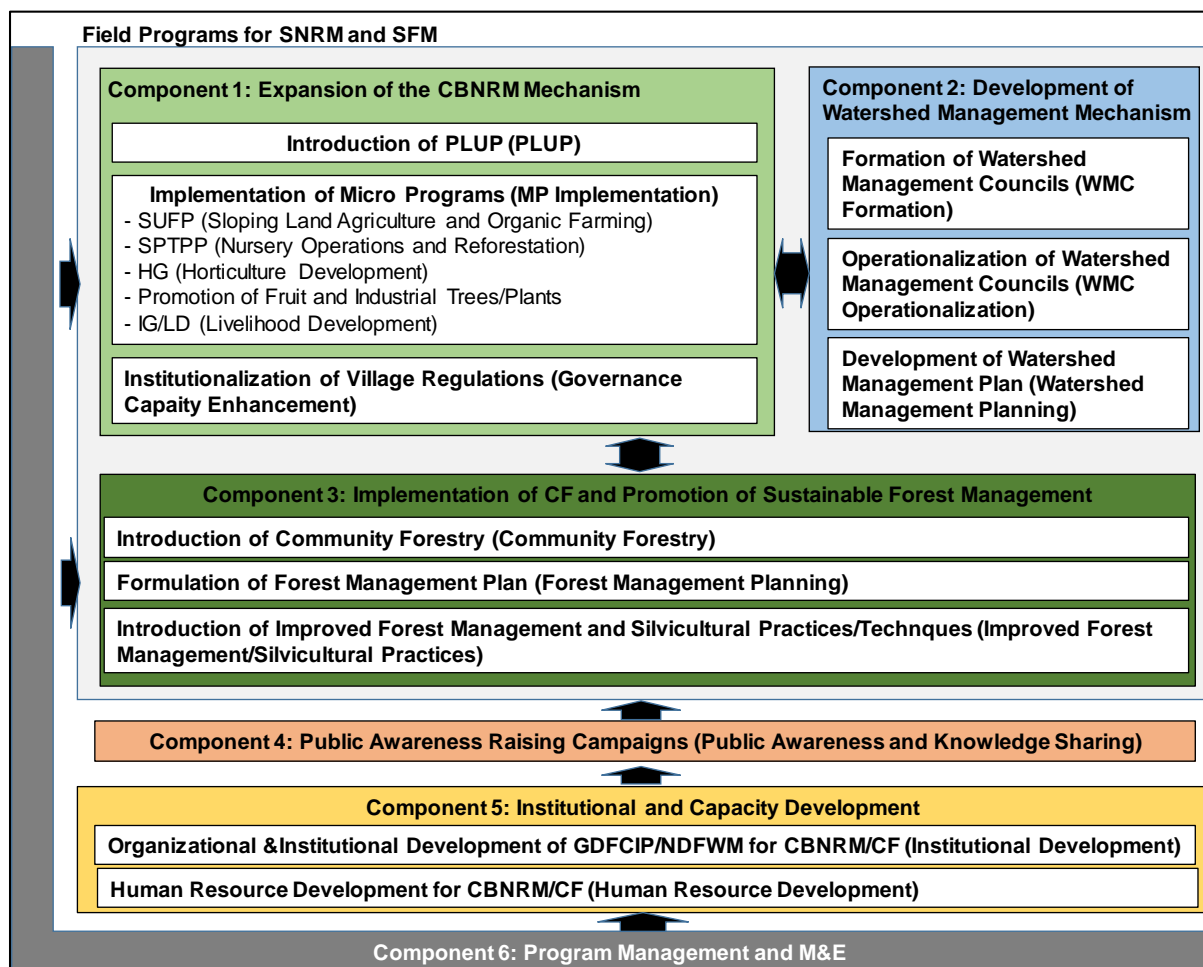
In order to achieve the goal and objectives, the action plan proposes to implement the following components in accordance with the strategies enumerated in Chapter 5.

- Component 1: Expansion of the CB-NRM Mechanism
- Component 2: Development of Watershed Management Mechanism
- Component 3: Implementation of Community Forestry (CF) and Promotion of Sustainable Forest Management (SFM)
- Component 4: Public Awareness Raising

Component 5: Institutional and Capacity Development

Component 6: Program Management, Planning, and Monitoring and Evaluation (M&E)

The overall framework of the components proposed by the action plan is illustrated below.



Source: JICA Project Team (2018)

Overall Framework of the Programs/Components proposed by the Action Plan

All the components are supported by sub-components and activities. A total of 15 sub-components constitute the action plan as listed below.

Sub-components and Major Activities of the Seven Components

Component	Sub-component
Expansion of the CB-NRM Mechanism	<ul style="list-style-type: none"> ■ Introduction of PLUP ■ Implementation of micro programs ■ Institutionalization of village regulations
Development of Watershed Management Mechanism	<ul style="list-style-type: none"> ■ Formulation of watershed management councils ■ Operationalization of watershed management councils ■ Development of watershed management plans
Implementation of Community Forestry and Promotion of Sustainable Forest Management	<ul style="list-style-type: none"> ■ Introduction of community forestry ■ Formulation of forest management plans ■ Introduction of improved forest management and silvicultural practices/techniques
Public Awareness Raising	<ul style="list-style-type: none"> ■ Public awareness raising in the general public ■ Knowledge sharing on CB-NRM among key stakeholders
Institutional and Capacity Development	<ul style="list-style-type: none"> ■ Organizational and institutional development of GDFCIP/ NDFWM for promotion of CB-NRM and CF ■ Human resource development for implementation and expansion of CB-NRM and CF

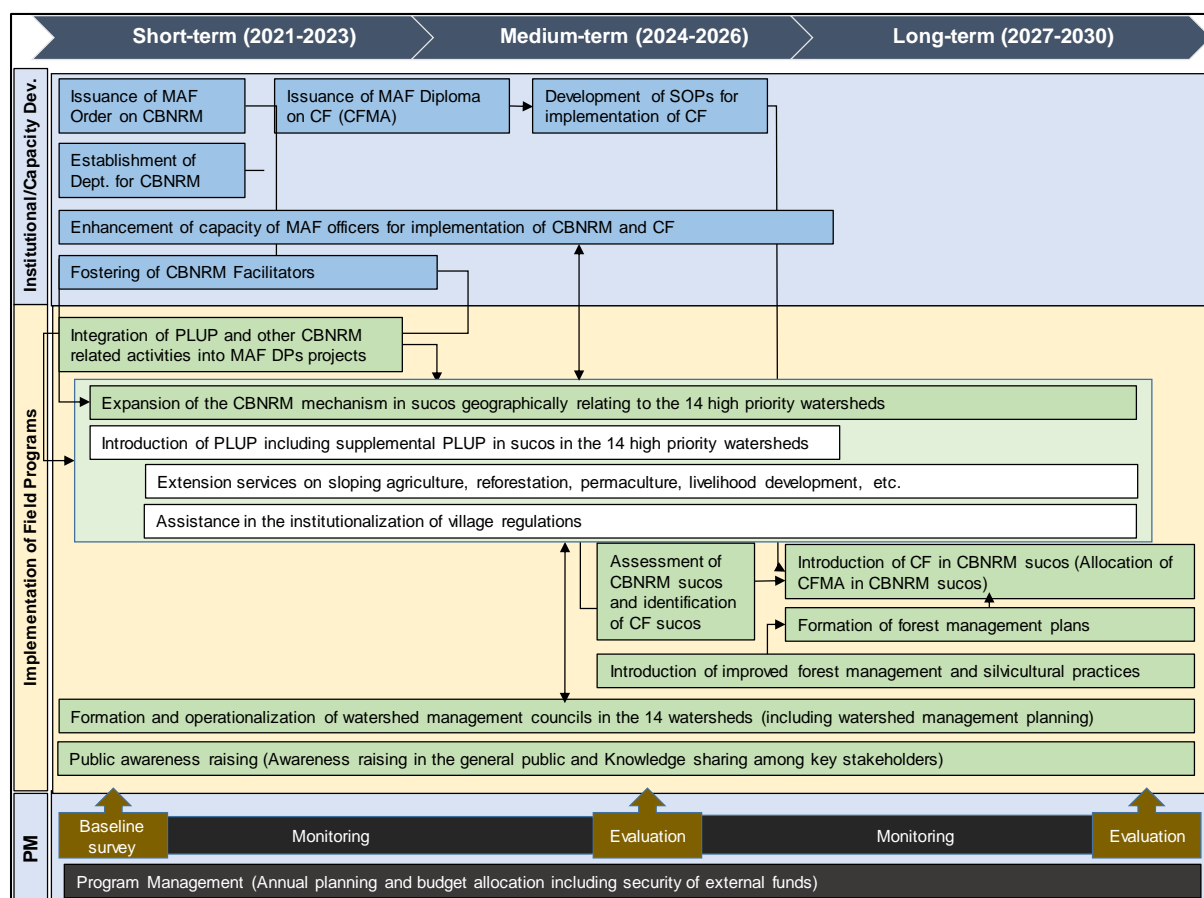
Component	Sub-component
Program Management, Planning, and M&E	<ul style="list-style-type: none"> ■ Program management ■ Periodic Monitoring and Evaluation

Source: JICA Project Team (2018)

6.3 Action Plan

6.3.1 Structure of the Action Plan of the Roadmap

The components and the associated sub-components shall be implemented in a strategic manner to bring about synergetic effects through implementation and efficiently achieve the objectives and targets of the roadmap within a given period of time. The structure of the action plan is illustrated below.



Source: JICA Project Team (2018)

Structure of the Action Plan

An implementation schedule of the action plan is described in **Chapter 7** and also tabulated in **Figure 7-1**. The following sections describe the objectives, target areas and groups, major activities and procedures, executing organizations, time frame, and expected outputs of the respective components and sub-components.

6.3.2 Component 1: Expansion of the CB-NRM Mechanism

(1) Objectives

This is the main component of the action plan to achieve the objectives of the roadmap. It is aimed at the establishment of the CB-NRM mechanism in all the 317 sucros relating to the 14 watersheds by introducing either the whole or partial process of the CB-NRM mechanism developed by the JICA CB-NRM Project in the sucros. The level of the interventions of the

component will depend on the type and scale of the supports that MAF DP projects have given and will give to target sucos. The ultimate goal of the component is to enable local communities to use and manage natural resources, namely forests, lands, and water, in a wise and sustainable manner by using the mechanism and knowledge/techniques introduced by the component. Thus, the emphasis of the component is put on i) enhancement of the governance capacity of local leaders and ii) technical acquisition of CB-NRM-related techniques/skills (e.g., sloping land agriculture, agroforestry, permaculture, reforestation, and livelihood development) by local farmers.

(2) Proposed Sub-components

This component shall follow the standard process of the establishment of the CB-NRM mechanism, which are described in Chapter 4 of this report. The component comprises the following three (3) sub-components.

- a. Participatory Land Use Planning (PLUP Sub-component)
- b. Implementation of micro programs (MP Implementation Sub-component)
- c. Enhancement of governance capacity through institutionalization of village regulations (Governance Capacity Building Sub-component)

(3) Target Areas

All the interventions may not necessarily be conducted in all the target sucos as some of them have had supports from MAF DPs for development of the village regulations through PLUP and introduction of agriculture and forestry techniques (CB-NRM-related techniques). Particularly, the majority of the on-going and pipelined MAF DP projects have and will have one or two project activities relating to the CB-NRM mechanism, such as sustainable agriculture, reforestation, agroforestry, and livelihood development, as described in Chapter 4. Hence, the interventions to be made by the roadmap will be determined on the basis of the rack records of MAF DP project supports and site situations in the target sucos.

The current situations of the application of the CB-NRM-related activities in all the target sucos are analyzed by using the existing database on MAF DP projects developed by GDFCIP. The results of the analysis are shown in **Appendix 2-1**. The gaps between the current situations and the requirements for establishment of the CB-NRM mechanism are further assessed.

The gap assessment shown in **Appendix 2-1** reveals that a total of 140 sucos would need to establish the CB-NRM mechanism from the beginning, while 136 sucos would require the conduct of PLUP or part of its process with follow-up supports for institutionalization of the village regulations. Another 28 sucos may need only the support for the follow-up meetings to strengthen the village regulations. Only 13 sucos may not need any support for establishment of the CB-NRM mechanism as MAF DPs have already conducted all the interventions in the sucos. The following table shows the necessary interventions for establishment of the CB-NRM mechanism in the target sucos.

No. of Sucos with Necessary Interventions for Establishment of the CB-NRM Mechanism

Municipality	Total Sucos	All the interventions	PLUP and Monitoring	VR Formation and PLUP Monitoring	MP	PLUP monitoring	None
Aileu	32	10	9	0	0	0	13
Ainaro	21	6	4	11	0	0	0
Baucau	38	15	15	0	0	8	0
Bobonaro	36	16	15	5	0	0	0
Covalima	18	16	0	0	0	2	0
Dili	4	4	0	0	0	0	0

Municipality	Total Sucos	All the interventions	PLUP and Monitoring	VR Formation and PLUP Monitoring	MP	PLUP monitoring	None
Ermera	52	17	29	5	0	1	0
Lautem	14	9	2	2	0	1	0
Liquica	16	6	4	4	0	2	0
Manatuto	25	10	8	0	0	7	0
Manufahi	24	16	5	0	0	3	0
Oecusse	16	6	4	6	0	0	0
Viqueque	21	9	8	0	0	4	0
Total	317	140	103	33	0	28	13

Source: JICA Project Team (2018)

(4) Major Activities

All the sub-components will be implemented in accordance with the methodologies and procedures described in the Operation Manual for the Establishment of the CB-NRM Mechanism¹ and its revised edition prepared by the JICA CB-NRM Project Phase 1 and Phase II, respectively. The outline of the methodologies of the sub-components are summarized below.

Outline of the Major Activities of the Sub-components

Sub-components	Procedures/Major Activities	Duration
PLUP	The following activities will be carried out for the formulation of village regulations with a future land use plan in each suco. 1. Consultation with local leaders & communities 2. Formation of a PLUP working team 3. Study tour to a suco where PLUP has been introduced 4. Present land use mapping 5. Future land use planning 6. Review of past and on-going suco rules 7. Development of draft village regulations 8. Review of the draft village regulations 9. Consultation with local communities about the draft regulations 10. Preparation of the tara bandu ceremony 11. Tara bandu ceremony	3~4 months
MP implementation	The standard process of implementation of a micro program is shown below. 1. Selection and prioritization of micro programs 2. Selection of beneficiaries of the selected micro programs 3. Study tour to a/ suco/s where similar activities have been carried out 4. Development of a work plan of the selection micro program/s 5. Conduct of FFSs/Hands-on training on key techniques 6. Evaluation of the results of FFSs/hands-on training 7. Conduct of FFSs/hands-on training on key techniques/skills 8. Assistance in members' application of key skills in their farms/plots	2 years for 2 batches of FFSs including individual application of techniques
Governance capacity enhancement	1. Holding of a monthly suco meeting to discuss any problems occurring in a suco and how such problems could be settled/solved using the village regulations 2. Holding of a quarterly aldeia meeting to share the results of the monthly suco meetings with local communities at aldeia level	2 years

Source: JICA Project Team (2018)

Detailed procedures for the respective sub-components are described in **Appendix-4-1**.

(5) Implementation Period

PLUP will be implemented for seven (7) years starting from 2021 and ending in 2027, while the MP Implementation and Governance Capacity Building sub-components will be implemented from 2022 to 2029. The following table shows the proposed allocation of the

¹ The Operation Manual for Establishment of the CB-NRM Mechanism at Suco Level (2015), JICA

target sucros during the implementation period.

Annual Allocation of the Sucros targeted by the Sub-components

Sub-components	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PLUP	5%	10%	20%	20%	20%	20%	5%	-	-	-
MP Implementation	-	5%	15%	30%	40%	40%	40%	25%	5%	-
Capacity enhancement	-	5%	15%	30%	40%	40%	40%	25%	5%	-

Source: JICA Project Team (2018)

(6) Implementation Agencies (Organizations responsible for Implementation)

DGCIP and NDFWM are the main implementing agencies responsible for implementation of the sub-components. NDNC will be involved in the PLUP and Governance Capacity Building sub-components. NDCIP and the MAF municipal offices concerned with the 14 watersheds will also play an important role in the implementation of the MP Implementation sub-component as part of field facilitators in the field.

(7) Necessary Arrangements

External technical supports will be required for implementation of the sub-components in the initial stage, especially for the facilitation of discussions in PLUP and provision of FFSs/hands-on training on skills/techniques associated with micro program/s. Thus, national NGOs or experienced facilitators familiar with PLUP and experts who have skills related to a/ micro program/s will be hired until MAF field officers (e.g., technical officers, forest guards, extension coordinators, and extension officers) gain sufficient skills and experiences as facilitators and trainers.

MAF field officers are expected to acquire necessary skills and replace the external organizations/experts in the course of the implementation of the component, as they will be trained to be facilitators and trainers in the Institutional and Capacity Development Component and fully involved in the implementation of the sub-components.

6.3.3 Component 2: Development of Watershed Management Mechanism

(1) Objectives

The main objective of this component is to develop a mechanism for sustainable watershed conservation at sub-watershed or sub-district level by motivating local stakeholders to protect and manage forests and other natural resources in a proper manner. To this end, the component specifically aims to: i) establish and operationalize watershed management councils at sub-watershed or post-administrative level in the 14 watersheds as an effective institutional framework for promotion of sustainable watershed management; and ii) develop a watershed management plan of each watershed as a management guideline.

(2) Proposed Sub-components

This component is composed of the following three (3) sub-components:

- Formation of watershed management councils (Watershed Management Council Formation Sub-component: WMC Formation Sub-component)
- Operationalization of the established watershed management councils (Watershed Management Council Operationalization Sub-component: WMC Operationalization Sub-component); and
- Development of watershed management plans (Watershed Management Planning Sub-component)

(3) Target Areas

The WMC Formation Sub-component aims to establish the watershed management councils to enable the councils to encompass the entire areas of the 14 watersheds. All the sub-watersheds or post-administratives where the watershed management council has not been or will not be put in place in the 14 watersheds will be targeted by the sub-component. Out of the 14 watersheds, five (5) watersheds (i.e., Loes, Belulic, Tono, Comoro and Lacro) have and will have the watershed management councils at either post-administrative or municipal level by the on-going MAF DP projects; therefore, the situations should be first checked in these watersheds in the beginning of the component.

The WMC Operationalization Sub-component will basically target all the watershed management councils established in the 14 watersheds. In case the existing watershed management councils formed by MAF DP projects are active and operational, such councils may be taken from the list.

Likewise, the watersheds which already have or will have a watershed management plan will not be targeted by the Watershed Management Planning Sub-component. Hence, those who have or will have the plans in the five (5) watersheds may not be targeted by the sub-component.

Although the exact number of the watershed management councils to be established will be determined on the basis of the results of a further study and in consultation with local stakeholders in the beginning of the component, the total number of the watershed management councils to be established is tentatively estimated at 29, which is 50% of the total post-administratives geographically related to the 14 watersheds.

(4) Major Activities

Another manual developed by the JICA CB-NRM Project Phase 1, “Manual for Formation of the Watershed Management Council” shall be fully used for the implementation of the WMC Formation Sub-component and WMC Operationalization Sub-component. The watershed management planning guidelines developed by the JICA Study in 2010² may also be referred in the development of watershed management plans. Details of the activities and procedures for the sub-components are shown in **Table 6-1**, and the outline of the methodologies of the sub-components are summarized below.

Outline of the Major Activities of the Sub-components

Sub-components	Procedures/Major Activities	Duration/suco
Formation of watershed management councils	<p>The following activities will be carried out for the formation of a watershed management council at the sub-watershed/post-administrative level.</p> <ol style="list-style-type: none"> 1. Consultations with local leaders concerned with a watershed 2. Study tour to the existing watershed management council 3. Stakeholder analysis and selection of members 4. Situation analysis and determination of vision and missions 5. Development of by-laws of the council 6. Development of a resolution on vision, missions, and by-laws 	2~3 months
Operationalization of watershed management councils	The sub-component will help the members of the watershed management councils to have regular meetings on a quarterly basis so that they could learn how to operate and use the watershed management councils for improvement of watershed environment as well as local livelihoods in the respective areas.	Every quarter for 3 years after formation

² Watershed Management Guidelines for Planning developed by the Study on Community-Based Integrated Watershed Management in Lac and Comoro River Basins, February 2010, JICA

Sub-components	Procedures/Major Activities	Duration/suco
Development of watershed management plans	<p>The following activities will be carried out with technical assistance from external experts/organizations in close consultation with local stakeholders.</p> <ol style="list-style-type: none"> 1. Assessment of the present conditions; 2. Development of thematic maps of a watershed; 3. Identification of major drivers of deforestation/forest degradation and land degradation; 4. Determination of goal and objectives of the watershed management plan; 5. Identification and formulation of interventions necessary for watershed management; 6. Determination of an institutional framework; 7. Cost estimates; and 8. Report writing 	3~5 months each for watersheds

Source: JICA Project Team (2018)

(5) Implementation Period

The formation of watershed management councils will be implemented for six (6) years starting in 2022, while the operationalization of the watershed management councils will start in 2023, one year after its commencement, and end in 2029, three years after the completion of the Watershed Management Council Formation Sub-component. The watershed management plans will be developed for the same period of the formation of watershed management councils. The following table shows the proposed allocation of the target watershed management councils during the implementation period.

Implementation Plan of the Sub-components										
Sub-components	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
WMC Formation	10%	20%	20%	20%	20%	10%	-	-	-	-
WMC Operationalization	-	10%	30%	50%	60%	60%	50%	30%	10%	-
WMP Development	-	10%	20%	20%	20%	20%	10%	-	-	-

Source: JICA Project Team (2018)

(6) Implementation Agencies (Organizations responsible for Implementation)

DGCIP and NDFWM are the main implementing agencies responsible for implementation of the sub-components. NDNC and the MAF municipal offices concerned with the 14 watersheds also play an important role in the implementation of the sub-components as part of field facilitators in the field.

The Municipal Administrative Offices (MAOs) and Post-Administrative Offices (PAOs) will be involved in the process of the component as key stakeholders of the watershed management councils and watershed management plans. Among others, the Post-Administrative officers of the PAOs concerned will be assigned to the position of chairpersons or vice chairpersons to lead the watershed management councils.

(7) Necessary Arrangements

Like in the case of the component for the expansion of the CB-NRM mechanism, national NGOs or external facilitators who have experienced in the tasks similar in nature to this component will be hired for implementation of the component in the beginning. Such tasks will be taken over by MAF field officers (e.g., forest guards and extension officers) as they learn the necessary facilitation skills in the process of the sub-components.

Development of a watershed management plan may also require expertise for assessments of

the current situations of the target watersheds and preparation of the watershed management plans. The following table shows the standard experts requisite for watershed management planning.

Expertise needed for Watershed Management Planning

Experts	No. of Experts
1. Forestry and natural resource management	1
2. Agriculture and agroforestry	1
3. GIS and remote sensing analysis	1
4. Soil and water conservation engineering	1
5. Social and livelihood development (including gender aspects)	1
Total	5

Source: JICA Project Team (2018)

6.3.4 Component 3: Implementation of Community Forestry and Promotion of Sustainable Forest Management

(1) Objectives

Promotion of community forest is one of the priority areas for sustainable forest management, as stipulated in the Forest Policy Law (Regime Geral das Florestas, No. 14/2017) of the GoTL. Introduction of the community forestry framework in a suco where the CB-NRM mechanism is in place will strengthen the mechanism for forest protection in the area as local communities could obtain a legal basis for sustainable protection and management of forests with improved forest management practices.

Hence, the component aims to introduce and promote the community forestry framework, which consists of i) an agreement on sustainable forest management (e.g., community forest management agreement: CFMA) between communities and the GoTL; ii) a management plan of forests defined by the agreement; and iii) improved silvicultural/forest management techniques, in sucos where forests categorized as the important forests³ are located in the 14 high priority watersheds.

(2) Proposed Sub-components

This component is composed of the following three (3) sub-components:

- a. Introduction of community forestry (Community Forestry Sub-component)
- b. Formulation of a forest management plan (Forest Management Planning Sub-component); and
- c. Introduction of improved forest management and silvicultural practices/techniques (Improved Forest Management/Silvicultural Practices Sub-component).

(3) Target Areas

Sucos which have more than 200 ha of dense forests categorized as the important forests within their jurisdiction will be first prioritized by this component. All the sucos (181 sucos) with more than 200 ha of the dense important forests in the 14 watersheds are listed in **Table 6-2**, and summarized as follows.

³ The important forests are defined by the Forest Conservation Plan (2012) as the forests which have important functions for protection of water sources, prevention of soil erosion, and conservation of biodiversity in the country.

Number of Target Sucos in the 14 Watersheds

Watershed	Number of Post-Administratives	No. of Sucos targeted
Aileu	4	17
Ainaro	4	14
Baucau	4	20
Bobonaro	4	9
Covalima	7	12
Dili	2	2
Ermera	5	27
Lautem	5	8
Liquica	3	16
Manatuto	5	21
Manufahi	3	18
Oecusse	1	3
Viqueque	4	14
Total	51	181

Source: JICA Project Team (2018)

In this action plan, 50% of the sucos, which are 90 sucos, will be targeted by the component/sub-components as shown below.

(4) Major Activities

The methodologies and procedures for implementation of the Community Forestry Sub-component and Forest Management Planning Sub-component will be developed by the Institutional and Capacity Development Component described in Sub-section 6.3.6. The Improved Forest Management/Silvicultural Practices Sub-component will demonstrate the silvicultural practices useful for sustainable forest management with FFSs/hands-on training for local communities in the target sucos. Draft ideas on the methodologies of the respective sub-components are outlined below.

Major Activities of the Sub-Components

Sub-components	Procedures/Major Activities	Duration/suco
Introduction of community forestry with an agreement on sustainable forest management	<p>The following activities will be carried out together with local communities in target sucos.</p> <ol style="list-style-type: none"> 1. Review the future land use map and village regulations developed by local communities through PLUP. 2. Identify the important forests to be targeted and managed by the community forest management agreement on the future land use map. 3. Demarcate the boundaries of the important forests on the ground and collect geographical coordinates of the boundaries. 4. Discuss with communities the community forestry management agreement, i.e., <ul style="list-style-type: none"> - Rules on protection and management of the important forests based on the village regulations; - A resource use/harvest plan of the important forests and the surrounding forests; - Benefit sharing mechanism on harvested products in the important forests; and - Roles and responsibilities of local communities and MAF. 5. Finalize and exchange the community forest management agreement between local communities and MAF/NDFWM. <p>The following activities will be carried out for monitoring of CF communities and management of CF contracts.</p> <ol style="list-style-type: none"> 1. File the signed agreements and convert the geographical coordinates of the important forests into GIS data and 	<p>2~3 months</p> <p>5 year for every contract period</p>

Sub-components	Procedures/Major Activities	Duration/suco
	<p>overlay them on the base map of the watershed or municipality.</p> <p>2. Periodically visit the suco and monitor the management of the important forests.</p> <p>3. Assess and evaluate the performance of local communities once a year.</p> <p>4. Renew the community forest management agreement every 5 years based on the results of the assessment.</p>	
Formulation and implementation of a forest management plan	<p>The following activities will be carried out together with local communities in target sucos.</p> <p>1. Confirm the rules on management of the important forests and the resource use/harvesting plan of the community forest management agreement.</p> <p>2. Identify the areas to be used for harvesting and those to be protected from any disturbance in the important forests.</p> <p>3. Identify silvicultural practices useful for continuous harvesting of forest products while maintaining the quality of forests.</p> <p>4. Develop an annual plan for forest management with application of the silvicultural practices.</p> <p>5. Select the persons/groups responsible for implementation of the annual plan</p> <p>6. Conduct the silvicultural practices in the important forests used for harvesting according to the annual plan.</p> <p>7. Periodically monitor and evaluate the conditions of forest used for harvesting.</p>	<p>3 months for planning</p> <p>5 year for implementation of a forest management plan</p>
Introduction of silvicultural practices/techniques	<p>The following activities will be carried out together with local communities in target sucos.</p> <p>1. Consult with local communities explaining the necessity of silvicultural practices for sustainable management of the important forests.</p> <p>2. Identify the area to be used for FFSs/hands-on training on silvicultural practices.</p> <p>3. Select local communities participating in the FFSs/hands-on training on silvicultural practices.</p> <p>4. Conduct a series of the FFSs/hands-on training on silvicultural practices (such as FMNR, reforestation, etc.)</p> <p>5. Evaluate the results of the FFSs/hands-on training on silvicultural practices.</p>	1 year per suco / batch

Source: JICA Project Team (2018)

(5) Implementation Period

The component except the Improved Forest Management/Silvicultural Practices Sub-component will be implemented after official issuance of the relevant ministerial order or circular on community forestry. Thus, the Community Forestry Sub-component and Forest Management Planning Sub-component are expected to start in 2027. The Improved Forest Management/Silvicultural Practices Sub-component can be implemented prior to the approval of the relevant ministerial documents on a pilot scale. A tentative allocation of the target sucros during the implementation period is shown below.

Implementation Plan of the Sub-components										
Sub-components	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Community Forestry	-	-	-	-	-	-	20%	20%	30%	30%
Forest Management Planning	-	-	-	-	-	-	20%	20%	30%	30%
Improved Forest Management /Silvicultural Practices	-	-	-	-	20%	40%	70%	80%	60%	30%

Source: JICA Project Team (2018)

(6) Implementation Agencies (Organizations responsible for Implementation)

DGCIP and NDFWM are the main implementing agencies responsible for implementation of the sub-components. NDNC and the MAF Municipal offices concerned with the 14 watersheds also play an important role in the implementation of the sub-components as part of field facilitators in the field.

(7) Necessary Arrangements

Community forestry and forest management experts will be needed for implementation of the component especially in the initial stage of the implementation. Forest guards and technical officers in forestry will take over the task of trainers on silvicultural practices after learning such techniques through the Institutional and Capacity Development Component.

6.3.5 Component 4: Public Awareness Raising

(1) Objectives

The major objectives of this component are to: i) enhance the understanding of key stakeholders (e.g., MAF officers at both central and municipal levels, MAF DPs, NGOs, and local communities) about the necessity and effectiveness of CB-NRM for sustainable forest management; and ii) raise the awareness of the importance of sustainable forest and natural resource management through CB-NRM in the general public.

The component can significantly contribute to smooth implementation of the action plan as it can be foreseen that the achievement of these objectives could ensure i) the necessary administrative and financial supports from high officials of MAF for implementation of the action plan and ii) wide acceptance of CB-NRM in local communities, especially in the 14 high priority watersheds.

(2) Proposed Sub-components

This component is composed of the following sub-components:

- a. Public awareness raising in the general public (Public Awareness Raising Sub-component); and
- b. Sharing of knowledge on CB-NRM among key stakeholders (Knowledge Sharing Sub-component).

The former sub-component consists of five (5) activities, while the latter sub-component comprises three (3) activities as listed below.

Public Awareness Raising Sub-component

- i) Development and distribution of public awareness raising campaign materials
- ii) CB-NRM promotion through media/SNS
- iii) Business promotion campaign
- iv) Nutrition/medical utilization campaign
- v) Next generation campaign.

Knowledge Sharing Sub-component

- i) International exposure visit
- ii) National Planting Day (January 13) with local communities
- iii) CB-NRM fair on International Day of Forests (March 21)

(3) Target Groups

The component will target a wide range of stakeholders as listed below.

- MAF high officials (Ministers, Vice Minister, General Secretary, General Directors, National Directors, Municipal MAF Directors, and Heads of departments under the MAF national directorates relevant to CB-NRM)
- Administrative and technical officers of municipal and post-administrative offices concerned with the 14 watersheds
- Suco leaders and local communities in the target sucos
- General public including women and children

As shown below, each activity of the sub-components will target different stakeholders.

Target Groups of the Sub-components/Activities

Sub-components	Activities	Target Stakeholders
Public Awareness Raising Sub-component	Development and distribution of public awareness raising campaign materials	■ General public
	CB-NRM promotion through media/SNS	■ General public ■ Journalists
	Business promotion campaign	■ Communities in the 14 watersheds ■ General public
	Nutrition/medical utilization campaign	■ Communities in the 14 watersheds
	Next generation campaign.	■ Communities in the 14 watersheds
Knowledge Sharing Sub-component	International exposure visit	■ MAF high officials and Municipal administrative officers
	National Planting Day (January 13) with local communities	■ H.E. Minister of MAF and high officials ■ Communities in the 14 watersheds
	CB-NRM fair on International Day of Forests (March 21)	■ MAF high officials ■ DPs and NGOs ■ Communities in the 14 watersheds ■ Citizens in Dili

Source: JICA Project Team (2018)

(4) Major Activities

Several type of public awareness raising activities and campaigns will be carried out in the Public Awareness Raising Sub-component, while the Knowledge Sharing Sub-component will provide opportunities for MAF high officials and other key stakeholders, such as municipal administrative officers, MAF DPs, and NGOs, to enhance their recognition of CB-NRM. More details of the activities of the sub-components are outlined below.

Major Activities of the Sub-Components

Sub-components	Activities	Procedures/Major Activities	Timing/ Frequency
Public Awareness Raising Sub-component	Development and distribution of campaign materials	a. Development of various campaign materials such as brochures, posters, caps and shirts b. Distribution of the materials at strategic occasions e.g. for seminars and ceremonies	One time (3 months) in 2021 Occasionally from 2021
	CB-NRM Promotion through media/ SNS	a. Posting updates and events through facebook. (Note that the current facebook account owned by JICA Project Team need to be transferred to MAF by 2030.) b. Training of journalists (on the concept of CB-NRM)	Occasionally from 2021 to 2030 Regularly (One day in 2021, 2024, and 2027)
	Business promotion campaign	a. Promotion of sale advertisement of compost, seedlings, and other products produced by communities e.g. through radio and facebook b. Product exhibition by participating in the CB-NRM fair	Occasionally from 2021 to 2030 Same as above

Sub-components	Activities	Procedures/Major Activities	Timing/ Frequency
	Nutrition/ medical utilization campaign	a. Development of a picture-book on the use of agricultural/ forestry products for nutrition and medical purpose (e.g., banana powders and wild herbs) b. Workshop on nutritious cooking and medical utilization	One time (3 months) in 2021 One time (1 day) in a suco
	Next generation campaign	a. Development of education curriculum on the CB-NRM mechanism for ETA and vocational training centers. b. Study tour for the academic circle (university professors, teachers of ETA and vocational training centers) c. Environment education and action t school (e.g. tree / flower planting, and herbs/ mushroom cultivation at school)	2021 Regularly (1 day in 2022, 2025, and 2028) One time (1 day) in an elementary school
Knowledge Sharing Sub-component	International exposure visits	a. Study tour to other countries on CB-NRM/ CF b. Participation in international conferences on CB-NRM/CF	Regularly (One week in 2020, 2021, and 2022) Three times in total
	National Planting Day with local communities	a. Tree planting by local communities for realization of the future land use plan in the target sucos on the National Planting Day as part of national celebration with the government/MAF b. Awards ceremony for champion farmers in a suco	One time (1 day) per suco when introducing the CB-NRM mechanism
	CB-NRM fair on International Day of Forests	An even with the following activities will be held at Dili on the occasion of International Day of Forest (Mar.31). ■ Speak to the world by MAF ■ Forestry-related product exhibition ■ DP/NGO activity-exhibition ■ Community-participatory competition (e.g. caber toss and chorus) ■ Panel discussion on CB-NRM with policy makers and expertise (MAF, DPs and NGOs)	Regularly (3 days per year from 2022)

Source: JICA Project Team (2018)

(5) Implementation Plan

In principle, the component needs to be implemented in the initial stage of the action plan implementation as they could create an enabling environment for smooth implementation of the proposed components of the action plan, particularly the expansion of the CB-NRM mechanism. Among other things, the following activities should be carried out earlier than other activities of the component.

Public Awareness Raising Sub-component

- Development and distribution of public awareness raising campaign materials
- Nutrition/medical utilization campaign
- Next generation campaign.

Knowledge Sharing Sub-component

- International exposure visit

Other activities require continuous efforts throughout the implementation period. For example, “Training of journalists” of CB-NRM Promotion through media/ SNS and “Study tour for the academic circle” of Next generation campaign in the Public Awareness Raising Sub-component are to be conducted almost once in three years. National Planting Day with local communities and CB-NRM fair on International Day of Forests in the Knowledge Sharing Sub-component are annual events on the occasion of national/international celebration days.

The implementation plan of this component is delineated in the figure below.

Implementation Plan of the Sub-components and their Activities											
Sub-Component/ Activity	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
1. Public Awareness Raising Sub-component											
1.1 Development and distribution of campaign materials											
(1) Material development	■										
(2) Material distribution		■	■	■	■	■	■	■	■	■	
1.2 CB-NRM Promotion through media/ SNS											
(1) Posting with SNS	■	■	■	■	■	■	■	■	■	■	
(2) Training of journalists	■			■			■				
1.3 Business promotion campaign											
(1) Promotion of advertisement	■	■	■	■	■	■	■	■	■	■	
(2) Product exhibition (with 2.3)		■	■	■	■	■	■	■	■	■	
1.4 Nutrition / medical utilization campaign											
(1) Picture-book development	■										
(2) Cooking/ Medical Use Workshop		■	■	■	■	■	■	■	■	■	
1.5 Next generation campaign											
(1) Education curriculum development	■										
(2) Study tour for the academic		■			■			■			
(3) Environment Education/ Action		■	■	■	■	■	■	■	■	■	
2. Knowledge Sharing Sub-component											
2.1 International exposure visit											
(1) Study tour to other countries	■	■	■								
(2) Participation in International conference					■		■		■		
2.2 National Planting Day with local communities											
All activities		■	■	■	■	■	■	■	■	■	
2.3 CB-NRM fair on International Day of Forests											
All activities		■	■	■	■	■	■	■	■	■	

Source: JICA Project Team (2018)

(6) Implementation Agencies (Organizations responsible for Implementation)

DGFCIP/NDFWM will be responsible for implementation of the components and sub-components. NDNC and the MAF municipal offices concerned with the 14 watersheds will be the supporting organizations, particularly for the conducts of public awareness campaigns in the field and organization of national events, namely National Planting Day and CB-NRM far on International Day of Forests.

(7) Necessary Arrangements

The external experts or MAF DPs' technical assistance will be required in the initial stage of the component to help DGFCIP/NDFWM to develop public awareness campaigns materials (e.g., posters, brochures, and nutrition/medical use picture books) and education curriculum. Technical officers of NDFWM and NDNC as well as the MAF municipal officers concerned are expected to learn how to use the materials for public awareness raising through implementation of the component.

NGOs or a group of field facilitators may also need to be hired for the conducts of field-level activities (e.g. cooking/ medical use workshop and environment education/ action), given that the component/sub-components will target a considerable number of sucos.

6.3.6 Component 5: Institutional and Capacity Development

(1) Objectives

Building of the institutional set-ups and human capacities is an essential component for development of a solid foundation for promotion and expansion of the CB-NRM mechanism and smooth implementation of community forestry (CF). Specifically, the component aims to:

- a. set up a department responsible for CB-NRM and CF under NDFWM;
- b. develop legal systems and regulations for promotion of CB-NRM and CF; and
- c. enhance the capacity of key actors in introduction and expansion of the CB-NRM mechanism and implementation of CF.

(2) Proposed Sub-components

The following two (2) sub-components will be implemented under this component.

- a. Organizational and institutional development of GDFCIP/NDFWM for promotion of CB-NRM and CF (Institutional Development Sub-component)
- b. Human resource development for implementation and expansion of CB-NRM and CF (Human Resource Development Sub-component)

(3) Target Areas and Groups

The Human Resource Development sub-component aims to i) foster and increase field facilitators and technical trainers for introduction of the CB-NRM mechanism and CF and ii) enhance the managerial capacity of key government officers assigned for implementation of the components proposed by the roadmap.

The field facilitators of national NGOs working in the forest and agriculture sectors and field technical officers of MAF (e.g., municipal technical officers in forestry, agriculture and extension, forest guards, extension coordinators, and extension officers) will be trained as future field facilitators and technical trainers for the former aims, while technical officers working in NDFWM, NDNC, and NDCIP, especially those assigned to the new department for CBNRM and CF, will be targeted for the latter aim.

(4) Major Activities

The key activities of the Institutional Development Sub-component are to: i) establish a new department responsible for CB-NRM and CF under NDFWM and ii) develop a set of government regulations and systems for implementation and expansion of CB-NRM and CF. The Human Resource Development sub-component will conduct different types of training, such as on-the-job training (OJT), lecture, guidance/workshop, and day-to-day coaching for development of capacities of human resources in MAF and NGOs. More details of the methodologies and procedures for implementation of the sub-components are described below.

Major Activities of the Sub-Components

Sub-components	Procedures/Major Activities	Duration/suco
Organizational and institutional development of GDFCIP/NDFWM	i) Establishment of a new department for CB-NRM and CF The following activities will be carried out on the initiative of DGFCIP/NDFWM/NDNC. <ul style="list-style-type: none"> ■ Assess human resources working in all the departments of NDFWM and NDNC in terms of educational background, work experiences, and expertise. ■ Review the functions and roles of all the departments of NDFWM and NDNC. 	2021-2022

Sub-components	Procedures/Major Activities	Duration/suco
	<ul style="list-style-type: none"> ■ Review the activities done and accomplishments made by the departments for the last 3 years. ■ Draft the functions and roles of a new department for CB-NRM and CF and revise those of the existing departments, if necessary. ■ Develop the draft amendment of the MAF organic law. ■ Have a series of consultation meetings with relevant stakeholders at both the central and municipal levels. ■ Finalize the amendment of the MAF organic law. ■ Submit the amended MAF organic law to H.E. Minister for endorsement. <p>ii) Development of government regulations and systems The documents listed below are considered essential to smooth implementation and expansion of CB-NRM and CF.</p> <ul style="list-style-type: none"> - MAF Ministerial Order on Expansion of the CB-NRM Mechanism - MAF Ministerial Order on Implementation of CF (CFMA) - MAF Circular on Standard Operating Procedures (SOPs) for CF <p>In order to develop and issue the documents officially, GDFCIP / NDFWM will carry out the following activities in collaboration with NDNC.</p> <p><u>MAF Ministerial Order on Expansion of CB-NRM</u></p> <ul style="list-style-type: none"> ■ Review the draft MAF Ministerial Order on Expansion of the CB-NRM Mechanism, which was developed by the JICA CB-NRM Project and NDFWM before. ■ Update and revise the same order to make it effective and functional under the latest situations in the country. ■ Have a series of consultation meetings with relevant stakeholders at the central and municipal levels. ■ Finalize the Ministerial Order and submit the same to H.E. Minister for approval. <p><u>MAF Ministerial Order on Implementation of CF and Ministerial Circular on SOPs for CF</u></p> <ul style="list-style-type: none"> ■ Hire an external expert on community forestry or forestry institutional development. ■ Review the Forest Basic Law and Revised Forest Sector Policy with the external expert. ■ Review the draft Forest Management Decree developed with assistance from FAO in 2008 ■ Review and study the existing CF activities in the country as well as other Asian countries. ■ Implement pilot CF projects including introduction of the community forest management agreement in strategic locations in the country. ■ Monitor and evaluate the implementation of the pilot CF projects. ■ Draft the MAF Ministerial Order on Implementation of CF and Ministerial Circular on SOPs for CF. ■ Have a series of consultation meetings with relevant stakeholders about the documents at the central and municipal levels. ■ Finalize the Ministerial Order and Circular and submit the same to H.E. Minister for approval. 	<p>2021-2026</p> <p>2021-2022</p> <p>2023-2026</p>
Human resource development for implementation and expansion of CB-NRM and CF	<p>i) Increase of Field Facilitators and CB-NRM Trainers DGFCIP/NDFWM will carry out the following activities in collaboration with the MAF municipal offices concerned.</p> <ul style="list-style-type: none"> ■ Hire external experts on community forestry, forest management, and training curriculum development. ■ Review the existing training curriculum and programs (including those provided by MAF DP projects) relevant to CB-NRM/CF-related practices/techniques ■ Assess the training needs or the capacity gaps of the existing field 	2021-2028

Sub-components	Procedures/Major Activities	Duration/suco
	<p>facilitators of NGOs and MAF field officers.</p> <ul style="list-style-type: none"> ■ Collect the existing training modules and materials on CB-NRM/CF-related practices ■ Identify and list experts and organizations which can be used as resource persons in training. ■ Develop training programs/plans for fostering i) field facilitators for PLUP, ii) field facilitators for forest management planning, iii) technical trainers for sloping land agriculture, agroforestry, and permaculture, iv) technical trainers for improved silvicultural practices (e.g., FMNR and community nurseries), v) technical trainers for coffee cultivation and processing, vi) technical trainers for fruit and industrial plant development, and vii) technical trainers for vegetables farming and livelihood development. ■ Conduct the training programs/plans according to the following orders: <ul style="list-style-type: none"> - Training on PLUP: 2021-2023 - Training on FMP: 2024-2027 - Technical training on the relevant topics: 2022-2027 ■ Evaluate the results of the training activities and review/revise the training programs and plans annually. <p>ii) Enhancement of managerial capacities of NDFWM, NDNC and NDCIP officers</p> <p>The following activities will be carried out with technical assistance from MAF DP projects.</p> <ul style="list-style-type: none"> ■ Review the functions and roles of NDFWM, NDNC and NDCIP (including the new CBNRM/ CF Department) in the implementation of the components of the roadmap. ■ Identify the persons involved in the implementation of the components. ■ Identify necessary managerial skills (such as data recording, reporting, monitoring and evaluation, financial management, and planning) for implementation of the components. ■ Develop an implementation and management guideline including tools and formats for implementation, operations, and management of the components ■ Develop a set of database systems for recording the accomplishments made by the components. ■ On-the-job training in operations and management of the component using the database systems developed. 	2021-2025

Source: JICA Project Team (2018)

(5) Implementation Period

The component will be implemented between 2021 and 2027. The time frames of the sub-components and their associated activities will be as follows:

- a. Organizational and institutional development of GDFCIP/NDFWM
 - i) Establishment of a new department for CB-NRM and CF: 2021-2022
 - ii) Development of government regulations and systems: 2021-2026
 - MAF Ministerial Order on CB-NRM: 2021-2022
 - MAF Ministerial Order and Circular on CF: 2023-2026
- b. Human resource development
 - i) Increase of Field Facilitators and CB-NRM Trainers: 2021-2027
 - Training on PLUP: 2021-2023
 - Training on Relevant CB-NRM techniques: 2022-2027

- Training on forest management plan:	2024-2027
ii) Enhancement of managerial capacities of NDFWM officers:	2021-2025

(6) Implementation Agencies (Organizations responsible for Implementation)

DGFCIP and NDFWM are the main implementing agencies responsible for implementation of the component. NDNC, NDCIP, and the MAF municipal offices concerned with the 14 watersheds will collaborate with DGFCIP and NDFWM in the implementation the sub-component for human resource development.

(7) Necessary Arrangements

DGFCIP/NDFWM will need technical support from experts on the relevant subjects, such as:

- a. CB-NRM, community forestry, forest management, and legal instrument for the Institutional Development Sub-component; and
- b. PLUP, forest management, agroforestry, horticulture, livelihood development, GIS/database, and project management and M&E for the Human Resource Development Sub-component.

As the component requires a wide range of expertise, it is likely necessary for GDFCIP/NDFWM to have MAF DPs' technical assistance for implementation of the component.

6.3.7 Component 6: Program Management and M&E

(1) Objectives

DGFCIP/NDFWM and its subsidiary departments relevant to the respective components will be responsible for implementation and management of the components. Particularly, they will be engaged in: i) annual planning and budget allocation; ii) procurement and arrangement of necessary inputs including external experts; iii) coordination with relevant government and non-government organizations; iv) implementation of the sub-components in collaboration with the MAF municipal offices and NGOs, if necessary; v) management of expenses relating to the components; vi) monitoring of the implementation of the sub-components; vii) reporting; viii) collection and storing of data and maintenance of database systems; and ix) periodical evaluation of the results of the respective components/sub-components.

The main aim of the component is to enable GDFCIP/NDFWM and its subsidiary departments to operate and manage the respective components/sub-components in a proper manner following the PDCA cycle.

(2) Proposed Sub-components

The component is composed of i) program management (Program Management Sub-component) and ii) periodic monitoring and evaluation (M&E Sub-component).

(3) Major Activities

The Program Management Sub-component will be composed of a wide range of the project management activities, such as planning, budget estimation, procurement, coordination and communication, implementation and monitoring of field activities, data management and reporting, while the M&E Sub-component will consists of the baseline survey, mid-term evaluation, and program-end evaluation. More details of the respective activities of the sub-components are described in the table below.

Major Activities of the Sub-Components

Sub-components	Procedures/Major Activities	Duration/suco
Program management	<p>i) Planning and budget estimation An annual work and budget plans of the respective components/sub-components will be developed by the relevant departments of NDFWM in collaboration with NDNC, NDCIP, and the MAF municipal offices concerned. The plans shall be endorsed by DGFCIP to MAF for approval.</p> <p>ii) Procurement and arrangements of necessary inputs NDFWM and its departments responsible for the sub-components will procure external supporting organizations and experts for implementation of the sub-components following the government procurement process. The terms of reference (TOR) for the external supporting organizations and experts shall be clarified and shared with the organizations/experts with full guidance prior to their works. NDFWM will also procure the following office equipment for operations and management of the components.</p> <ul style="list-style-type: none"> - 5 units of Laptop PC and 1 unit of Desktop PC - 4 units of laser printer - 5 units of MS Office software - 1 unit of GIS software <p>iii) Coordination and communication with relevant organizations NDFWM and its departments will communicate with the MAF municipal offices concerned so that field activities will be carried out in collaboration with the same offices, particularly technical officers, forest guards, extension coordinators, and extension officers concerned with target sucos.</p> <p>iv) Implementation and monitoring of the sub-components NDFWM and its departments will implement the sub-components with technical assistance of the procured external organizations / experts in collaboration with NDNC, NDCIP, and the MAF municipal offices concerned. They will also be responsible for monitoring the activities of the sub-components to ensure the components are on the right track.</p> <p>v) Data management and reporting The results of the sub-components and data collected through monitoring will be stored and kept in database systems, such as GIS database of PLUP and CBNRM sucos, GIS database of CF areas and forest management activities, database of the watershed management councils established, and database of human resources developed. The departments will report the progress and accomplishments made by the sub-components to DGFCIP on a quarterly basis. DGFCIP will prepare and submit an annual progress report to MAF.</p>	2021-2030
Periodic Evaluation	<p>i) Baseline survey In order to properly evaluate the effects of any interventions, the baseline should be established and clarified in the beginning of the interventions. Hence, DGFCIP/NDFWM in collaboration with MAF municipal offices concerned will conduct the baseline survey at the target sucos in the 14 watersheds and update the forest and vegetation cover maps covering the 14 watersheds. The following steps will be taken for the activities.</p> <p><u>Baseline surveys</u></p> <ul style="list-style-type: none"> ■ Hire external organizations to conduct the baseline surveys at the target sucos in the 14 watersheds to collect the baselines of socio-economic conditions of households, agriculture production, current forest and natural resource management practices, and major drivers of forest degradation and deforestation in the target sucos. ■ Develop the design of the baseline surveys together with their methodologies and questionnaires and checklists used in the surveys. 	2021-2022

Sub-components	Procedures/Major Activities	Duration/suco
	<ul style="list-style-type: none"> ■ Conduct the baseline surveys at the target sucos in the 14 watersheds. ■ Develop a database of the target sucos. <p><u>Updates of the Forest and Vegetation Cover Maps</u></p> <ul style="list-style-type: none"> ■ Procure the satellite images covering the 14 watersheds. ■ Hire an/ expert/s for remote sensing analysis and preparation of a forest and vegetation cover map. ■ Analyze the satellite images along with ground truth surveys and update the forest and vegetation cover maps developed in 2012. <p>ii) Mid-term evaluation The mid-term evaluation will be conducted to evaluate the performance of the components and check if the designs of the components are still effective. The following activities will be carried out for this purpose.</p> <ul style="list-style-type: none"> ■ Hire external organizations to conduct the interview surveys at the target sucos in the 14 watersheds to collect the same data and information collected in the baseline surveys. ■ Update the forest and vegetation cover maps covering the 14 watersheds by analyzing the latest satellite images covering the watersheds. ■ Evaluate the performance of the components in terms of “effectiveness,” “efficiency,” “relevance,” “sustainability,” and “expected impact” according to the evaluation guidelines generally used by MAF DP projects. ■ Revise the action plan of the roadmap, if necessary. <p>iii) Program-end evaluation The program-end evaluation will be conducted in the same manner as the mid-term evaluation is done. The focus of the program-end evaluation will be placed on the evaluation of the effects, sustainability, and impacts of the components and extract useful lessons for future investments. The following activities will be carried out for this purpose.</p> <ul style="list-style-type: none"> ■ Hire external organizations to conduct the interview surveys at the target sucos in the 14 watersheds to collect the same data and information collected in the baseline surveys and the mid-term evaluation. ■ Update the forest and vegetation cover maps covering the 14 watersheds by analyzing the latest satellite images covering the watersheds. ■ Evaluate the performance of the components in terms of “effectiveness,” “efficiency,” “relevance,” “sustainability,” and “impact” according to the evaluation guidelines generally used by MAF DP projects. ■ Draw the lessons learned from the implementation of the components. 	<p>2025-2026</p> <p>2029-2030</p>

Source: JICA Project Team (2018)

(5) Implementation Period

The Program Management Sub-component will be carried out over the course of the implementation of the action plan, while the activities of the M&E Sub-component will be carried out according to the following time frames.

- | | |
|---------------------------|-----------|
| a. Baseline surveys | 2021/2022 |
| b. Mid-term evaluation | 2025/2026 |
| c. Program-end evaluation | 2029/2030 |

(6) Implementation Agencies (Organizations responsible for Implementation)

DGFCIP and NDFWM are the main implementing agencies responsible for both the sub-components.

(7) Necessary Arrangements

DGFCIP/NDFWM may need technical support from MAF DPs for operations and management of the components/sub-components, particularly for proper data storing and management. At the same time, NDFWM may need to procure the office equipment (laptop PCs, laser printers, and MS Office and GIS software) to enable its relevant departments to store and manage data in a proper manner.

DGFCIP/NDFWM will contract out the tasks of the baseline surveys and interview surveys for the mid-term and program-end evaluation to the third parties, such as NGOs, and may hire experts on remote sensing analysis and GIS mapping for updating the forest and vegetation cover maps of the 14 watersheds.

7. Mechanism and Institutional Framework for Implementation of the Roadmap

7.1 Implementation Mechanism

7.1.1 Prioritization of Post-Administratives in the Watersheds

(1) Evaluation Criteria and Rating System

As the roadmap will target the entire areas of the 14 watersheds covering about 280 sucos, it is important for GDFCIP/NDFWM to implement the action plan in a strategic and phased manner so that GDFCIP/NDFWM could use its own resources efficiently and maximize the synergy effects of the components/sub-components of the action plan. For strategic implementation of the action plan, the post-administratives whose the jurisdictional areas are overlapped with the 14 watersheds are further prioritized in terms of the size of areas overlapped with the watersheds and the environmental functions/services of forest ecosystems (i.e., i) protection of water resources; ii) prevention of soil erosion; and iii) conservation of biodiversity) in the respective areas. The table below shows the criteria and the rating scales for evaluation of the post-administratives. The data and results of the Forest Conservation Plan are fully utilized in the evaluation.

Evaluation Criteria and Rating Scale for Evaluation

Evaluation criteria	Indicators	Rating scale
Area overlapped with the watersheds	Area overlapped with the watersheds	■ 3 points: 100 % ■ 2 points: 50 - 100 % ■ 1 points: less than 50%
Protection of water resources	Existence of irrigated rice fields in the downstream or a water source/intake of a water drinking water supply system within the jurisdictional areas	■ 5 points: More than 2,000 ha of irrigated rice field ■ 4 points: 1,500 ha ~ 2,000 ha of irrigated rice fields ■ 3 points: 1,000 ha ~ 1,500 ha of irrigated rice fields ■ 2 points: 500 ha ~ 1,500 ha of irrigated rice fields ■ 1 points: 0 – 500 ha of irrigated rice fields ■ Another 5 points if there is a water source/intake of a drinking water supply system
Prevention of soil erosion	Area of dense forests standing on the steep sloping areas (over 26 degrees)	■ 5 points: more than 1,000 ha ■ 4 points: 750 - 1,000 ha ■ 3 points: 500 – 750 ha ■ 2 points: 250 – 500 ha ■ 1 points: 0 – 100 ha
Conservation of biodiversity	Total area of i) dense forests located in the protected areas and ii) dense forests categorized as primary/sub-primary forests	■ 5 points: more than 1,000 ha ■ 4 points: 750 - 1,000 ha ■ 3 points: 500 – 750 ha ■ 2 points: 250 – 500 ha ■ 1 points: 0 – 100 ha

Source: JICA Project Team (2018)

(2) Result of Evaluation

A total of 58 post-administratives geographically relate to the 14 watersheds as shown in Section 6.1. Out of 58, 11 post-administratives are located within the 14 watersheds or fully encompassed by the watersheds (95-100% of the area) and another 23 post-administratives overlap the majority of their jurisdictional areas (50-95 % of the area) with the watersheds. The number of post-administratives in each rating scales of the overlapping areas is shown below.

Results of the Evaluation of the “Areas Overlapped” (No. of PA in Rating Scales)

Municipality	Fully overlapping (100%)	Partially overlapping (over 50%)	Partially overlapping (less than 50%)	Total
13 Municipalities	11	23	24	58

Source: JICA Project Team (2018)

The results of the evaluation of the forest ecosystem services in the 58 post-administratives are

shown in **Table 7-1**, and summarized below.

Results of the Evaluation of the “Protection of Water Sources” (No. of PA in Rating Scales)

Municipality	9-10 points	7-8 points	5-6 points	3-4 points	1-2 point
13 Municipalities	9	8	14	9	18

Results of the Evaluation of the “Prevention of Soil Erosion” (No. of PA in Rating Scales)

Municipality	5 points	4 points	3 points	2 points	1 point
13 Municipalities	26	4	10	7	11

Results of the Evaluation of the “Conservation of Biodiversity” (No. of PA in Rating Scales)

Municipality	5 points	4 points	3 points	2 points	1 point
13 Municipalities	20	1	2	6	29

Source: JICA Project Team (2018)

The post-administratives are further classified into three categories based on the total scores, high (more than 16 points), medium (10-15 points), and low (4-9 points) as shown in **Table 7-1**, and summarized below.

Results of Prioritization of the Post-Administratives

Municipality	High priority	Medium priority	Low priority	Total
13 Municipalities	22	18	18	58

Source: JICA Project Team (2018)

The components of the action plan, particularly the expansion of the CB-NRM mechanism and the establishment of watershed management mechanism, should first target sucos belonging to the high priority post-administratives. The implementation plan of the action plan should be developed in order of priority of the post-administratives. The following table shows the number of sucos belonging to the respective priority classes. The suco lists of each priority class are shown in **Table 7-2**.

No. of Sucos in the Respective Priority Classes

Municipalities	High priority	Medium priority	Low priority	Total
Aileu	26	6	0	32
Ainaro	10	11	0	21
Baucau	8	20	10	38
Bobonaro	0	24	12	36
Covalima	4	4	10	18
Dili	0	0	4	4
Ermera	31	21	0	52
Lauten	0	6	8	14
Liquica	16	0	0	16
Manatuto	16	9	0	25
Manufahi	19	3	2	24
Oecusse	0	11	5	16
Viqueque	21	0	0	21
Total	151	115	51	317

Source: JICA Project Team (2018)

7.1.2 Implementation Schedule of the Action Plan

An implementation schedule of the action plan is shown in **Figure 7-1**, and outlined below.

Component/Sub-component	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Expansion of the CB-NRM Mechanism										
1.1 Introduction of PLUP										
1.2 Implementation of Micro Programs										
1.3 Institutionalization of Village Regulations										
2. Development of Watershed Management Mechanism										
2.1 Formation of Watershed Management Councils										
2.2 Operationalization of Watershed Management Councils										
2.3 Development of Watershed Management plans										
3. Implementation of CF and Promotion of SFM										
3.1 Introduction of Community Forestry										
3.2 Formulation of Forest Management Plan										
3.3 Introduction of Improved Forest Management and Silviculture Practices										
4. Public Awareness Raising										
4.1 Public Awareness Raising in the General Public										
4.2 Knowledge Sharing among Key Stakeholders										
5. Institutional and Capacity Development										
5.1 Organizational and Institutional Development										
5.2 Human Resource Development										
6. Program Management and M&E										
6.1 Program Management										
6.2 Periodic Monitoring and Evaluation										

Source: JICA Project Team (2018)

Summary of Draft Implementation Schedule of the Action Plan

7.1.3 Implementation Methods

In principle, the components/sub-components of the action plan will be implemented by NDFWM in collaboration with NDNC, NDCIP and the MAF municipal offices concerned. Some sub-components or parts of the sub-components will be outsourced to external supporting organizations or experts as the national directorates and MAF municipal offices concerned may not have sufficient experiences and expertise necessary for smooth implementation of the sub-components/activities, especially in the initial stage of the implementation of the action plan. The following tables shows the proposed implementation methods of the respective components/sub-components of the action plan.

Implementation Methods of the Components/Sub-components

Component	Sub-components	Implementation Methods	Expected time frame
Expansion of the CB-NRM mechanism	Implementation of PLUP	Contract-out Direct implementation	2021 – 2025 2025 - 2027
	Implementation of micro programs	Contract-out Direct implementation	2022 – 2026 2026 - 2030
	Institutionalization of village regulations	Contract-out Direct implementation	2022 - 2025 2025 - 2030
Development of watershed management mechanism	Formation of watershed management councils	Contract-out Direct implementation	2022 – 2026 2026 - 2030
	Operations of watershed management councils	Contract-out Direct implementation	2022 – 2026 2026 - 2030
Implementation of CF and promotion of sustainable forest management	Introduction of CF	Contract-out	2027 – 2030
	Forest management planning	Contract-out	2027 – 2030
	Improved forest management/ silvicultural practices	Contract-out Direct implementation	2025 – 2028 2028 - 2030
Public awareness raising	Awareness raising in general public	Contract-out Direct implementation	2021 – 2024 2024 - 2026
	Knowledge sharing among key officials	Direct implementation	2021 - 2030
Institutional and capacity development	Institutional development	Direct implementation with technical assistance from MAF DPs	2021 - 2026
	Capacity development	Direct implementation with technical assistance from MAF DPs	2021 - 2030

Component	Sub-components	Implementation Methods	Expected time frame
Planning and M&E	Program management	Direct implementation with technical assistance from MAF DPs	2021 - 2030
	Periodic evaluation	Contract-out	2021/22, 2025/26, and 2029/2030

Source: JICA Project Team (2018)

The implementation methods should be reviewed and updated before implementation of the action plan on the basis of the capacity levels of the relevant national directorates and MAF municipal offices, as they might be improved by the time of the commencement.

7.1.4 Procurements necessary for Implementation

As described above, parts of the components and sub-components proposed in the roadmap will be outsourced to external organizations (e.g., NGOs) and/or experts for efficient and effective implementation. The following table shows the activities to be outsourced and types of organizations required for the activities.

Procurement Plan of External Organizations/Experts

Component	Sub-components	Activities	Type of organization	Expected time frame
Expansion of the CB-NRM Mechanism	PLUP	PLUP	NGOs / Field facilitators	2021 - 2025
	MP Implementation	FFSs / Hands-on training	NGOs / Experts on agriculture, agroforestry, forestry.)	2022 – 2026
	Governance Capacity Enhancement	Regular meetings at suco and aldeia levels	NGOs / Field facilitators	2022 – 2025
Development of Watershed Management Mechanism	WMC Formation	Meetings with local leaders to form the councils	NGOs / Field facilitators	2021 – 2026
	WMC Operationalization	Meetings with local leaders to develop and monitor a watershed management plan as well as the situation of the watershed	NGOs / Field facilitators and experts on watershed governance)	2022 – 2026
Implementation of Community Forestry and Promotion of Sustainable Forest Management	Community Forestry	Meetings with local communities to finalize the community forest management agreement and demarcation of the boundaries of community forests	NGOs / Field facilitators and experts on community forestry	2027 – 2030
	Forest Management Planning	Development of a plan for forest management of the important forests	Experts on forest management	2027 – 2030
	Improved Forest Management / Silvicultural Practices	FFSs / Hands-on training with development of technical references	NGOs / Experts on forest management and silviculture	2027 – 2030
Public Awareness Raising	Awareness Raising	Development of awareness raising materials and education curriculum	Experts/ NGOs	2021 – 2024
		Conducts of awareness raising campaigns and events in the field	NGOs/Facilitators	2021 – 2024
Program Management and M&E	M&E	Baseline survey	NGOs	2021/2022
		Update of the forest map	Experts on RS/GIS	
		Mid-term evaluation	NGOs	2025/2026
		Update of the forest map	Experts on RS/GIS	
		Program-end evaluation	NGOs	2029/2030
		Update of the forest map	Experts on RS/GIS	

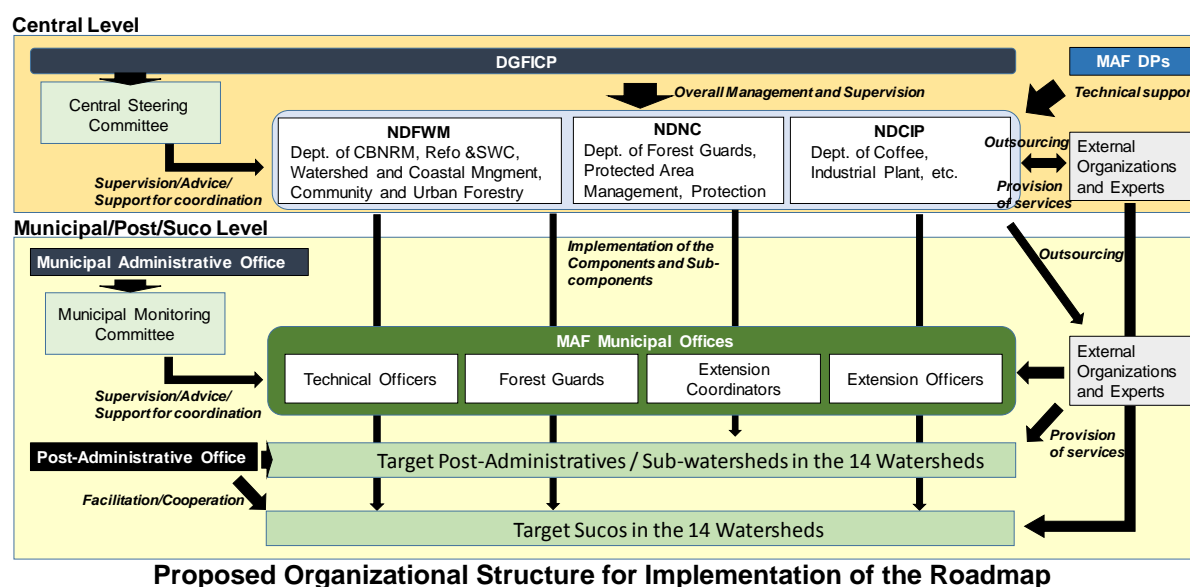
Source: JICA Project Team (2018)

The procurement of external organizations will be done in compliance with the appropriate government regulations on outsourcing of the works or procurement of external experts.

7.2 Institutional Framework for Implementation of the Action Plan

7.2.1 Organizational Set-ups for Implementation

The components and sub-components proposed in the action plan will be implemented by NDFWM and its subsidiary technical departments under the supervision of GDFCIP in principle. NDN CN NDCIP, and the MAF municipal offices concerned with the 14 watersheds will be significantly involved in the implementation of the components/sub-components. External organizations and/or experts will also be hired to outsource part of the activities of the components, in which GDFCIP/NDFWM and the MAF municipal offices concerned have less experiences. The proposed organizational structure for implementation of the components/sub-components is shown below.



(1) Central Steering Committee

The central steering committee is to be organized at the ministerial level to: i) oversee the overall progress of the implementation of the action plan; ii) approve the overall work plans and implementation guidelines; and iii) facilitate coordination and collaboration between/among national directorates and also between the central and municipal offices for enhancing synergy and convergence effects. The proposed constitution of the central steering committee is shown below.

Proposed Constitution of Central Steering Committee	
Position	Organizations/Personnel responsible for position
Chair person	DGFCIP
Secretariat	NDFWM
Members	NDFWM, NDNC, NDCIP, NDAHE, NDR, ND, NDP, Municipal Administrative Offices, and MAF Municipal Offices concerned

Source: JICA Project Team (2018)

(2) Municipal Management Committee

The municipal management committee is also proposed to be set up at the municipal level to: i) monitor the progress of the components; ii) approve the annual work and budget plans of the relevant municipal offices; iii) solve any sectoral issues; and iv) facilitate coordination between/among the stakeholders at the municipal, pot-administrative, and suco levels. The proposed composition of the municipal management committee is shown below.

Proposed Constitution of PPSC

Position	Organizations/Personnel responsible for position
Chair person	Municipal Administrator
Secretariat	MAF Municipal Office
Members	MAF Municipal Office, SAS, Environmental Office, Post-Administrators, Sucos, NGOs

Source: JICA Project Team (2018)

7.2.2 Roles and Responsibilities of the Relevant Organizations

The proposed roles and responsibilities of the relevant organizations involved in the organization structure is spelled out below.

Results of Evaluation and Prioritization of the Post-Administratives

Organizations	Roles and Responsibilities
GDFCIP	<ul style="list-style-type: none"> Be responsible for overall management and supervision of the implementation of the components/sub-components of the roadmap. Endorse and submit the annual work plans with budget plans of NDFWM, NDNC and NDCIP for implementation of the components/sub-components of the roadmap to MAF for final approval. Endorse and submit new regulations/guidelines/standard operating procedures for promotion of the CB-NRM mechanism and implementation of CF to MAF or the council of ministers through MAF. Facilitate the coordination and collaboration between/among the relevant national directorates and MAF municipal offices. Facilitate the cooperation between MAF DPs and the relevant national directorates (NDFWM, NDNC, and NDCIP) for implementation, operations, and management of the components/sub-components of the roadmap.
NDFWM (National Director)	<ul style="list-style-type: none"> Be responsible for implementation of the components/sub-components of the roadmap. Endorse the annual work plans with budget plans proposed by the relevant departments for implementation of the components/sub-components to GDFCIP for further endorsement. Prepare and submit new regulations/guidelines/standard operating procedures for promotion of the CB-NRM mechanism and implementation of CF to GDFCIP for endorsement. Hire external organizations (e.g., NGOs) and experts for implementation of the components/sub-components of the roadmap including the activities of M&E Allocate budgets and human resources to the relevant departments responsible for implementation of the components/sub-components. Monitor the implementation of all the components/sub-components of the roadmap and report the results and progress to GDFCIP. Report the results of all the components and sub-components to GDFCIP through the central steering committees at the end of year. Evaluate the results of the components and sub-components based on the results of the periodic evaluations and submit the evaluation reports to GDFCIP through the central steering committees in 2025/206 and 2029/2030.
NDNC and NDCIP (National Director)	<ul style="list-style-type: none"> Support NDFWM in the implementation of the components/sub-components of the roadmap. Prepare and submit the annual work plans with budget plans proposed by the relevant departments for implementation of activities relating to the components/sub-components of the roadmap. Support NDFWM in reporting the results of all the components and sub-components to GDFCIP through the central steering committees at the end of year. Support NDFWM in evaluating the results of the components and sub-components based on the results of the periodic evaluations and submit the evaluation reports to GDFCIP through the central steering committees in 2025/206 and 2029/2030.
Dept. of CBNRM/CF <1 Dept. of Reforestation Dept. of Watershed and Coastal Management Dept. of Rural and Urban Forestry under NDFWM	<ul style="list-style-type: none"> Be responsible for implementation of the component or sub-components under the jurisdiction of the respective departments, namely: <ul style="list-style-type: none"> PLUP and Governance Capacity Enhancement: Dept. of CBNRM/CF MP Implementation (Reforestation): Dept. of Reforestation and SWC MP Implementation (Sloping Agriculture): Dept. of Reforestation and SWC Development of Watershed Management Mechanism: Dept. of Watershed & Coastal Mgmt Awareness Raising: Dept. of Rural and Urban Forestry Community Forestry: Dept. of CBNRM/CF Forest Management Planning: Dept. of Reforestation and SWC Improved Forest Management and Silvicultural Practices: Dept. of Reforestation and SWC Collaborate with the MAF municipal offices concerned and other national directorates/departments of MAF in the implementation of the components and sub-

Organizations	Roles and Responsibilities
	<p>components, particularly the MP Implementation sub-component, in the target sucos.</p> <ul style="list-style-type: none"> ■ Monitor the implementation of the relevant components/sub-components. ■ Supervise the performance of external organizations/experts hired for implementation of the relevant components/sub-components. ■ Develop an annual work and budget plan for implementation of the relevant components and sub-components and submit the same to NDFWM for endorsement. ■ Report the progress and accomplishments of the relevant components and sub-components to National Director of NDFWM.
<p>Dept. of Protection and Forestry Extension Dept. of Protected Areas under NDNC</p>	<ul style="list-style-type: none"> ■ Support the departments of NDFWM in the implementation of the components and sub-components relevant to their jurisdictions, such as: <ul style="list-style-type: none"> - PLUP: Dept. of Protection and Forestry Extension / Dept. of Protected Areas - Governance Capacity Enhancement: Dept. of Protection and Forestry Extension - MP Implementation (Reforestation): Dept. of Protection and Forestry Extension - Development of Watershed Management Mechanism: Dept. of Protected Areas - Awareness Raising: Dept. of Protection and Forestry Extension - Community Forestry: Dept. of Protection and Forestry Extension - Forest Management Planning: Dept. of Protection and Forestry Extension - Improved Forest Management and Silvicultural Practices: Dept. of Protection and Forestry Extension ■ Assist NDFWM in monitoring the implementation of the relevant components/sub-components. ■ Develop an annual work and budget plan for assistance in the implementation of the relevant components and sub-components and submit the same to NDNC for endorsement. ■ Report the results of the monitoring done by the respective departments to National Director of NDNC.
<p>Dept. of Fomento Cafecula, Dept. of Production for Annual Plants Dept. of Conservation and Rehabilitation of Industrial Plants under NDCIP</p>	<ul style="list-style-type: none"> ■ Implement the “coffee-based” or “industrial plants-based” micro program in the MP Implementation sub-component in collaboration with the Dept. of CBNRM/CF and Dept. of Reforestation and SWC of NDFWM as well as MAF municipal offices concerned. ■ Monitor the implementation of the relevant micro program. ■ Develop an annual work and budget plan for implementation of the relevant micro program and submit the same to NDFWM for endorsement. ■ Report the progress and accomplishments made by the relevant micro program to National Director of NDCIP.
<p>MAF Municipal Offices</p>	<ul style="list-style-type: none"> ■ Cooperate with the relevant national directorates (NDFWM, NDNC, and NDCIP) for implementation of the components/sub-components in the respective jurisdictional areas. ■ Assist the relevant national directorates (NDFWM, NDNC, and NDCIP) in monitoring the implementation of the relevant components/sub-components in the respective jurisdictional areas. ■ Assist the relevant national directorates (NDFWM, NDNC, and NDCIP) in supervising the performance of external organizations/experts hired for implementation of the relevant components/sub-components in the respective jurisdictional areas. ■ Send technical and field officers to training courses arranged by NDFWM. ■ Take over the tasks outsourced to external organizations/experts in the middle of the implementation period of the roadmap. ■ Report the progress and accomplishments of the relevant components and sub-components in the respective jurisdictional areas to Municipal Administrative Officer through the municipal management committee.
<p>Municipal Administrative Offices</p>	<ul style="list-style-type: none"> ■ Be responsible for management and supervision of the implementation of the components/sub-components in the respective jurisdictional areas. ■ Facilitate the coordination and collaboration between/among the relevant municipal departments, post-administrative offices and sucos concerned. ■ Share the results and accomplishments of the components and sub-components and lessons learned through implementation in the central steering committee.
<p>Post-Administrative Offices</p>	<ul style="list-style-type: none"> ■ Cooperate with the relevant national directorates (NDFWM, NDNC, and NDCIP) for implementation of the components/sub-components in the respective jurisdictional areas. ■ Play a leading role in discussions and meetings organized in the component for the establishment of watershed management mechanism. ■ Facilitate the coordination and collaboration between/among sucos concerned.
<p>Suco</p>	<ul style="list-style-type: none"> ■ Actively participate in discussions and activities arranged and conducted by the components and sub-components in the respective jurisdictional areas. ■ Be responsible for management and protection of forests and other natural resources using the CB-NRM mechanism introduced by the component and in accordance with the community forest management agreement exchanged with NDFWM.
<p>External Organizations (NGOs) / External</p>	<ul style="list-style-type: none"> ■ Engage in the implementation of the components and sub-components and fulfill tasks specified/given by the TORs for the respective components and sub-components.

Organizations	Roles and Responsibilities
Experts	<ul style="list-style-type: none"> ■ Provide technical assistance to the relevant national directorates (NDFWM, NDNC, and NDCIP) and their subsidiary departments so that they could implement the activities and sub-components in an efficient and effective manner. ■ Report the progress, results, and accomplishments of the components and sub-components to NDFWM on a regular basis.
MAF DPs / MAF DP Projects	<ul style="list-style-type: none"> ■ Provide technical and financial assistance to GDFCIP and the relevant national directorates (NDFWM, NDNC, and NDCIP) in the implementation of any of the components and/or sub-components of the roadmap. ■ Provide any technical inputs to GDFCIP and the relevant national directorates (NDFWM, NDNC, and NDCIP) to help them solve or improve any technical issues/difficulties that they face in the course of the implementation of the roadmap.

Note: The establishment of Department of CBNRM/CF is proposed in this roadmap.

Source: JICA Project Team (2018)

7.3 Financial Arrangements

It would be unrealistic to expect the GoTL to secure necessary budgets for all the components proposed in the roadmap. It is, therefore, essential to obtain financial resources from international funding institutions and/or multi-lateral/bilateral donors for implementation of the whole or parts of the action plan. GDFCIP/NDFWM may be able to access several types of funding schemes and donor supports, which could be utilized for the different purposes/components. Some potential schemes and sources are introduced with the possible uses in the table below.

Funding Sources possibly Used for Implementation of the Action Plan

Potential Source	Type of Activities Eligible for Funding	Possible Uses
Green Climate Fund	A project/program aiming to shift to low-emission sustainable development pathways for reduction of GHG emission level or increase climate-resilient sustainable development for adaptation to climate changes	For funding the following components: <ul style="list-style-type: none"> - Expansion of the CB-NRM mechanism - Development of watershed management mechanism
Global Environmental Facility	<p><u>GEF Trust Fund:</u> A project/program aiming to address to the GEF focal areas (e.g., biodiversity, international waters, land degradation, climate change mitigation, etc.) which are also consistent with national priorities for sustainable development</p> <p><u>Special Climate Change Fund:</u> A project/program aiming to strengthen the adaptation capacities for sustainable water resources management, land management, agriculture, health, infrastructure development, and ecosystems management</p> <p><u>Least Developed Countries Fund:</u> A project/program aiming to reduce the vulnerability of sectors and resources essential to livelihoods (e.g., water, agriculture and food, health, disaster risk management, infrastructure, and ecosystems) in the least developed countries, which are also in line with the NAPA of the countries</p>	For funding the following components: <ul style="list-style-type: none"> - Expansion of the CB-NRM mechanism - Implementation of CF and Promotion of SFM - Public awareness raising
Multi-lateral and Bilateral Cooperation	Technical cooperation type project mainly aiming to the enhancement of capacities of the government offices as well as other relevant key stakeholders for sustainable development	For funding the following components: <ul style="list-style-type: none"> - Institutional and capacity development - Public awareness raising

Source: JICA Project Team (2018)

GDFCIP/NDFWM shall develop and submit the proposals/application forms for

funding/technical assistance to the relevant funding institutions and multi-and bi-lateral donors upon approval of the roadmap by GDFCIP.

8. Estimation of Indicative Cost

The cost for implementation of the action plan is roughly estimated in this chapter. The actual expenses of the JICA CB-NRM Project Phase I and II are fully referred for estimation, especially the costs of the components for the expansion of the CB-NRM mechanism and establishment of watershed management mechanism. Nevertheless, the estimated costs shown below should be still deemed as rough indications only for reference, due to time constraints, uncertainty of the work quantities of the components, and limited reliable information on unit costs of the respective activities. An in-depth study/examination is still needed for estimation of the costs with confidence before finalization of the roadmap.

As shown in the table below, the total cost for implementation of the action plan is roughly estimated at about US\$ 19.1 million.

Indicative Cost for Implementation of the Action Plan

(Unit: US\$,000)

Component/ Sub-component	Unit Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Component 1. Expansion of the CB-NRM mechanism												
1-1 PLUP (Number of suco)	20 /	277 (13.85)	554 (27.7)	1,108 (55.4)	1,108 (55.4)	1,108 (55.4)	1,108 (55.4)	277 (13.85)	0 (0)	0 (0)	0 (0)	5,540 (277)
1-2 MP (Number of suco)	25 /	0 (0)	175 (7)	1,050 (42)	1,400 (56)	1,400 (56)	1,400 (56)	1,400 (56)	875 (35)	175 (7)	0 (0)	7,875 (315)
1-3 Governance capacity enhancement (Number of suco)	2 /	0 (0)	16 (8.2)	98 (49.2)	131 (65.6)	131 (65.6)	131 (65.6)	131 (65.6)	82 (41)	16 (8.2)	0 (0)	738 (369)
Sub-total												14,153
Component 2. Development of Watershed Management Mechanism												
2-1 Formation of WMCs (Number of WMCs)	3 /	8.7 (2.9)	17.4 (5.8)	17.4 (5.8)	17.4 (5.8)	17.4 (5.8)	8.7 (2.9)	0 (0)	0 (0)	0 (0)	0 (0)	87 (29)
2-2 Operationalization of WMCs (Number of WMCs)	2 /	0 (0)	6 (2.9)	17 (8.7)	29 (14.5)	35 (17.4)	35 (17.4)	29 (14.5)	17 (8.7)	6 (2.9)	0 (0)	174 (87)
2-3 Development of watershed management plans (Number of WMCs)	5 /	0 (0)	15 (2.9)	29 (5.8)	29 (5.8)	29 (5.8)	29 (5.8)	15 (2.9)	0 (0)	0 (0)	0 (0)	145 (29)
Sub-total												406
Component 3. Implementation of CF and Promotion of Sustainable Forest Management												
3-1 Introduction of CF (Number of suco)	5 /	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	90 (18)	90 (18)	135 (27)	135 (27)	450 (90)
3-2 Formulation of forest management plans (Number of suco)	5 /	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	90 (18)	90 (18)	135 (27)	135 (27)	450 (90)
3-3 Introduction of forest management and silvicultural practices/ techniques (Number of suco)	5 /	0 (0)	0 (0)	0 (0)	0 (0)	90 (18)	180 (36)	315 (63)	360 (72)	270 (54)	135 (27)	1,350 (270)
Sub-total												2,250
Component 4. Public Awareness Raising												
4-1 Public Awareness Raising		51	90	107	79	92	56	57	29	28	0	588
4-2 Knowledge Sharing		35	129	129	94	99	178	183	94	99	10	1,050
Sub-total												1,638
Component 5. Institutional and Capacity Development												
3-3 Institutional Development (Number of suco)	30 /	0 (0)	0 (0)	30 (1)	30 (1)	30 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	90 (3)
3-3 Human Resource Development (Number of suco)	40 /	40 (1)	40 (1)	40 (1)	40 (1)	40 (1)	40 (1)	40 (1)	40 (1)	0 (0)	0 (0)	320 (8)
Sub-total												410
Component 6. Program Management and M&E												
6-1 Program management (Procurement of equipment) (Times)	20 /	20 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	20 (1)
6-2 Periodic M&E (Interview surveys and Update of the forest maps) (Times)	50 /	50 (1)	0 (0)	0 (0)	0 (0)	50 (1)	0 (0)	0 (0)	0 (0)	0 (0)	50 (1)	150 (3)
Sub-total												170
Contingency												3,805
Grand Total (Component 1+2+3+4+5+6)												19,027

Source: JICA Project Team (2018)

9. Proposed Monitoring Indicators/Milestones

The following indicators and milestones could be used for monitoring of the implementation of the roadmap.

Proposed Indicators/Milestones	
Time Framework	Indicators/Milestones
Objectives of the Roadmap	In 2030, more than 70% of existing forests in the 14 important watersheds are protected and maintained as compared to those in 2020.
Milestones in 2023	<ul style="list-style-type: none"> ■ A new ministerial order for expansion of CBNRM is issued by the end of 2023. ■ There are at least one or two local facilitators at each municipality relating to the 14 watersheds. ■ A department specifically for CBNRM/CF is established under GDFCIP. ■ The number of sucos where the CBNRM mechanism is in place become double in 2023 as compared to the one in 2020.
Milestones in 2026	<ul style="list-style-type: none"> ■ The number of sucos where the CBNRM mechanism is in place become more than double in 2026 as compared to the one in 2023. ■ The watershed management councils are formed for all the post-administratives covering the 14 watersheds. ■ A new MAF Ministerial Order on CF is issued with SOPs for introduction of CF. ■ Models of CF are established and demonstrated at least in one suco each in the 14 watersheds.
Milestones in 2030	<ul style="list-style-type: none"> ■ All the sucos in the 14 watersheds introduce and establish the CBNRM mechanism. ■ The incidence or the numbers of cases of forest fire, illegal cutting and animal grazing are reduced in 2030. ■ The long term land use rights are granted to more than 90 sucos in the 14 important watersheds. ■ More than 50 local facilitators are available in the country.

Source: JICA Project Team

The indicators and milestones listed above shall be reviewed and revised from time to time over the course of implementation of the roadmap.

Tables

Table 2-1 Area Distribution of Nine Types of Forests and Vegetation Covers in the 13 Municipalities

District	Dense forest	Sparse forest	Sub-total forest area (ha)	Very sparse forest	Grassland	Dry farm	Paddy Field	Bare Land	Inland Water	Settlements	Sub-total non-forest area (ha)	No data	Total
Area													Unit (ha)
Lautem	59,285	66,468	125,752	4,091	37,983	8,948	612	2,376	270	0	54,279	1,234	181,265
Viqueque	45,638	72,808	118,446	47	55,300	879	6,889	2,810	1,581	22	67,528	1,770	187,743
Baucau	25,715	58,149	83,864	5,750	45,484	798	7,764	4,780	1,017	53	65,646	1,080	150,590
Manatuto	47,529	74,181	121,710	23,290	18,948	474	4,711	2,177	4,340	0	53,941	2,532	178,184
Manufahi	32,397	41,362	73,759	1,706	45,685	2,547	3,050	299	2,666	0	55,952	2,604	132,315
Ainaro	13,160	24,620	37,781	2,184	34,749	2,097	450	214	1,245	0	40,938	1,679	80,398
Aileu	9,255	24,426	33,681	18,033	19,981	0	147	1,100	315	0	39,576	474	73,731
Dili	6,012	13,890	19,901	2,518	8,482	0	242	2,065	147	2,154	15,609	1,195	36,705
Liquica	16,959	14,602	31,561	2,426	15,117	1,056	266	2,813	1,113	11	22,802	546	54,909
Ermera	16,062	18,626	34,688	1,466	32,670	44	1,178	5,098	1,597	0	42,053	92	76,833
Bobonaro	15,543	58,733	74,276	1,643	40,470	2,693	5,416	8,088	3,591	432	62,333	988	137,597
Covalima	19,354	47,593	66,947	21	33,869	2,286	8,133	4,935	2,689	316	52,250	1,058	120,254
Oecussi	6,023	40,741	46,764	0	14,507	331	2,528	11,961	2,308	0	31,635	2,963	81,362
Total	312,931	556,200	869,130	63,173	403,247	22,153	41,387	48,717	22,877	2,989	604,543	18,213	1,491,887
Coverage ratio													Unit (%)
Lautem	32.7	36.7	69.4	2.3	21.0	4.9	0.3	1.3	0.1	0.0	29.9	0.7	100.0
Viqueque	24.3	38.8	63.1	0.0	29.5	0.5	3.7	1.5	0.8	0.0	36.0	0.9	100.0
Baucau	17.1	38.6	55.7	3.8	30.2	0.5	5.2	3.2	0.7	0.0	43.6	0.7	100.0
Manatuto	26.7	41.6	68.3	13.1	10.6	0.3	2.6	1.2	2.4	0.0	30.3	1.4	100.0
Manufahi	24.5	31.3	55.7	1.3	34.5	1.9	2.3	0.2	2.0	0.0	42.3	2.0	100.0
Ainaro	16.4	30.6	47.0	2.7	43.2	2.6	0.6	0.3	1.5	0.0	50.9	2.1	100.0
Aileu	12.6	33.1	45.7	24.5	27.1	0.0	0.2	1.5	0.4	0.0	53.7	0.6	100.0
Dili	16.4	37.8	54.2	6.9	23.1	0.0	0.7	5.6	0.4	5.9	42.5	3.3	100.0
Liquica	30.9	26.6	57.5	4.4	27.5	1.9	0.5	5.1	2.0	0.0	41.5	1.0	100.0
Ermera	20.9	24.2	45.1	1.9	42.5	0.1	1.5	6.6	2.1	0.0	54.7	0.1	100.0
Bobonaro	11.3	42.7	54.0	1.2	29.4	2.0	3.9	5.9	2.6	0.3	45.3	0.7	100.0
Covalima	16.1	39.6	55.7	0.0	28.2	1.9	6.8	4.1	2.2	0.3	43.4	0.9	100.0
Oecussi	7.4	50.1	57.5	0.0	17.8	0.4	3.1	14.7	2.8	0.0	38.9	3.6	100.0
Total	21.0	37.3	58.3	4.2	27.0	1.5	2.8	3.3	1.5	0.2	40.5	1.2	100.0

Source: Forest Conservation Plan (2012)

Table 2-2 Detailed Data of Major Stakeholders**(1) Key Departments of NDFWM, NDNC, and NDFCIP under GDFCIP**

Department	Key responsibility relating to CB-NRM	Programs/Projects/ Schemes	CBNRM Related Activities
NDFWM			
Department of Community Forestry	<ul style="list-style-type: none"> ◆ Assist the NDFWM in the preparation and formulation of policies and regulations relevant to its mandates. 	<ul style="list-style-type: none"> ◆ Established plantations of sandalwood and commercial trees in collaboration with local communities. 	<ul style="list-style-type: none"> ◆ Assistance in conversation of degraded area into plantations of valuable trees.
Department of Production	<ul style="list-style-type: none"> ◆ Assist the NDFWM in the preparation and formulation of policies and regulations relevant to its mandates. ◆ Issue licenses for cutting trees and transporting from farms. 	<ul style="list-style-type: none"> ◆ Provided training to Forest officers and guards on the importance of forest and methodology of measurement of tree ◆ Disseminated the form and issued the license on cutting trees ◆ Verified the data and result of production in municipalities ◆ Auctioned wood in Dili 	<ul style="list-style-type: none"> ◆ Sustainable use and management of forest. ◆ Promotion of sustainable harvest and collection of trees
Department of watershed and coastal area management	<ul style="list-style-type: none"> ◆ Assist the NDFWM in the preparation and formulation of policies and regulations relevant to its mandates. ◆ Improve land productivity and protect watershed and coastal environment. ◆ Enhance the public awareness of watershed and coastal area management and capacity of local communities for watershed and coastal area management. 	<ul style="list-style-type: none"> ◆ Developed a nursery of bamboo seedlings and distributed seedlings. ◆ Produced and planted seedlings of mangrove. ◆ Built facilities for water storing. ◆ Conducted a survey on water sources. 	<ul style="list-style-type: none"> ◆ Assistance in improvement of degraded areas or conversion of sparse forests into medium or dense forests ◆ Assistance in conversation of degraded area into bamboo and types of plantations ◆ Assistance in establishment and operations of a watershed management council
NDNC			
Department of Protection and Forest Extension	<ul style="list-style-type: none"> ◆ Conduct forestry education and extension to local community. ◆ Conduct patrolling in the assigned areas ◆ Control the movement of forest products at check points. ◆ Collect taxed on forest products. 	<ul style="list-style-type: none"> ◆ Provided education, forest extension, and public awareness to local communities. ◆ Confiscated forest products illegally transported at the check posts. ◆ Conducted joint patrolling in collaboration with MAF municipal offices. 	<ul style="list-style-type: none"> ◆ Use of the CBNRM mechanism for protection of forest resources at suco level ◆ Provision of assistance to suco leaders in protection of forests using the village regulations
Department of Protected Areas	<ul style="list-style-type: none"> ◆ Support and assist the NDNC in the preparation and formulation of policies, regulations, and program on management of protected area, natural forest and national park. 	<ul style="list-style-type: none"> ◆ Conducted demarcation surveys in the national parks. ◆ Patrolled in the national parks and nature reserves. ◆ Established notice boards in the national parks. 	<ul style="list-style-type: none"> ◆ Use of the CBNRM mechanism for protection and management of part of the protected area overlapped with community areas

	<ul style="list-style-type: none"> ◆ Prepare criteria, norms, orientation for communities toward management of protected area and natural forest. ◆ Formulate policies and legislation for protected area and natural forest ◆ Prevent exploitation in protected area. 	<ul style="list-style-type: none"> ◆ Conducted surveys in mangrove protected areas. ◆ Developed the partnership with CI for protected area management. 	
NDCIP			
Department of Production of Perennial Plants	<ul style="list-style-type: none"> ◆ Develop plans to make promotion, expansion and diversification of annual plant ◆ Develop plans to establish and maintain perennial plant plantations. ◆ Establish and maintain perennial plant plantations. 	<ul style="list-style-type: none"> ◆ Developed and expanded plantations of coconut, cacao, candlenut, Clove, cashew nut, pepper, and vanilla. ◆ Produced seedlings of cashew nut and coconut. ◆ Produced seeds of cashew nut and vanilla. ◆ Distribution of seedlings of cashew nut. 	<ul style="list-style-type: none"> ◆ Assistance in sustainable use of sloping areas for production of perennial plants ◆ Improvement of land productivity of sloping areas ◆ Improvement of local livelihoods
Department of Fomento Cafecola	<ul style="list-style-type: none"> ◆ Assist the NDCIP in the preparation and formulation of policies and regulations relevant to its mandates. 	<ul style="list-style-type: none"> ◆ Produced seedlings of coffee and shade trees in the nursery. ◆ Helped communities rehabilitate and expand coffee plantations. ◆ Provided husking machines with technical training in processing coffee cherry to communities. 	<ul style="list-style-type: none"> ◆ Assistance in sustainable use of existing coffee plantation (including rejuvenation of aged coffee plantations) ◆ Assistance in conversion of sparse forests and/or degraded areas for coffee plantations

(2) Key MAF DPs-supported Projects relating to CBNRM including those ended in 2018

Development Partner/ Project Name	Project Period	Total Project Budget	Project Area (Municipalities and Sucos)	Key Project Components
USAID - Avansa-Agrikultura Project	Apr. 2015-Mar. 2020	US\$ 19.2 million -	Aileu, Ainaro, Bobonaro, Dili, Ermera (49 villages) (Loes, Be Lulic, Laclo, Caraulun and Comoro Watersheds)	<ul style="list-style-type: none"> • Strengthening the horticulture value chain • Introduction of climate smart agriculture system • Improving natural resource management • Establishing nurseries for production of seedlings • Improving nutrition and livelihoods • Transitioning from subsistence farmers to commercial growers
GCCA (Global Climate Change Alliance) - Camoes I.P.	Dec. 2013-Dec. 2018	US\$ 4 million (Camoës and GIZ together)	Liquica and Ermera (14 Sucos) (Loes watershed)	<ul style="list-style-type: none"> • Strengthening the capacity of ALGIC for Weather monitoring and climate information service • Vulnerability assessment to climate change and Activity Planning at Suco level for Climate Change Adaptation (CCA) and sustainable NRM • Implementation of pilot programmes on agro-forestry, soil & water resource conservation etc.

Development Partner/ Project Name	Project Period	Total Project Budget	Project Area (Municipalities and Sucos)	Key Project Components
GCCA - GIZ	Dec. 2013- Dec. 2018 (5 years)	US\$ 4 million (Camoes and GIZ together)	Baucau and Viqueque (21 Sucos) (Seical watershed)	<ul style="list-style-type: none"> Strengthening the capacity of ALGIS for Weather monitoring and climate information service Watershed policy/ guidelines development Vulnerability assessment to climate change and Activity Planning at Suco level for CCA Implementation of pilot programmes on agro-forestry, soil & water resource conservation etc. Climate Field School <p>(GIZ has partnership with local NGOs – PROSPEK, NATERRA, HIAM HEALTH, PERMATIL, and RAEBIA for implementation of different activities)</p>
FAO - OSRO (Enhancing Food and Nutrition Security and Reducing Disaster Risk through Promotion of Conservation Agriculture – support by)	June 2013 – Oct 2017 (4 years 4 months)	US\$ 1.428 million	Dili, Baucau, Manatuto, Aileu, Lautem (Comoro, Laclo, Seical watersheds)	<ul style="list-style-type: none"> Sustainable conservation agriculture through Farmers Field Schools District-level Land management Permaculture Food and nutrition security Disaster Risk Reduction and Climate Change Adaptation Coastal/marine resource management Integrated fisheries <p>(FAO has partnership with RAEBIA and Mercy Corps for project implementation). This project is supported by USAID, OFDA.</p>
FAO – TCP for Strengthening National Forest Policy	Feb 2016 – Dec 2017 (2 years)	US\$ 0.295 million	National level	<ul style="list-style-type: none"> Strengthened national forest policy by promoting nation-wide implementation of community forestry
FAO – Pro-Resilience Timor-Leste – Strengthening Resilience to Drought through Communities Participatory Actions	Mar 2017 – Dec 2019 (2 years and 10 months)	EUR 2 million	Ainaro, Baucau, Covalima, Lautem, Manatuto, Manufahi and Viqueque (Be Lulic, Seical, Laclo, Caraulun, Iralalora watersheds)	<ul style="list-style-type: none"> Effective Functioning of Government's National Food Security Information and Early Warning System (NIEWS) Adoption of Community-based Disaster Risk Management Plans by 21 high-risk drought prone rural communities Practice of Climate Smart Agriculture Technologies by 2,880 resource poor smallholders farm families on a sustained basis
DFAT – TOMAK (Farming for Prosperity Project)	2016- 2021 (5 years)	A\$ 25 million	Inland Watersheds (areas can be irrigated) livelihood zone with a focus on Maliana, Baucau and Oecussi areas (Baucau, Viqueque, Bobonaro, Laulara, Manatuto and Oecusse) (60-70 villages)	<ul style="list-style-type: none"> Commercial agriculture – Diversification and improvement of irrigated farming system (Rice, perennial crops and commodities, livestock) and facilitating profitable agriculture markets Establishing a foundation for food and nutrition security of the target households – ensuring production and utilisation of diverse and sufficient food crops

Development Partner/ Project Name	Project Period	Total Project Budget	Project Area (Municipalities and Sucos)	Key Project Components
World Bank/ Global Agriculture and Food Security Program - SAPIP (Sustainable Agriculture Productivity Improvement Project)	Nov 2016-Aug 2022 (6 years)	US\$ 22 million including US\$ 1 million of GOTL share	North Loes, Ekato, Raumoco, and Belulik watersheds (16,500 households to be targeted; 550 farmers groups to be supported; 44 villages to be targeted)	<ul style="list-style-type: none"> Watershed and Agriculture Development Planning Smallholders Organisation; Improvement of Agriculture Productivity; Reduction of Post-harvest losses; Market Linkage Small Scale Community Infrastructure and Investment for Sustainable Watershed Management and Livelihood Development Strengthening Service Delivery of MAF Capacity Building, Support Service, M&E
EU/ Partnership for Sustainable Agro-forestry (PSAF)	2017-2021 (5 years)	EUR 32.47	Baucau, Viqueque and Manatuto Municipalities (About 40 villages) (Seical and Natarbora Watersheds)	<ul style="list-style-type: none"> Develop sustainable, market oriented, competitive, climate resilient and prosperous agro-forestry system to increase employment and income (<u>This component will be implemented by GIZ</u>) Implement a capacity building and labour based program to rehabilitate and maintain climate proof rural roads to improve safe access to agro-forestry areas, employment and economic opportunities for local population (<u>This component will be implemented by ILO</u>).
UNDP - Dili-Ainaro Road Development Corridor (DARDC) Project	Aug- 2014 to July-2018 (4 years)	US\$ 5.25 million	Aileu, Ermera, Ainaro (35 Sucos) (Loes, Comoro, Lacio, Be Lulic and Caraulun watersheds)	<ul style="list-style-type: none"> Strengthening the capacity for planning and delivery of community based disaster management Community Based Disaster Management and Adaptation Plan and Pilot Projects. Project Management (UNDP will have partnership with local NGOs to implement some activities of the Project)
World Bank – Building Climate/ Disaster Resilience along the Dili-Ainaro and Linked Road Corridors in Timor Leste	2014-18 (4 years)	US\$ 2.7 million	Aileu, Ermera, Ainaro and Manufahi (25 Sucos) (Loes, Comoro, Lacio, Be Lulic and Caraulun watersheds)	<ul style="list-style-type: none"> Strengthening the capacity for planning and delivery of community based disaster management at Central, and Sub-district level. Community Based Disaster Risk Management and Adaptation Plan and Pilot Projects. Project Management
UNDP - Building Shoreline Resilience to Protect Local Communities and their Livelihoods (Mangrove Project)	2016-19 (4 years)	US\$ 7 million - total budget	Bobonaro, Liquica, Dili, Covalima, Manatuto, Manufahi and Viqueque (12 Sucos in critical Mangrove areas)	<ul style="list-style-type: none"> Policy framework, strategy development, and institutional capacity building for climate resilient coastal area management Ecosystem friendly livelihood programmes - mangrove based livelihood Coastal biodiversity conservation (UNDP will have partnership with local NGOs to implement some activities of the Project)

Development Partner/ Project Name	Project Period	Total Project Budget	Project Area (Municipalities and Sucos)	Key Project Components
World Vision – Timor Leste – FMNR Projects (BRACCE and BACC)	BRACCE (2011-16) and BACC (2012-17)	BRACCE – US\$ 2.6 million BACC – US\$	BRACCE - Aileu (18 Sucos in Lacleo and Comoro Watersheds) BACC –Bobonaro (13 Sucos in Loes watershed)	<ul style="list-style-type: none"> Farmer managed natural regeneration – training of farmers on protection, pruning and thinning techniques Nurseries and Plantations Agriculture and agro-forestry Soil and water conservation
Conservation International/ Timor-Leste SNAP Project	2018-2021 (4 years)	US\$ 3.34 million	Baucau, Lautem, Viqueque, Liquica, Ermera (Irabere and Comoro Catchments) National level – Protected Areas Network	<ul style="list-style-type: none"> Establish a National Protected Area Network (Strategy, gaps in legislation, establishment of network etc.) – PAN will target about 255,000 ha Management Plan developed for two Protected Areas Improvement of CBNRM in priority catchment corridor (10 sucos – NRM Plan, Village Regulations, Youth Training, Sustainable Use of NRs etc.) – this intervention may target about 224,000 ha and Improvement of forest management and reforestation of degraded lands in priority catchment corridor (Community forest management plans developed, 500 ha forest areas brought under sustainable management, 500 ha degraded areas reforested etc.)
Hivos/ Integrated Actions for Resilience and Adaptation to climate change in the Raumoco Watershed Project (IA4RA)	June 2016 – Sep 2018	US\$ 0.55 million	Lautem (Raumoco watershed)	<ul style="list-style-type: none"> Sustainable, low-carbon food production technologies for vulnerable households Low-cost rainwater collection/drip irrigation systems Planting of fuelwood tree species (G. sepium or Gamal) Improved cooking stoves to vulnerable households
Catholic Relief Services/ REACT Project	2016-2019 (3 years)		Baucau region	<ul style="list-style-type: none"> Climate resilient home gardens Fraterna is a partner
Margaret Ann Cargill Foundation (MACF) / Developing Small Island Management Approaches in the Sunda Banda Seascape	Mar 2015 – Feb 2018 (3 years)	US\$ 0.65 million	Nino Konis Santana National Park – Lautem	<ul style="list-style-type: none"> Development of a Steering Committee for the National Park and further to help the committee to develop a management plan for the park
Mercy Corps/ M-RED 2 (Managing Risk through Economic Development)	May 2016 – April 2019 (3 years)		Ermera, Dili, Ainaro (35 Aldeias from 22 Sucos)	<ul style="list-style-type: none"> Participatory disaster risk assessment and plan for community based disaster risk reduction and mitigation measures Capacity building of SDMCs (Suco Disaster Management Committees) and communities

Development Partner/ Project Name	Project Period	Total Project Budget	Project Area (Municipalities and Sucos)	Key Project Components
				<ul style="list-style-type: none"> Production enhancement of agriculture crops and marketing -Economic incentives through combining an economic crop with flood and erosion control measures to create communities' buy-in for DRR (Mercy Corps has partnership with CVTL for project implementation)
UNDP GEF Small Grants Program – Operational phase 6 (OP6)	2015-2018 but the projects started during 2017			<ul style="list-style-type: none"> 11 projects are being supported during 2017. The projects focus on improving the conditions of community landscape and seascape, as well as community livelihoods. 7 projects out of 11 will have activities on reforestation, forest conservation, conservation of mangroves etc.
CARE International / HAFORSA- Atsabe Rural Development Project for Improvement of Livelihoods (Supported by the Government of Japan)	Feb 2016 – Jan 2019 (3 years)		Atsabe in Ermera (22 Aldeias in 4 Sucos)	<ul style="list-style-type: none"> Climate resilient agriculture and diversified sustainable livelihoods in agriculture Women's economic empowerment and engagement of women in different livelihood activities
Oxfam TL/ Action for Resilient Communities			Covalima, Oecussi	<ul style="list-style-type: none"> Food security and climate resilient agriculture Sustainable farming Home gardens
Some important completed projects				
Mercy Corps/ M-RED 1 (Managing Risk through Economic Development)	2013 – 2016 (3 years)		Ermera, Dili, Ainaro (30 Aldeias from 17 Sucos)	<ul style="list-style-type: none"> Disaster Risk Reduction Mitigation Plantations/ reforestations Market interventions (Mercy Corps had partnership with Santalum and Cooperative Café Timor for technical support)
Mercy Corps/ Energy for All (EU funded)	May 2011 – April 2014 (3 years)	EUR 1.42 million	Dili, Manufahi and Ainaro	<ul style="list-style-type: none"> Access to alternative and renewable sources of energy (solar and efficient cooking stoves) Nurseries and Plantations (14 community plantations were raised. Around 120,000 seedlings were planted) Enhancing the opportunities for productive livelihood improvement activities
UNDP GEF Small Grants Program – Operational phase 5(OP5)	2012 -2015	US\$ 1.11 million	Aileu, Bobonaro, Covalima, Baucau, Manatuto, Liquica, Viqueque	<ul style="list-style-type: none"> 49 projects were supported during OP5. Some projects were continued till March 2017. Projects were of one year duration and focus on one of the aspects of land, water, forest, sustainable agriculture and climate change.

Development Partner/ Project Name	Project Period	Total Project Budget	Project Area (Municipalities and Sucos)	Key Project Components
				<ul style="list-style-type: none"> Climate change - 18 projects; International water – 3 projects; Land degradation – 10 projects; Reforestation and agro-forestry – 13 projects Project contributed to improvement in farming practices, preventing landslides and soil erosion, setting up pilots of organic farming and agro-forestry practices, home gardens etc. For plantation/ reforestation – the projects planted seedlings in about 120 ha area.
ZEESM / Terrestrial Rapid Assessment Program for Atauro Island	May – Aug 2015	US\$ 0.15 million	Atauro/ Dili	<ul style="list-style-type: none"> Biological and ecological survey Mt. Manocco Protected Area
JICA CB-NRM Phase I	2010 – 2015		Aileu	<ul style="list-style-type: none"> PLUP and establishment of CB-NRM Mechanism in 6 villages in Aileu Establishment of Noru Watershed Management Council Capacity building of MAF Staff and other Stakeholders Policy recommendations for expansion of CB-NRM
The World Bank, ADB and USAID / Coral Triangle Initiative on Coral Reefs (CTI)			National level (TL was one of the project countries)	<ul style="list-style-type: none"> Assessment of status and threats in marine protected areas Establishment of effective marine protected area system
NDFA/ The World Bank			National	<ul style="list-style-type: none"> Development of a co-management of community based coastal resource management framework
NDFA/ FAO			Atauro	<ul style="list-style-type: none"> Establishment of a marine protected area in Atauro Island
JICA/ MAF	Nov 2005 – Mar 2010		Laclo and Comoro River Basins	<ul style="list-style-type: none"> Study on community based Integrated Watershed Management in Laclo and Comoro River Basins
AusAid/DNMA and Haburas / Green Bank: Mangrove reforestation for income generation			Ulmera/ Liquisa	<ul style="list-style-type: none"> Replantation of mangroves and maintenance by the communities Small business promotion

Source: JICA Project Team (2018)

Table 3-1 General Features of the 29 Watersheds

Name of River/Watershed	Catchment (km ²)	District concerned	Sub-district concerned	Suco concerned
Lois (Nunura) River	1608.71	Aileu	Aileu Vila	Fatubosa, Hoholau, Seloï Craic, Seloï Malere, Suco Liurai
			Ainaro	Ainaro, Manutasi, Mau-Ulo
			Hatu-Builico	Nuno-Mogue
			Maubisse	Suco Liurai
		Bobonaro	Atabae	Aidabaleten, Atabae, Hataz, Rairobo
			Balibo	Balibo Vila, Batugade, Leohito, Leolima, Sanirin
			Bobonaro	Ai-Assa, Atu-Aben, Bobonaro, Carabau, Colimau, Cotabot, Ilat-Laun, Lourba, Male-Ubu, Malilait, Oe-Leu, Soilesu, Tapo, Tebabui
			Cailaco	Atudara, Dau Udo, Goulolo, Guenu Lai, Raiheu, Manapa, Meligo, Purugoa
			Maliana	Holsa, Lahomea, Odomau, Raifun, Ritabou, Saburai, Tapo/Memo
		Ermera	Atsabe	Atadame/Malabe, Atara, Baboi Craic, Batumanu, Beboi Leten, Lacro, Lasaun, Leimea Leten, Obulo, Paramin, Tiarlelo
			Ermera	Estado, Humboe, Lauala, Leguimea, Mirtutu, Poetete, Ponilala, Raimerhei, Riheu, Talimoro
			Hatolia	Ailelo, Asulau, Coliate-Leotelo, Fatubolu, Fatuessi, Leimeacraic, Hatolia, Lemia Sorimbalu, Lissapat, Manusae, Mau-Ubu, Samara, Urahou
			Letefoho	Catrai-Craic, Catrai Leten, Ducurai, Eraulo, Goulolo, Hatugau, Haupu, Lauana
		Liquica	Railaco	Fatuquero, Lihu, Matata, Railaco Craic, Railaco Leten, Tocoluli
			Liquica	Acumano, Darulete, Dato, Hatuquessi, Leoteala, Luculai
			Maubara	Gugleur, Guico, Lissadila, Maubaralissa, Vatuboro, Vatuvou
			Bazartete	Leorema, Metagou
Be Lulic R. watershed	460.92	Ainaro	Ainaro	Ainaro, Cassa, Manutasi, Mau-Nuno, Mau-Ulo, Soro, Suro-Craik
			Hatu-Builico	Mau-Chiga, Mulo, Nuno-Mogue
			Hatu-Udo	Foho-Ai-Lico, Leolima
			Maubisse	Aitututu, Horai-Quic
		Covalima	Zumalai	Raimea
		Ermera	Atsabe	Atadame/Malabe, Atara, Baboi Craic, Beboi Leten
			Letefoho	Catrai-Craic
Caraulun R. watershed	647.80	Manufahi	Same	Holarua
		Aileu	Aileu Vila	Fatubosa, Lahae, Lausi
		Ainaro	Hatu-Builico	Mau-Chiga, Mulo
			Hatu-Udo	Foho-Ai-Lico, Leolima

Name of River/Watershed	Catchment (km ²)	District concerned	Sub-district concerned	Suco concerned
			Maubisse	Aitutu, Edi, Fatu-Besi, Horai-Quic, Manelobas, Manetu, Maulau, Maubisse, Suco Liurai
		Manufahi	Alas	Taitudac
			Fatuberliu	Caicasa, Fahinehan
			Same	Babulu, Betano, Daisua, Grotu, Letefoho, Holarua, Rotuto, Tutuluro
			Turiscail	Aitemua, Beremana, Caimauc, Foholau, Liurai, Manumera, Matorec, Mindelo, Orana
Seisal R. watershed	505.30	Baucau	Baucau	Bahu, Buruma, Buibau, Caibada, Gariuai, Samalari, Seical, Triloca, Trilolo, Wailili
			Quelica	Abo, Baguia, Bualale, Laisorolai De Baixo, Laisorolai De Cima, Lelalai, Letemuno, Locoliu, Macalaco, Waitame
			Vemase	Loilubo, Uatu-Lari
			Venilale	Bado Ho'o, Baha Mori, Fatulia, Uailaha, Uaiolo, Uataco, Uma Ana Ico, Uma Ana Ulu
		Viqueque	Ossu	Builale, Loi-Huno, Nahareca, Ossorua, Ossu De Cima, Uabubo, Uaibobo, Uaigia
			Watulari	Afaloicai
Tafara R. watershed	317.18	Covalima	Fatululic	Fatululic, Taroman
			Fatumean	Belulik Leten, Fatumea, Nanu
			Forohem	Dato Rua, Dato Tolu, Fohoren, Lactos
			Maukatar	Belecasac, Holpilat, Ogues
			Suai	Debos, Suai Loro
			Tilomar	Casabauc, Foholulic, Lalawa, Maudemo
Sahen R. watershed	540.80	Manatuto	Laclubar	Fatumaquerec, Funar, Manelima, Orlalan
			Soibada	Fatumacerec, Leo Hat, Manlala, Manufahi, Samoro
			Barique/Natarbora	Abat Oan, Aubeon, Manehat, Uma Boco
		Manufahi	Fatuberliu	Caicasa, Clacuc, Fatucahi
			Turiscail	Fatucalo
Laclo R. watershed	1358.58	Alieu	Aileu vila	Aisirimou, Bandudato, Fahiria, Fatubosa, Hoholau, Lahae, Lausi, Saboria, Selo Malere, Selo Craic, Suco Liurai
			Laulara	Cotolau, Madabeno, Talitu
			Liquidoe	Acubilitoho, Bereleu, Betulau, Fahisoi, Faturilau, Manucasa, Namoleso
			Remexio	Acumau, Tulataqueo
		Ainaro	Hatu-Builico	Mulo, Nuno-Mogue
			Maubisse	Edi, Fatu-Besi, Horai-Quic, Manelobas, Maubisse, Maulau, Suco Liurai

Name of River/Watershed	Catchment (km ²)	District concerned	Sub-district concerned	Suco concerned
		Dili	Metinaro	Duyung (Sereia), Sabuli
		Ermera	Letefoho	Catrai-Craic, Ducurai
		Manatuto	Laclo	Hohorai, Lacumesac, Umacaduac, Uma Naruc
			Laclubar	Batara, Fatumaquerec, Funar, Manelima, Orlalan, Sanana'In
			Manatuto	Ailili, Aiteas, Cribas, Iliheu, Sau
			Barique/Natarbora	Barique
		Manufahi	Turiscas	Beremana, Caimauc, Fatucalo, Lesuata, Liurai, Manumera, Matorec
Cuha R. watershed	251.84	Viqueque	Ossu	Builale, Loi-Huno, Ossorua, Ossu De Cima, Uaibobo, Uaigia
			Viqueque	Bahalarauain, Caraubalo, Maluro, Uai Mori, Uma Quic, Uma Uain Craic, Watu Dere
Comoro R. watershed	231.82	Aileu	Aileu vila	Aisirimou, Saboria, Selo Craic
			Laulara	Cotolau, Fatisi, Madabeno, Talitu, Tohumeta
			Remexio	Acumau
		Dili	Cristo Rei	Balibar
			Dom Aleixo	Bairro Pite, Comoro, Fatuhada
			Vera Cruz	Dare
		Ermera	Railaco	Deleco, Fatuquero, Lihu, Matata, Railaco Craic, Railaco Leten, Samalete, Taraco, Tocoluli
		Liquica	Bazartete	Fahilebo, Leorema, Tibar, Ulmera
Irabere R. watershed	373.62	Baucau	Baguia	Afaloicai, Alaua Craic, Alaua Leten, Defa Uassi, Haeconi, Lari Sula, Lavateri, Ossu-Huna, Samalari, Uacala
			Laga	Atelari
			Quelica	Guruca, Laisorolai de Cima, Namanei
		Lautem	Iliomar	Cainliu, Fuat, Tirilolo
			Luro	Afabubu, Baricafa, Cotamutu, Lacawa, Luro
		Viqueque	Uatucarbau	Afaloicai, Bahatata, Loi Ulu, Irabin De Baixo, Irabin De Cima, Uani Uma
			Watulari	Afaloicai, Babulo, Vessoru
Tono R. watershed	344.33	Oeccuse	Nitibe	Banafi, Lela-Ufe, Usi-Taco
			Oesilo	Bobometo, Usi-Taqueno, Usi-Tacae
			Pante Macasar	Bobocase, Costa, Cunha, Lalisuc, Lifau, Naimeco, Nipani, Taiboco
			Passabe	Abani, Malelat
Dilor R. watershed	374.47	Manatuto	Barique/Natarbora	Abat Oan, Aubeon, Barique, Manehat
			Manatuto	Cribas
			Laclubar	Orlalan
			Soibada	Leo Hat

Name of River/Watershed	Catchment (km ²)	District concerned	Sub-district concerned	Suco concerned
		Viqueque	Lacluta	Ahic, Laline
			Viqueque	Luca
Laclo do Sul/Clerec R. watershed	574.79	Manatuto	Laclubar	Fatumaquerec
			Soibada	Fatumacerec, Manufahi
		Manufahi	Alas	Aituha, Dotic, Mahaquidan, Taitudac, Uma Berloic
			Fatuberliu	Bubususo, Caicasa, Clacuc, Fahinehan, Fatucahi
			Turiscas	Beremana, Fatucalo, Foholau, Lesuata, Liurai, Matorec, Orana
Loumea R. watershed	334.33	Bobonaro	Bobonaro	Ai-Assa, Bobonaro, Carabau, Cotabot, Leber, Lourba, Lour, Malilait, Molop, Oe-Leu, Sibuni, Tapo
			Lolotoe	Deudet, Guda, Lontas, Lupal
			Maliana	Ritabou, Saburai
		Covalima	Suai	Beco
			Zumalai	Fatuleto, Lepo, Raimea, Tashilin, Ucecai, Zulo
Quelan R. watershed	107.50	Manufahi	Alas	Mahaquidan, Taitudac
			Same	Babulu, Betano
Iralaloro/Vero R. watershed	453.25	Lautem	Lautem	Com, Pairar, Parlamento
			Lospalos	Bauro, Fuiloro, Home, Lore I, Lore II, Muapitine, Raca, Souro
			Tutuala	Mehara, Tutuala
Uai Muhi R. watershed	107.01	Baucau	Baguia	Haeconi, Lavateri, Ossu-Huna, Samalari
			Laga	Soba, Tequino Mata
			Quelicaí	Abafala, Afaca, Baguia, Guruca, Laisorolai de Cima, Letemuno, Locoliu, Namanei, Waitame
Bebui R. watershed	230.37	Baucau	Baguia	Afaloicaí
			Quelicaí	Laisorolai de Cima, Lelalai, Maluro
		Viqueque	Ossu	Loi-Huno, Nahareca, Ossorua, Uaibobo
			Watulari	Afaloicaí, Babulo, Macadique, Matahoi, Uaitame, Vessoru
Luca R. watershed	233.70	Manatuto	Barique/Natarbora	Barique
			Manatuto	Cribas
		Viqueque	Lacluta	Ahic, Dilor, Laline, Uma Tolu
			Viqueque	Bahalarauain, Luca
Ue tuco R. watershed	288.14	Viqueque	Lacluta	Dilor, Laline, Uma Tolu
			Ossu	Liaruca, Loi-Huno, Ossu de Cima
			Viqueque	Bahalarauain, Bibileo, Luca, Uai Mori, Uma Quic
Vemassee R. watershed	211.14	Baucau	Vemassee	Caicua, Loilubo, Ossoala, Uaigae, Uatu-Lari, Vemassee

Name of River/Watershed	Catchment (km ²)	District concerned	Sub-district concerned	Suco concerned
			Venilale	Baha Mori, Fatulia, Uataco, Uma Ana Ico
			Baucau	Gariuai
		Manatuto	Laleia	Cairui, Haturalan
Molo R. watershed	185.81	Ainaro	Ainaro	Cassa, Mau-Ulo, Mau-Nuno
		Bobonaro	Bobonaro	Carabau, Colimau, Cotabot
		Covalima	Zumalai	Fatuleto, Lepo, Lour, Mape, Raimea, Tashilin, Ucecai, Zulo
		Ermera	Atsabe	Atara
Raiketan R. watershed	110.22	Bobonaro	Lolotoe	Deudet, Lebos, Lontas, Opa
		Covalima	Maukatar	Belecasac, Holpilat
			Suai	Camenaca, Labarai
Zeheha R. watershed	113.27	Lautem	Lautem	Com
			Lospalos	Bauro
			Tutuala	Mehara, Tutuala
Laleia R. watershed	537.17	Baucau	Vemase	Ossoala, Uaigae, Vemase
			Venilale	Fatulia
		Manatuto	Barique/Natarbora	Barique
			Laleia	Cairui, Haturalan, Lifau
			Laclubar	Fatumaquerec, Orlalan
			Manatuto	Aiteas, Cribas
		Viqueque	Lacluta	Dilor, Laline
			Ossu	Builale, Liaruca, Ossu de Cima
			Viqueque	Bibileo
Malailada R. watershed	182.60	Lautem	Iliomar	Fuat
			Lautem	Baduro, Maina I, Maina II, Pairara
			Lospalos	Cacavem, Fuiloro, Home, Leuro, Raca, Souro
			Luro	Baricafa, Luro
Raumoco R. watershed	132.93	Lautem	Lautem	Daudare, Maina II, Serelau
			Luro	Afabubu, Baricafa, Cotamutu, Lacawa, Luro, Wairoce
Namaluto R. watershed	171.38	Lautem	Lospalos	Cacavem, Fuiloro, Leuro, Lore I, Lore II, Souro
			Iliomar	Fuat, Iliomar I
Dasidaro R. watershed	168.67	Baucau	Laga	Atelari, Libagua, Saelari, Sagadati, Samalari, Tequino Mata
			Baguia	Defa Uassi, Lavateri, Uacala
		Lautem	Lautem	Euquisi, Ililai
			Luro	Afabubu, Lacawa, Wairoce

Source: JICA Project Team (2018)

Table 3-2 Results of the Assessment for Evaluation of the 29 Watersheds

Name of watershed	Priority	Total Land Area (Km ²)	Criteria						
			Protection of water source		Soil Conservation	Biodiversity Conservation	Forest Resources		Urgency
			Area of Rice field (Km ²)	Source of Drinking water	Ratio of slope area which is more than 26 degree (%)	Forest area of biodiversity conservation (km ²)	Forest coverage ratio (%)	Ratio of dense forest in total forest area (%)	Deforestation rate (% year ⁻¹)
Lois (Nunura) R. watershed	High Priority	1608.71	60.90	○	5.56	72.89	50.85	33.78	3.40
Caraulun R. watershed	High Priority	647.80	2.80	○	15.22	69.22	53.11	38.45	3.37
Be Lulic R. watershed	High Priority	460.92	16.90	○	14.67	68.08	47.16	34.00	2.75
Seisal R. watershed	High Priority	505.30	37.00	○	1.93	8.78	55.35	40.38	1.84
Tafara R. watershed	High Priority	317.18	1.30	○	5.69	36.32	63.30	29.99	2.85
Laclo R. watershed	High Priority	1358.58	20.80	○	7.13	6.59	52.81	24.48	0.66
Cuha R. watershed	High Priority	251.84	5.20	○	3.71	33.65	57.69	21.94	2.27
Comoro R. watershed	High Priority	231.82	1.90	○	8.53	3.62	48.49	47.88	4.02
Sahen R. watershed	High Priority	540.80	29.60	-	7.17	65.27	71.27	52.12	1.37
Irabere R. watershed	High Priority	373.62	6.00	-	7.35	110.01	65.18	42.59	1.69
Tono R. watershed	High Priority	344.33	15.10	○	4.41	8.38	59.95	8.16	0.77
Dilor R. watershed	High Priority	374.47	10.00	-	1.40	59.34	66.40	52.31	2.59
Quelan R. watershed	High Priority	107.50	0.00	-	0.02	0.00	54.55	38.96	4.28
Iralaloro/Vero R. watershed	High Priority	453.25	0.00	○	1.11	176.13	48.32	56.55	-0.07
Laclo do Sul/Clerec R. watershed	Medium Priority	574.79	8.80	-	8.34	39.12	62.29	46.87	3.07
Loumea R. watershed	Medium Priority	334.33	14.10	-	5.78	4.78	46.33	34.17	3.74
Uai Muhi R. watershed	Medium Priority	107.01	5.60	-	13.43	3.58	39.77	29.38	2.63
Bebui R. watershed	Medium Priority	230.37	12.80	-	4.72	22.03	69.16	45.99	1.82
Ue tuco R. watershed	Medium Priority	288.14	12.70	-	2.90	16.20	66.30	28.44	2.18
Luca R. watershed	Medium Priority	233.70	3.60	-	8.58	33.66	74.74	54.86	1.65
Vemassee R. watershed	Medium Priority	211.14	3.50	-	2.30	0.00	74.74	25.18	0.70
Zeheha R. watershed	Priority	113.27	0.00	-	2.81	105.02	93.42	74.50	-0.44
Molo R. watershed	Priority	185.81	3.20	-	6.63	12.52	57.23	27.14	1.95
Raketan R. watershed	Priority	110.22	4.20	-	2.65	1.81	64.36	36.01	2.61
Laleia R. watershed	Priority	537.17	5.20	-	3.32	28.45	74.90	29.24	0.07
Malailada R. watershed	Priority	182.60	0.50	-	0.07	0.25	75.33	28.48	1.29
Raumoco R. watershed	Priority	132.93	1.10	-	0.91	2.04	60.27	10.98	2.50
Namaluto R. watershed	Priority	171.38	0.00	-	0.05	35.05	83.25	39.31	0.94
Dasidaro R. watershed	Priority	168.67	4.20	-	2.22	6.88	61.19	22.24	0.70

Source: JICA Project Team (2018)

Table 6-1 Activities and Procedures for Development of Watershed Management Mechanism**(1) Activities and Procedures for Formation of a Watershed Management Council**

Step	Activities	Objectives
1	Consultations with local leaders concerned with a target watershed about the idea on formation of the watershed management council	To obtain prior consent from local leaders at the respective layers on formation of the watershed management council and seek their assistance in the entire process.
2:	Meeting with the members of the Noru watershed management council	To help local leaders have a clear picture of a watershed management council, in terms of its functions, effectiveness, and roles/responsibilities of its members, through direct dialogues with members of the Noru watershed management council, which is one of the existing watershed management councils in the country.
3	Study tour to one of the villages that the JICA CB-NRM Project assisted in the establishment of the CB-NRM mechanism	To help local leaders have a clear picture of how the CB-NRM mechanism has changed local situations and improved livelihoods of communities by having dialogues with communities in the host village and observing the CB-NRM activities in the field.
4	Meeting with local leaders concerned with a target watershed to analyze stakeholders, select members of the watershed management council, and discuss their roles and responsibilities	To assist local leaders in i) analyzing stakeholders concerned with a target watershed, ii) selecting members of the watershed management council based on the stakeholder analysis, and iii) determining roles and responsibilities of members selected.
5	Meeting with members of the watershed management council (stakeholders selected as members of the watershed management council) to assess the current situations of a target watershed and discuss vision, missions, and functions of the council	To assist local leaders, who are supposed to be selected as members of the watershed management council in Step 4, in determining vision statements, missions, objectives, and functions of the council.
6	Meeting with members of the watershed management council to develop and determine by-laws of the council	To assist members of the watershed management council in developing a set of managerial rules of the council, which should also constitute a resolution on formation of the watershed management council.
7	Meeting with members of the watershed management council to develop and finalize a resolution of the council on its membership, by-laws, vision, missions, and functions	To finalize a resolution on the set-up of the watershed management council, which spell outs i) members, ii) vision statements, missions, objectives, and functions, and iii) by-laws of the watershed management council with a unanimous consent from its members.
8	Regular meetings of the watershed management council on a quarterly basis	To help the watershed management council have a meeting on a quarterly basis and coordinate their actions to solve any issues on natural resource management and improve livelihoods of communities living in the area.

(2) Activities and Procedures for Development of Watershed Management Plan

Step	Activities	Objectives
1	Introduction of the process and objective of making a watershed management plan	To obtain prior consent to the idea on development of a watershed management plan and its associated activities from members of the watershed management council.
2	Development of a draft watershed management plan for a target watershed in line with the management plan for the Laclo and Comoro river basins	To develop a watershed management plan for a target watershed referring the management plan developed for the Noru watershed by the JICA CB-NRM Project based on the master plan for the Laclo and Comoro river basins.
3	Meetings with members of the council to review and revise the draft watershed management plan for a target watershed	To discuss and deliberate the draft version of a watershed management plan with members of the watershed management council and obtain their feedbacks, opinions, and ideas for finalization.
4	Preparation and finalization of a resolution of the watershed management council on approval and submission of the finalized watershed management plan	To help the watershed management council approve the final version of a watershed management plan and submit the same to relevant offices/organizations for implementation.

Source: Manual for Formation of the Watershed Management Council (2015)

Table 6-2 Sucos with More Than 200 ha of the Dense Important Forests in the 14 Watersheds

Covered district	Covered sub-district	Covered Suco	Number of Suco	Total Number of Suco
Lautem	Lautem	Com	1	8
	Lospalos	Bauro, Muapitine	2	
	Tutuala	Mehara, Tutuala	2	
	Iliomar	Cainliu, Fuat	2	
	Luro	Afabubu	1	
Baucau	Baucau	Wailili	1	20
	Quelicaí	Bualale, Laisorolai De Cima, Lelalai, Letemuno, Macalaco	5	
	Venilale	Bado Ho'o, Baha Mori, Fatulia, Uaiolo, Uataco, Uma Ana Ulu	6	
	Baguia	Alaua Craic, Alaua Leten, Defa Uassi, Haeconi, Lari Sula, Lavateri, Samalari, Uacala	8	
Viqueque	Ossu	Builale, Loi-Huno, Nahareca, Ossu De Cima, Uabubo, Uaibobo	6	14
	Uatucarbau	Afaloicaí, Loi Ulu, Irabin De Baixo, Uani Uma	4	
	Viqueque	Caraubalo, Luca	2	
	Lacluta	Ahic, Laline	2	
Alicu	Aileu vila	Aisirimou, Fahiria, Fatubosa, Saboria, Seloí Craic, Suco Liurai	6	17
	Laulara	Cotolau, Madabeno, Talitu	3	
	Liquidoe	Bereleu, Fahisoi, Faturilau	3	
	Remexio	Acumau, Tulataqueo, Suco-Liurai, Faturasa, Fahisoi	5	
Ainaro	Hatu-Builico	Mulo, Mau-Chiga, Nuno-Mogue	3	14
	Maubisse	Aitutú, Edi, Manetu, Maulau	4	
	Ainaro	Ainaro, Manutasi, Mau-Nuno, Mau-Ulo, Soro	5	
	Hatu-Udo	Foho-Ai-Lico, Leolima	2	
Dili	Metinaro	Duyung (Sereia)	1	2
	Vera Cruz	Dare	1	
Ermera	Letefoho	Catrai Leten, Ducurai, Haupu, Lauana	4	27
	Railaco	Lihu, Matata, Railaco Craic, Railaco Leten, Tocoluli	5	
	Atsabe	Atadame/Malabe, Beboi Leten, Leimea Leten	3	
	Ermera	Lauala, Mirtutu, Poetete, Ponilala, Riheu, Talimoro	6	
	Hatolia	Ailelo, Coliate-Leotelo, Fatubolu, Fatuessi, Hatolia, Lissapat, Manusae, Mau-Ubu, Urahou	9	
Manatuto	Laclo	Hohorai, Lacumesac, Umacaduac, Uma Naruc	4	21
	Laclubar	Batara, Fatumaquerec, Funar, Manelima, Orlalan, Sanana'In	6	
	Manatuto	Aiteas, Cribas	2	
	Barique/Natarbora	Abat Oan, Aubeon, Barique, Manehat, Uma Boco	4	

Covered district	Covered sub-district	Covered Suco	Number of Suco	Total Number of Suco
	Soibada	Fatumacerec, Leo Hat, Manlala, Manufahi, Samoro	5	
Manufahi	Turiscari	Aitemua, Beremana, Fatucalo, Foholau, Liurai, Matorec, Mindelo, Orana	8	18
	Same	Babulu, Betano, Daisua, Grotu, Letefoho, Holarua, Tutuluro	7	
	Fatuberliu	Clacuc, Fahinehan, Fatucahi	3	
Liquica	Bazartete	Fahilebo, Leorema, Metagou, Tibar, Ulmera	5	16
	Liquica	Acumano, Darulete, Hatuquessi, Leoteala, Luculai	5	
	Maubara	Gugleur, Guico, Lissadila, Maubaralissa, Vatuboro, Vativou	6	
Covalima	Zumalai	Raimea	1	12
	Fatululic	Taroman	1	
	Fatumean	Fatumea	1	
	Forohem	Dato Rua, Dato Tolu, Fohoren, Lactos	4	
	Maukatar	Holpilat, Ogues	2	
	Suai	Debos	1	
	Tilomar	Lalawa, Maudemo	2	
Bobonaro	Atabae	Atabae, Hataz	2	9
	Balibo	Leohito, Sanirin	2	
	Cailaco	Manapa, Meligo, Purugoa	3	
	Maliana	Ritabou, Saburai	2	
Oecusse	Pante Macasar	Costa, Naimeco, Nipani	3	3

Source: JICA Project Team (2018)

Table 7-1 Results of Prioritization of the Post-Administratives

Name of district	Name of Subdistrict	Ranking	Total score	Priority	Score of each indicator			
					Area overlapped with the watersheds	Protection Water resources	Prevention of soil erosion	Conservation of biodiversity
MANUFAHI	SAME	1	22	High Priority	3	9	5	5
AINARO	HATU-BUILICO	2	19	High Priority	3	10	5	1
Aileu	AILEU VILA	2	19	High Priority	3	10	5	1
AINARO	AINARO	2	19	High Priority	3	10	5	1
MANATUTO	BARIQUE/NATARBORA	2	19	High Priority	2	7	5	5
MANATUTO	SOIBADA	2	19	High Priority	2	7	5	5
MANATUTO	LACLUBAR	7	18	High Priority	3	10	4	1
ERAMERA	LETEFOHO	7	18	High Priority	2	6	5	5
Aileu	REMEXIO	7	18	High Priority	2	6	5	5
ERAMERA	ERAMERA	10	17	High Priority	3	10	3	1
ERAMERA	HATOLIA	10	17	High Priority	3	10	3	1
LIQUICA	MAUBARA	10	17	High Priority	2	9	5	1
VIQUEQUE	OSSU	10	17	High Priority	2	8	5	2
COVALIMA	FOROHEM	10	17	High Priority	3	8	5	1
LIQUICA	LIQUICA	10	17	High Priority	2	5	5	5
MANUFAHI	TURISCAI	10	17	High Priority	2	5	5	5
BAUCAU	VENILALE	10	17	High Priority	2	5	5	5
VIQUEQUE	LACLUTA	10	17	High Priority	2	5	5	5
LIQUICA	BAZARTETE	10	17	High Priority	2	5	5	5
Aileu	LIQUIDOE	20	16	High Priority	3	7	5	1
VIQUEQUE	UATUCARBAU	20	16	High Priority	2	4	5	5
VIQUEQUE	VIQUEQUE	20	16	High Priority	2	4	5	5
BOBONARO	CAILACO	23	15	Medium priority	2	9	3	1
BAUCAU	BAGUIA	23	15	Medium priority	2	6	2	5
LAUTEM	TUTUALA	25	14	Medium priority	2	6	5	1
ERAMERA	RAILACO	25	14	Medium priority	2	6	5	1
OECUSSI	PANTE MACASAR	27	13	Medium priority	2	8	2	1
MANATUTO	LACLO	27	13	Medium priority	2	7	2	2
AINARO	HATU-UDO	27	13	Medium priority	2	6	4	1
BAUCAU	BAUCAU	27	13	Medium priority	1	3	5	4
COVALIMA	TILOMAR	27	13	Medium priority	1	2	5	5
AINARO	MAUBISSE	32	12	Medium priority	2	8	1	1
BOBONARO	ATABAE	32	12	Medium priority	2	5	4	1
MANATUTO	MANATUTO	32	12	Medium priority	2	3	2	5
LAUTEM	LOSPALOS	32	12	Medium priority	1	2	4	5
Aileu	LAULARA	36	11	Medium priority	1	4	5	1
BOBONARO	BOBONARO	36	11	Medium priority	1	2	3	5
ERAMERA	ATSABE	38	10	Medium priority	2	6	1	1
OECUSSI	OESILO	38	10	Medium priority	2	4	3	1
MANUFAHI	FATUBERLIU	38	10	Medium priority	1	3	5	1
BOBONARO	MALIANA	41	9	Low priority	2	5	1	1
DILI	VERA CRUZ	41	9	Low priority	1	3	3	2
LAUTEM	ILIOMAR	41	9	Low priority	1	2	1	5
DILI	DOM ALEIXO	41	9	Low priority	1	2	1	5
DILI	METINARO	41	9	Low priority	1	2	5	1
OECUSSI	NITIBE	46	8	Low priority	1	4	2	1
LAUTEM	LAUTEM	46	8	Low priority	1	2	2	3
MANUFAHI	ALAS	46	8	Low priority	1	1	1	5
BOBONARO	BALIBO	49	7	Low priority	1	2	3	1
COVALIMA	FATUMEAN	49	7	Low priority	1	1	3	2
COVALIMA	ZUMALAI	51	6	Low priority	1	2	1	2
BAUCAU	QUELICAI	51	6	Low priority	1	2	1	2
COVALIMA	SUAI	51	6	Low priority	1	2	2	1
COVALIMA	FATULULIC	51	6	Low priority	1	1	1	3
LAUTEM	LURO	51	6	Low priority	1	1	3	1
OECUSSI	PASSABE	51	6	Low priority	1	1	3	1
COVALIMA	MAUKATAR	57	5	Low priority	1	2	1	1
BAUCAU	VENASE	58	4	Low priority	1	1	1	1

Source: JICA Project Team (2018)

Table 7-2 (1) Lists of Suco belonging to the High Priority Post-Administratives

Covered district	Covered sub-district	Covered Suco	Number of Suco	Total Number of Suco
Baucau	Venilale	Bado Ho'o, Baha Mori, Fatulia, Uailaha, Uaiolo, Uataco, Uma Ana Ulu, Uma Ana Ico	8	8
Viqueque	Ossu	Builale, Loi-Huno, Nahareca, Ossorua, Uabubo, Uaibobo, Ossu De Cima	7	21
	Uatucarbau	Afaloicai, Bahatata, Irabin De Baixo, Irabin De Cima, Uani Uma, Loi Ulu	6	
	Viqueque	Caraubalo, Luca, Uai Mori, Maluro, Uma Uain Craic, Uma Quic	6	
	Lacluta	Laline, Ahic	2	
Alieu	Aileu vila	Aisirimou, Bandudato, Lahae, Lausi, Fahiria, Fatubosa, Hoholau, Saboria, Selo Malere, Selo Craic, Suco Liurai	11	26
	Liquidoe	Acubilitoho, Betulau, Bereleu, Fahisoi, Faturilau, Manucasa, Namoleso	7	
	Remexio	Acumau, Tulataqueo, Suco-Liurai, Faturasas, Fadablocos, Maumeta, Hautoho, Fahisoi	8	
Ainaro	Hatu-Builico	Mau-Chiga, Mulo, Nuno-Mogue	3	10
	Ainaro	Ainaro, Cassa, Manutasi, Mau-Nuno, Mau-Ulo, Suro-Craik, Soro	7	
Ermera	Ermera	Estado, Humboe, Lauala, Leguimea, Mirtutu, Poetete, Ponilala, Raimerhei, Riheu, Talimoro	10	31
	Hatolia	Ailelo, Asulau, Coliate-Leotelo, Fatubolu, Fatuessi, Leimeacraic, Hatolia, Lemia Sorimbalu, Lissapat, Manusae, Mau-Ubu, Samara, Urahou	13	
	Letefoho	Catrai-Craic, Catrai Leten, Ducurai, Eraulo, Goulolo, Hatugau, Haupu, Lauana	8	
Manatuto	Laclubar	Batara, Fatumaquerec, Funar, Manelima, Orlalan, Sanana'In	6	16
	Barique/Natarbora	Abat Oan, Aubeon, Barigue, Manehat, Uma Boco	5	
	Soibada	Fatumacerec, Leo Hat, Manlala, Manufahi, Samoro	5	
Manufahi	Turiscas	Aitemua, Beremana, Caimauc, Fatucalo, Foholau, Lesuata, Liurai, Matorec, Manumera, Mindelo, Orana	11	19
	Same	Babulu, Betano, Daisua, Grotu, Letefoho, Holarua, Rotuto, Tutuluro	8	
Liquica	Bazartete	Leorema, Metagou, Tibar, Fahilebo, Ulmera	5	16
	Liquica	Acumano, Darulete, Hatuquessi, Leoteala, Luculai	5	
	Maubara	Lissadila, Maubaralissa, Gugleur, Guico, Vatuboro, Vatuvou	6	
Covalima	Forohem	Dato Rua, Dato Tolu, Fohoren, Lactos	4	4

Table 7-2 (2) The suco lists belonging to the medium priority post-administratives

Covered district	Covered sub-district	Covered Suco	Number of Suco	Total Number of Suco
Lautem	Lospalos	Bauro, Fuiloro, Muapitine, Raca	4	6
	Tutuala	Mehara, Tutuala	2	
Baucau	Baucau	Bahu, Buruma, Samalari, Seical, Gariuai, Buibau, Caibada-2, Triloca, Wailili, Trilolo	10	20
	Baguia	Afaloicai, Alaua Craic, Alaua Leten, Defa Uassi, Haeconi, Lari Sula, Lavateri, Ossu-Huna, Samalari, Uacala	10	
Alieu	Laulara	Fatise, Madabeno, Talitu, Tohumeta, Bocololo, Cotelau	6	6
Ainaro	Maubisse	Aitutu, Edi, Fatu-Besi, Horai-Quic, Manelobas, Manetu, Maulau, Maubisse, Suco Liurai	9	11
	Hatu-Udo	Foho-Ai-Lico, Leolima	2	
Ermera	Railaco	Deleco, Fatuquero, Lihu, Matata, Railaco Craic, Railaco Leten, Samalete, Taraco, Tocoluli	9	21
	Atsabe	Atadame/Malabe, Atara, Baboi Craic, Batumanu, Beboi Leten, Lasaun, Lacro, Laubono, Leimea Leten, Obulo, Paramin, Tiarlelo	12	
Manatuto	Laclo	Lacumesac, Umacaduac, Uma Naruc, Hohorai	4	9
	Manatuto	Aiteas, Cribas, Sau, Ailili, Iliheu	5	
Manufahi	Fatuberliu	Clacuc, Fatucahi, Fahinehan	3	3
Covalima	Tilomar	Casabauc, Foholulic, Lalawa, Maudemo	4	4
Bobonaro	Atabae	Atabae, Aidabaleten, Rairobo, Hataz	4	24
	Bobonaro	Carabau, Colimau, Cotabot, Oe-Leu, Male-Ubu, Malilait, Tebabui, Atu-Aben, Ilat-Laun, Soilesu, Lourba, Bobonaro	12	
	Cailaco	Atudara, Dau Udo, Goulolo, Guenu Lai, Raiheu, Manapa, Meligo, Purugoa	8	
Oecusse	Oesilo	Bobometo, Usi-Tacae, Usi-Taqueno	3	11
	Pante Macasar	Bobocase, Costa, Cunha, Lalisuc, Lifau, Naimeco, Nipani, Taiboco	8	

Table 7-2 (3) The suco lists belonging to the low priority post-administratives

Covered district	Covered sub-district	Covered Suco	Number of Suco	Total Number of Suco
Lautem	Lautem	Com, Pairara, Parlamento	3	8
	Iliomar	Cainliu, Fuat, Tirilolo	3	
	Luro	Afabubu, Lacawa	2	
Baucau	Quelicaí	Abo, Bualale, Laisorolai De Baixo, Laisorolai De Cima, Letemuno, Macalaco, Locoliu, Lelalai	8	10
	Vemase	Loilubo, Uatu-Lari	2	
Dili	Metinaro	Duyung (Sereia)	1	4
	Dom Aleixo	Bairro Pite, Comoro	2	
	Vera Cruz	Dare	1	
Manufahi	Alas	Taitudac, Mahaquidan	2	2
Covalima	Zumalai	Raimea	1	10
	Fatululic	Fatululic, Taroman	2	
	Fatumean	Belulik Leten, Fatumea, Nanu	3	
	Maukatar	Holpilat, Ogues	2	
	Suai	Debos, Suai Loro	2	
Bobonaro	Balibo	Balibo Vila, Batugade, Leohito, Leolima, Sanirin	5	12
	Maliana	Lahomea, Odomau, Holsa, Raifun, Ritabou, Tapo/Memo, Saburai	7	
Oeccuse	Nitibe	Banafi, Lela-Ufe, Usi-Taco	3	5
	Passabe	Abani, Malelat	2	

Figures

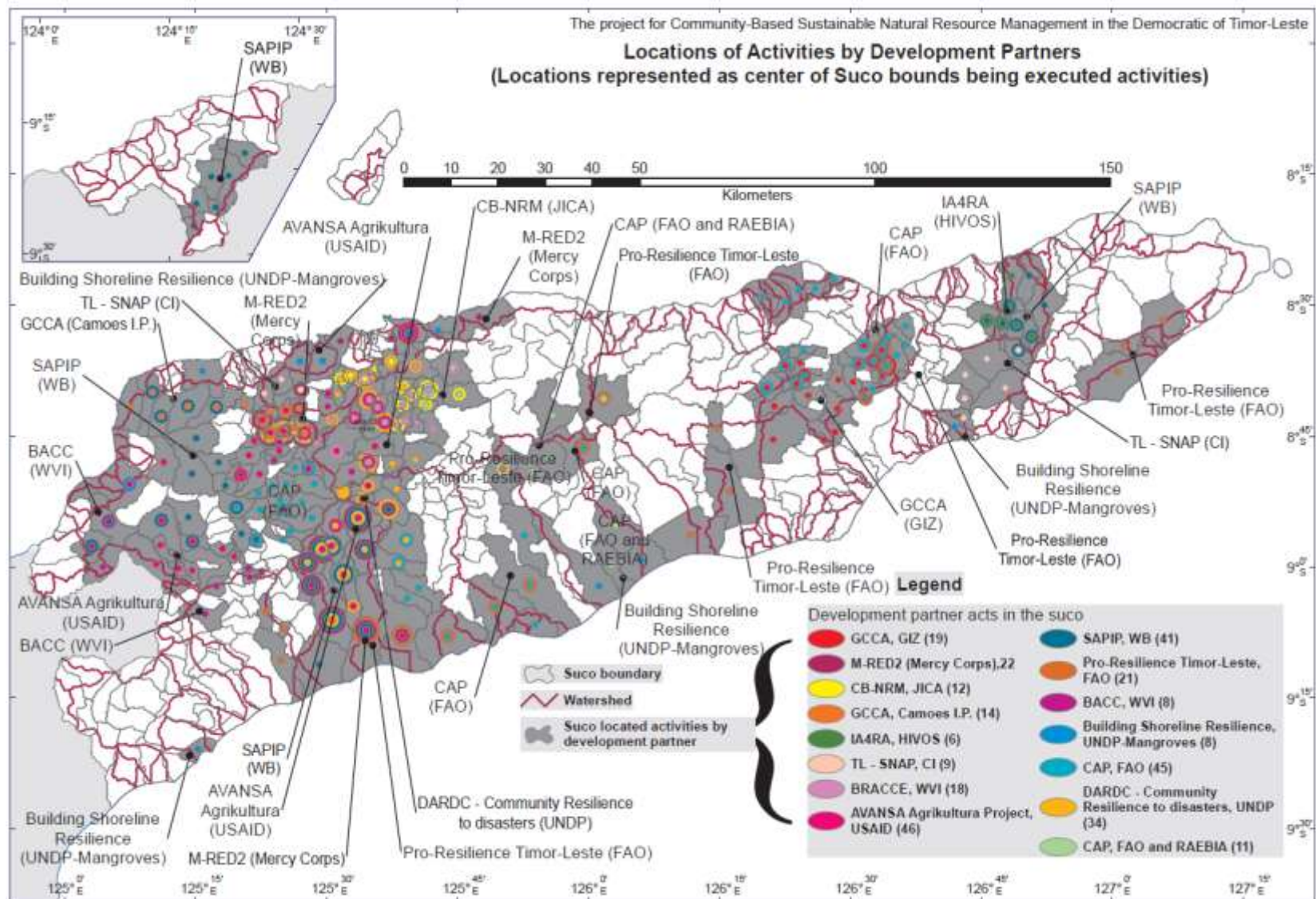


Figure 2-1 Distribution of Sucos supported by the DPs

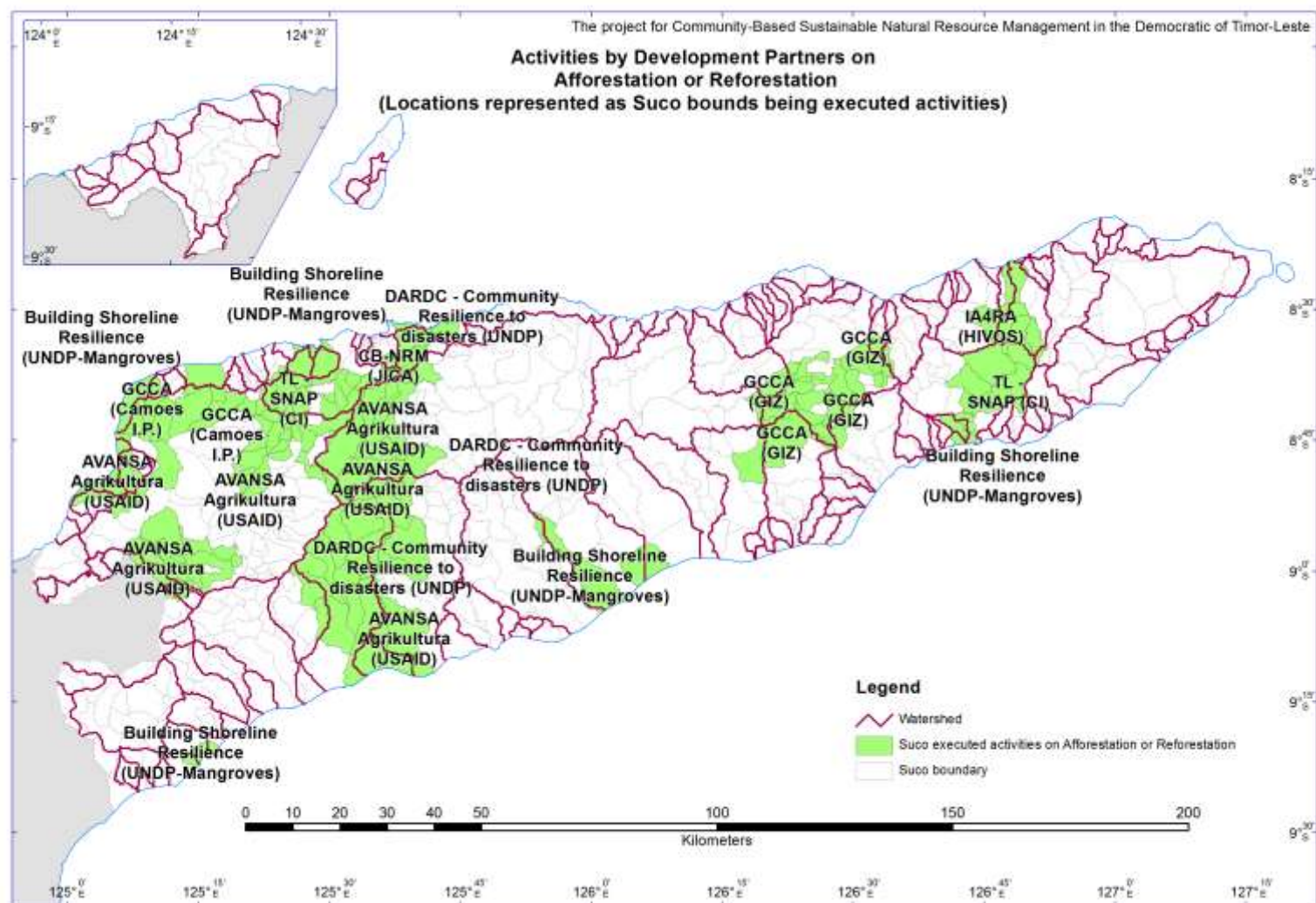


Figure 2-2 (1) Activities by Development Partners (Afforestation/Reforestation)

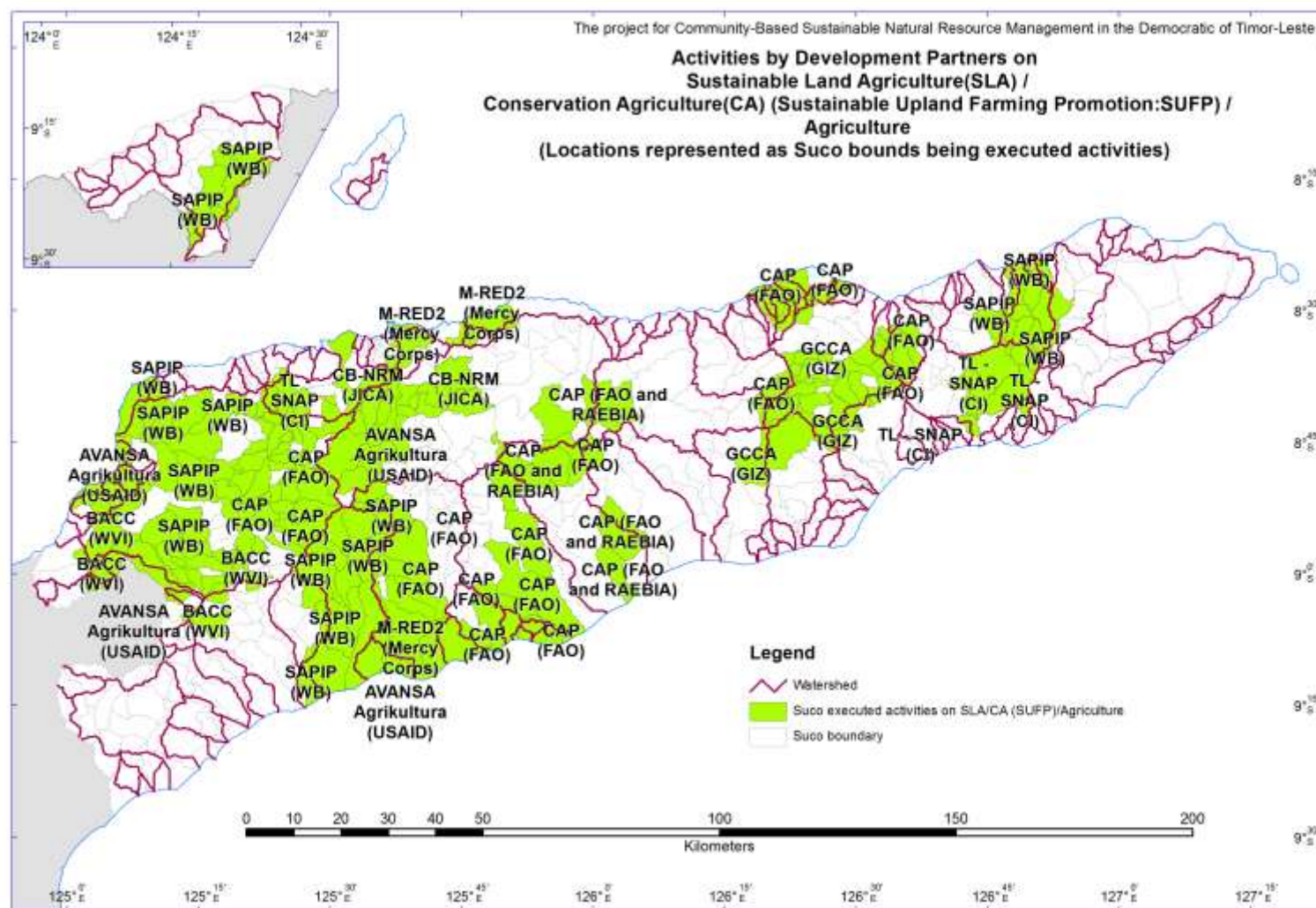


Figure 2-2 (2) Activities by Development Partners (Sustainable Agriculture)

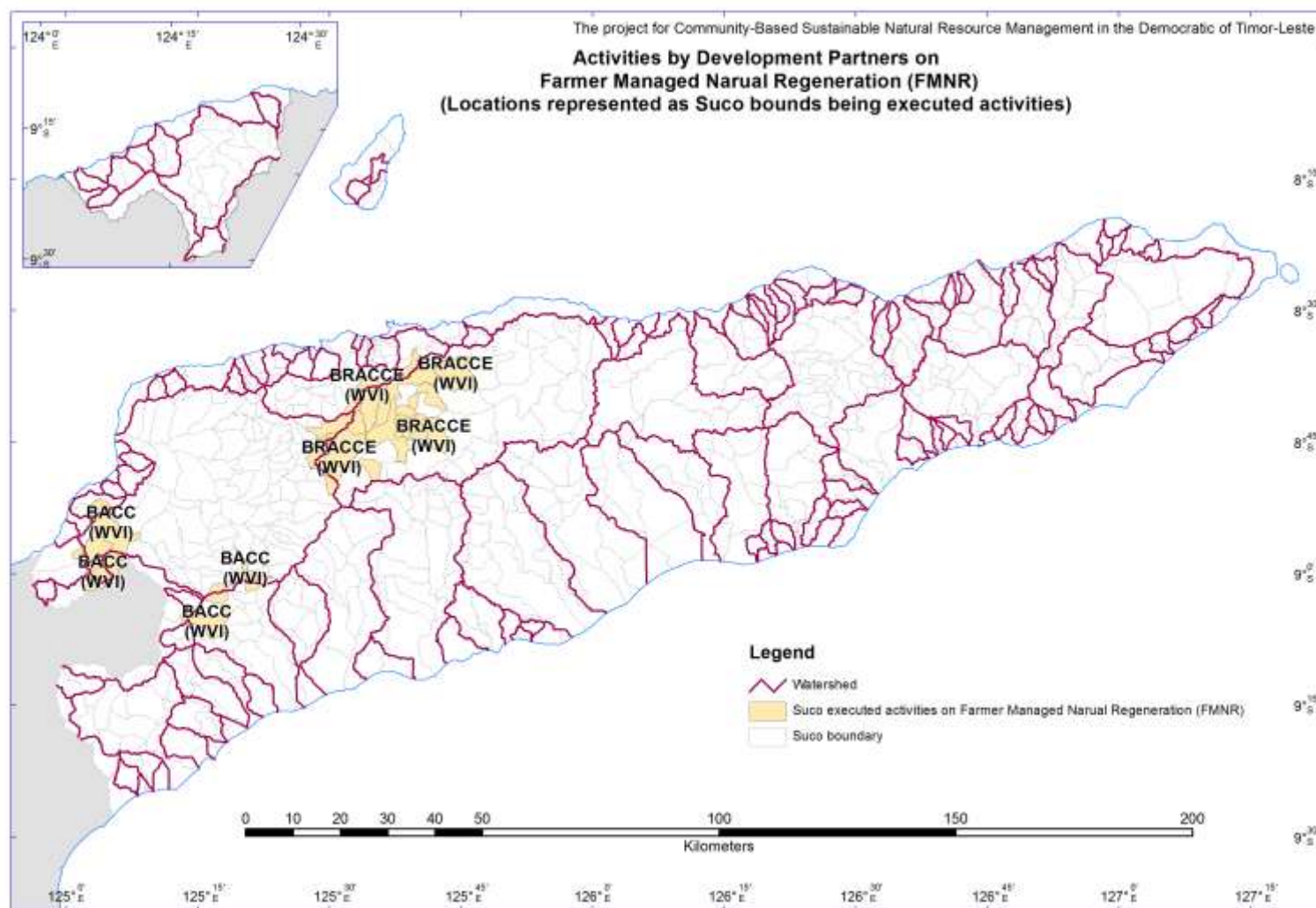


Figure 2-2 (3) Activities by Development Partners (Farmer Managed Natural Regeneration)

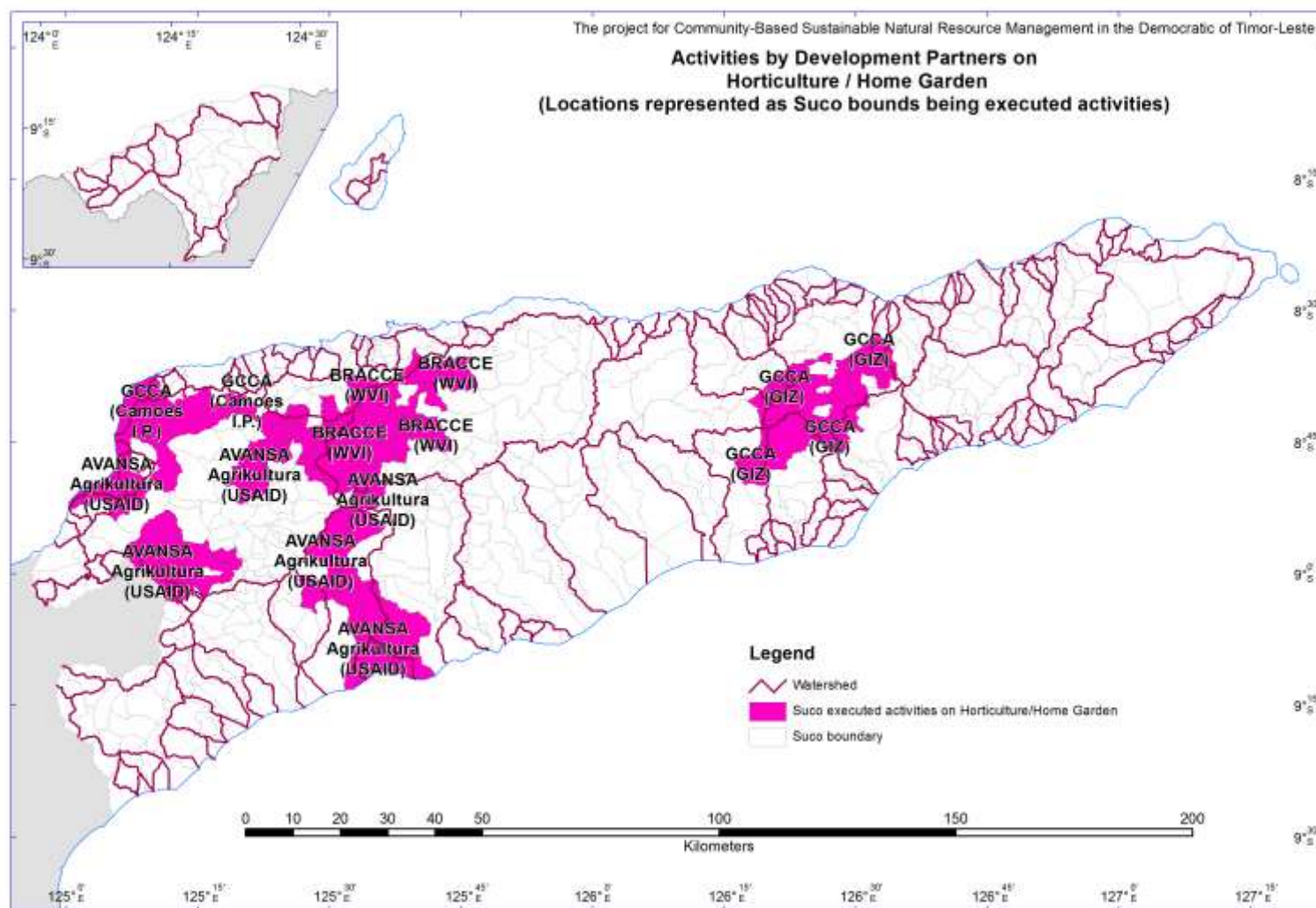


Figure 2-2 (4) Activities by Development Partners (Horticulture or Home Garden)

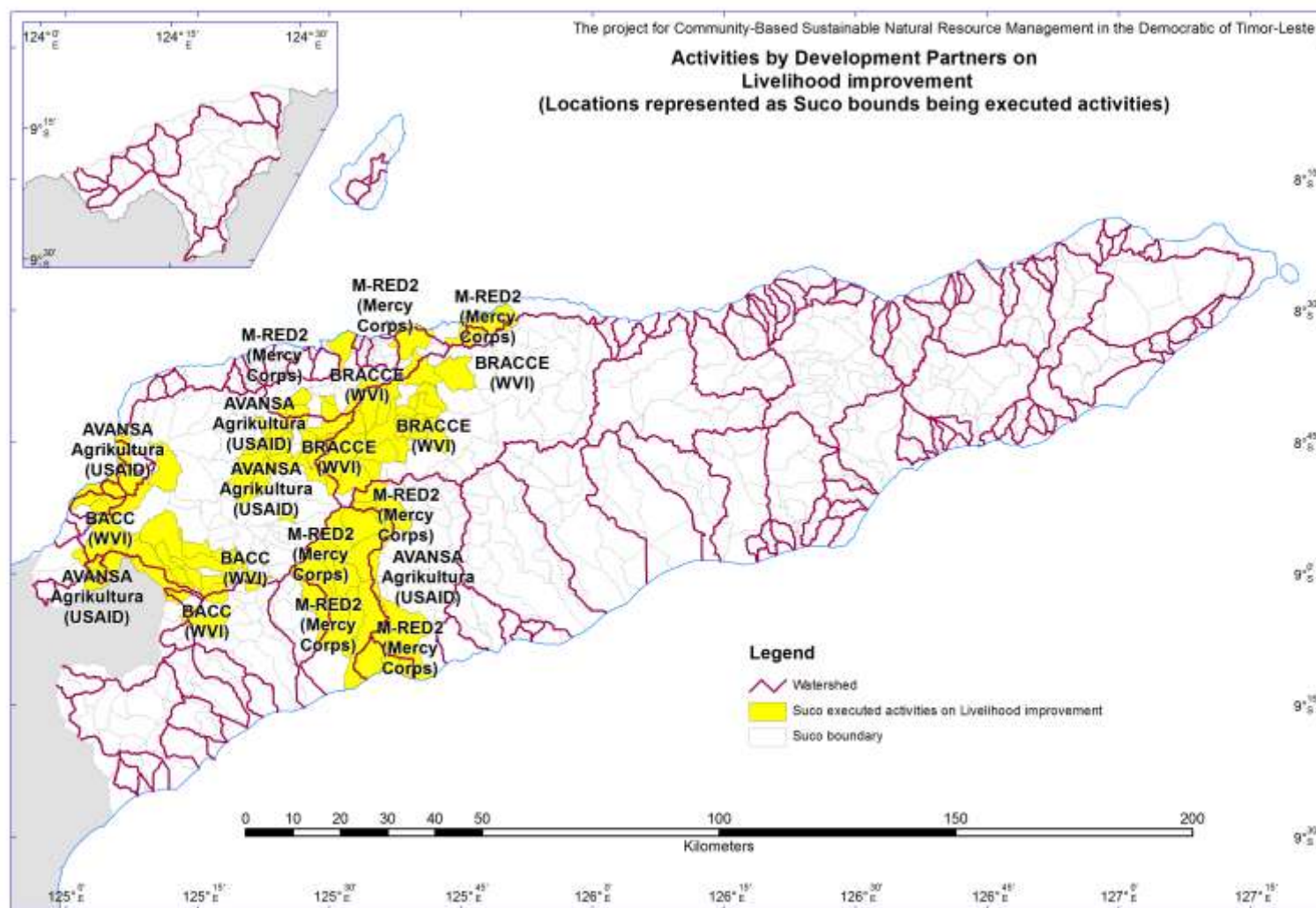


Figure 2-2 (5) Activities by Development Partners (Livelihood Improvement)

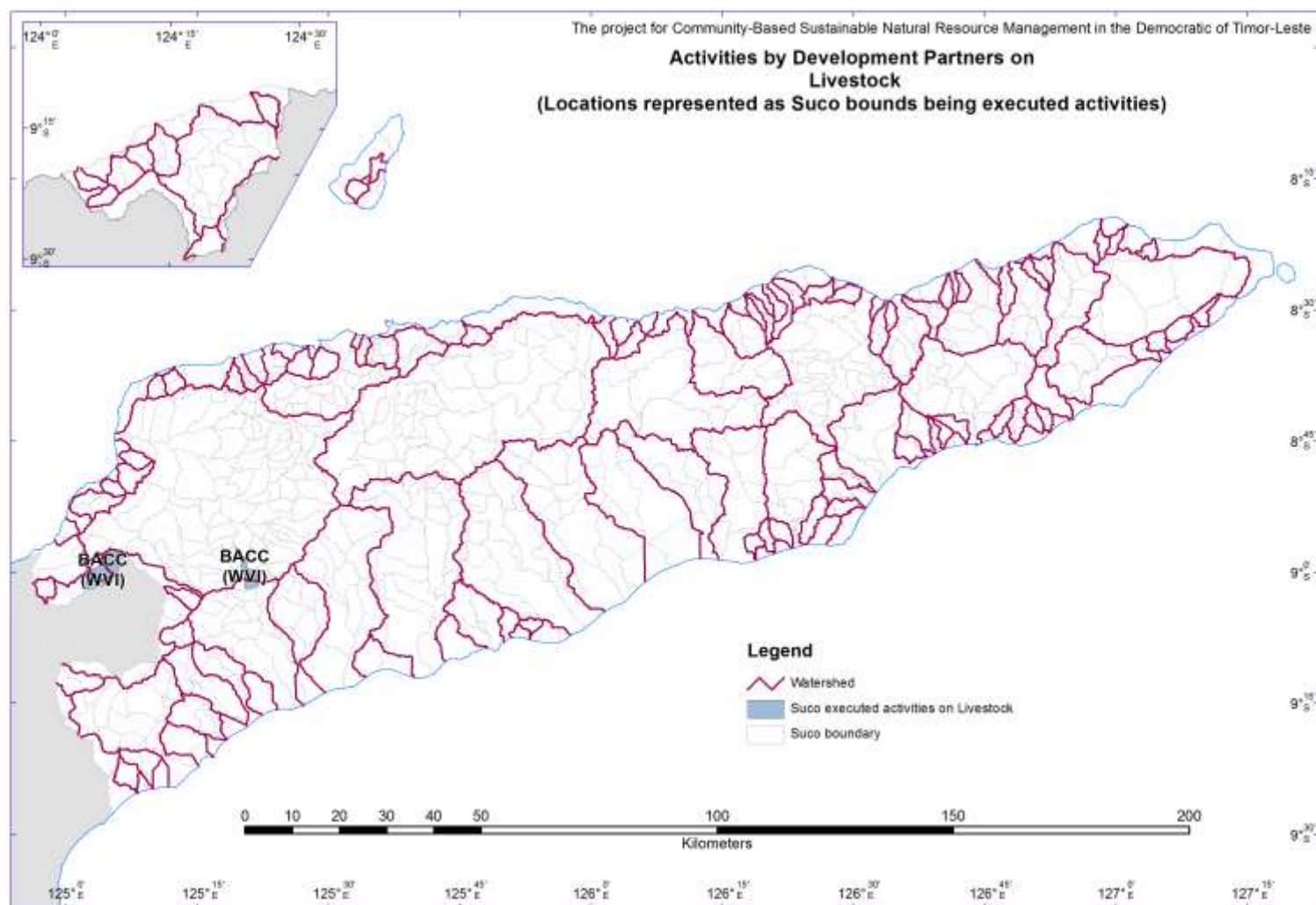


Figure 2-2 (6) Activities by Development Partners (Livestock)

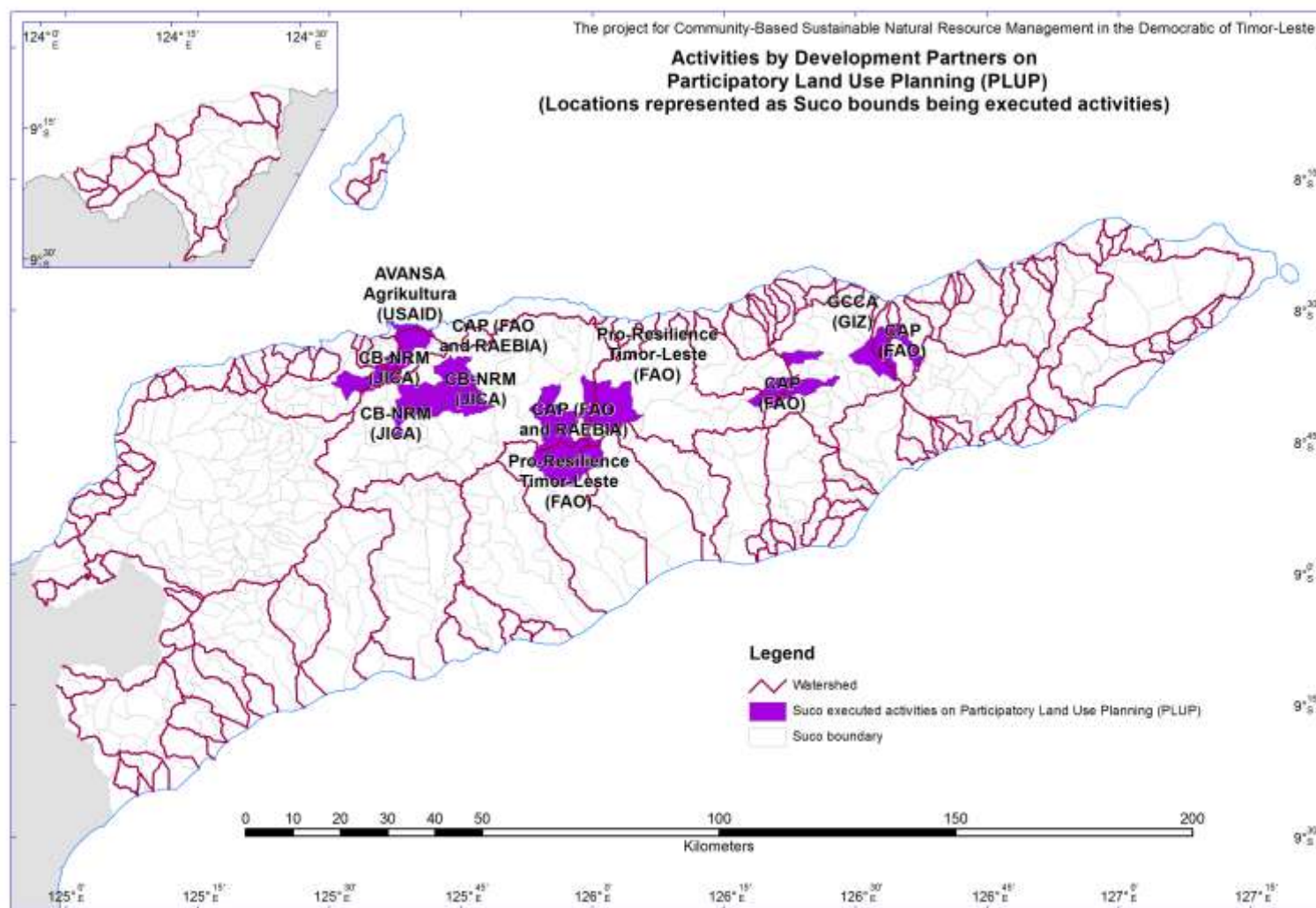


Figure 2-2 (7) Activities by Development Partners (PLUP)

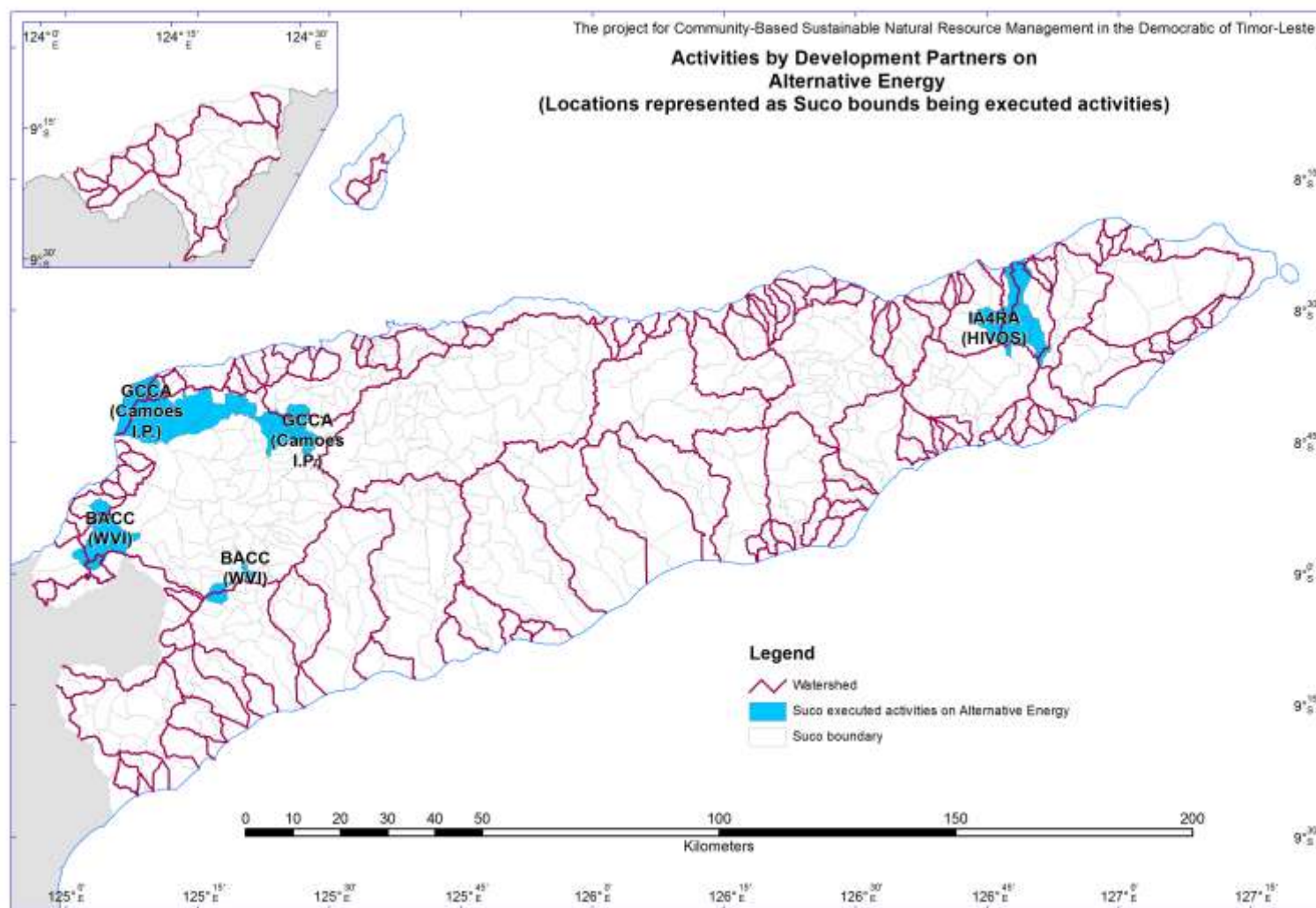


Figure 2-2 (8) Activities by Development Partners (Alternative Energy)

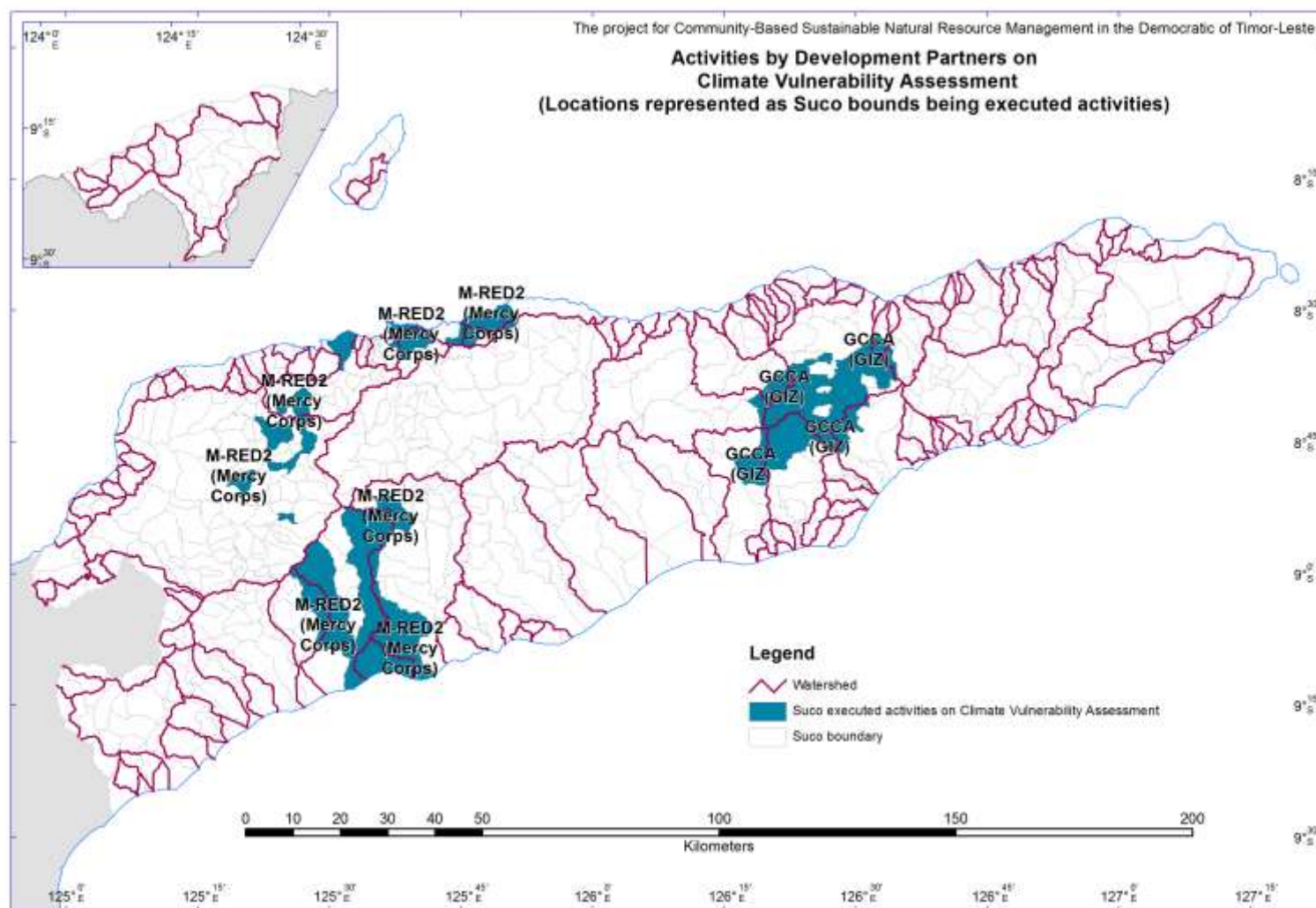


Figure 2-2 (9) Activities by Development Partners (Climate Vulnerability Assessment)

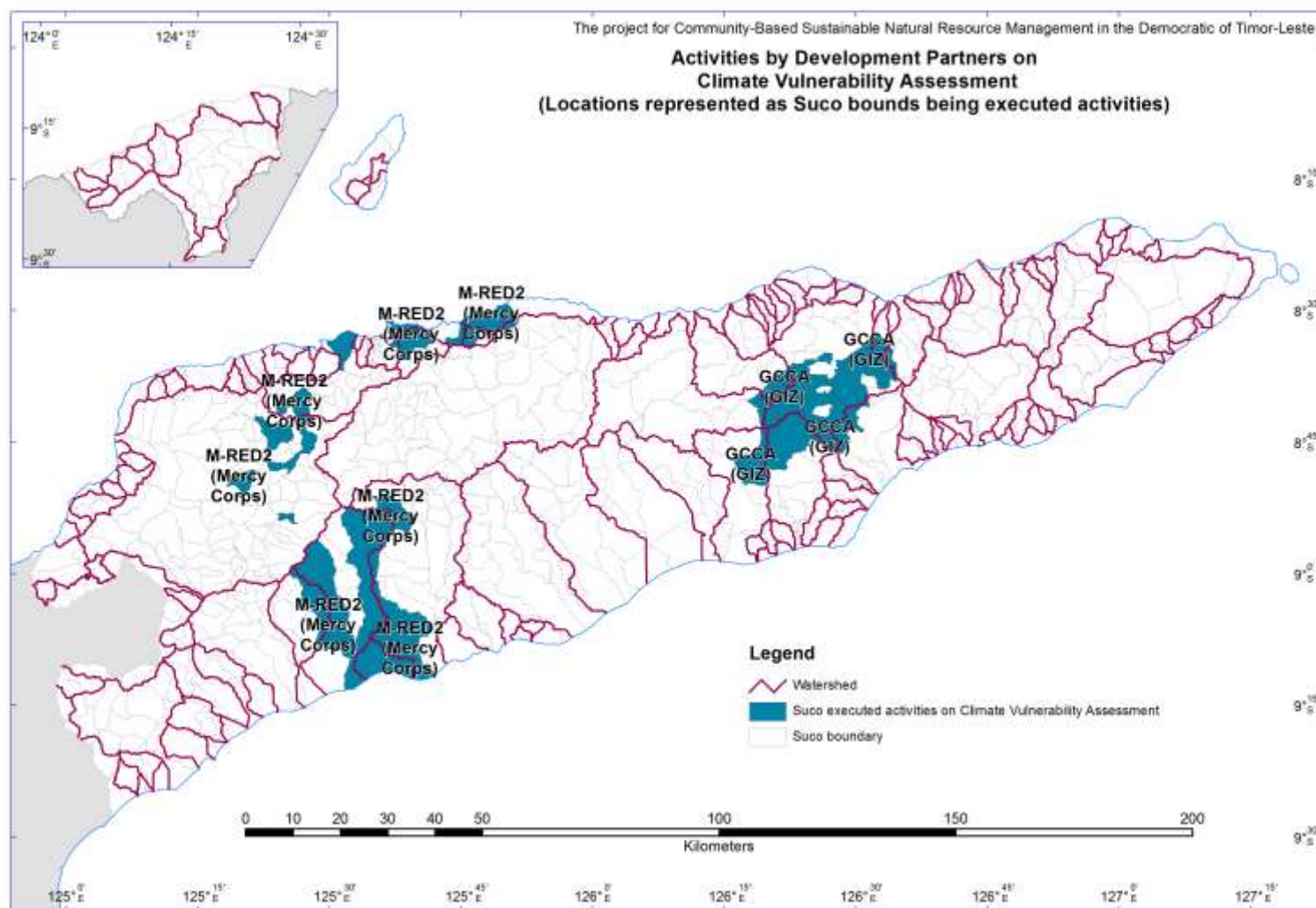


Figure 2-2 (10) Activities by Development Partners (Climate Vulnerability Assessment)

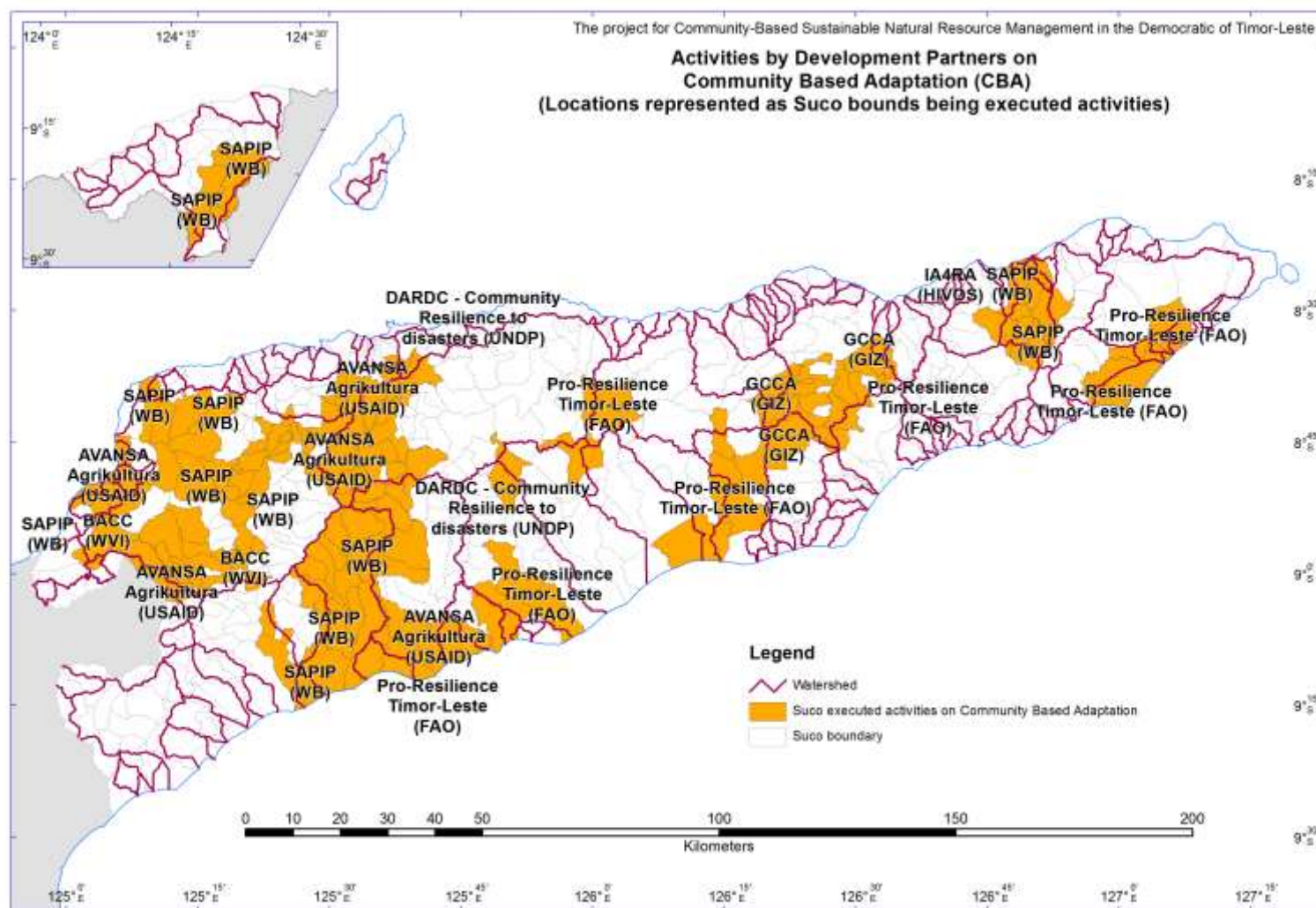


Figure 2-2 (11) Activities by Development Partners (Community Based Adaptation)

Process	Steps: Activities	Year 1												Year 2												Year 3												
		4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12				
1. Participatory land use planning	Stage 1: Preparatory works and Land Use Planing																																					
	Step 1	Consultation with local leaders	■																																			
	Step 2	Organization/Formation of the working group	■																																			
	Step 3	Study tour to one of the JICA project villages		■																																		
	Step 4	Present land use mapping			■																																	
	Step 5	Future land use planning				■																																
	Stage 2: Formulation of Village Regulations																																					
	Step 1	Review of the past and existing rules				■																																
Step 2	Discussion of the draft village regulations					■																																
Step 3	Review of the draft village regulations						■																															
Step 4	Consultation with communities at aldeia level							■																														
Step 5	Preparation for enforcement of the								■																													
Step 6	Organization of Tar Bandu ceremony									■																												
2. Selection of agri-/forest-based extension services (micro project) for implementation of the future land use plan	Step 1	Examination of possible micro projects				■																																
	Step 2	Evaluation of the short-listed micro projects					■																															
	Step 3	Discussions of scope of the priority micro projects						■																														
3. Institutionalization of the village regulations	Step 1	Monthly monitoring meeting at suco level							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Step 2	Quarterly meeting at aldeia level									■			■			■			■			■			■			■			■			■			
	Step 3	Annual evaluation meting at suco level										■											■													■		
4. Implementation of the priority extension services / micro projects	Step 1	Organization of farmers' / beneficiaries' groups					■																															
	Step 2	Preparation of a work plan in a participatory manner						■																														
	Step 3	Conducts a series of hands-on training courses								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Step 4	Annual evaluation and planning of the work plan													■														■									

Figure 4-1 Proposed Standard Schedule for Establishment of the CBNRM Mechanism

Component/Sub-component	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Expansion of the CB-NRM Mechanism										
1.1 Introduction of PLUP										
Batch 1										
Batch 2										
Batch 3										
Batch 4										
Batch 5										
1.2 Implementation of Micro Programs										
Batch 0										
Batch 1										
Batch 2										
Batch 3										
Batch 4										
Batch 5										
1.3 Institutionalization of Village Regulations										
Batch 0										
Batch 1										
Batch 2										
Batch 3										
Batch 4										
Batch 5										
2. Development of Watershed Management Mechanism										
2.1 Formation of Watershed Management Councils										
Batch 1										
Batch 2										
Batch 3										
Batch 4										
Batch 5										
2.2 Operationalization of Watershed Management Councils										
Batch 1										
Batch 2										
Batch 3										
Batch 4										
Batch 5										
2.3 Development of Watershed Management plans										
Batch 1										
Batch 2										
Batch 3										
Batch 4										
Batch 5										
3. Implementation of CF and Promotion of SFM										
3.1 Introduction of Community Forestry										
Batch 1										
Batch 2										
Batch 3										
3.2 Formulation of Forest Management Plan										
Batch 1										
Batch 2										
Batch 3										
3.3 Introduction of Improved Forest Management and Silviculture Practices										
Batch 1										
Batch 2										
Batch 3										
4. Public Awareness Raising										
4.1 Public Awareness Raising in the General Public										
4.2 Knowledge Sharing among Key Stakeholders										
5. Institutional and Capacity Development										
5.1 Organizational and Institutional Development										
5.2 Human Resource Development										
6. Program Management and M&E										
6.1 Program Management										
6.2 Periodic Monitoring and Evaluation										

Figure 7-1 Tentative Implementation Schedule of the Roadmap

Appendixes

Appendix 2-1 Gap Analysis based on the Current MAF DPs' Activities in the Important Watersheds

Municipality	Sub_District	Village	PLUP	PULP (SAPIP)	MP (CropProduction /Nursery/Sustai nable)	FMNR	CropProduction _Horticulture_C SA_CAP_FFS	CCVA_CBDRM_D RR	Nursery_and_Tr ee Planting_AgroF orestry_Conserv	Sustainable_Up and_Managemen t	WaterResources Management_C onservation	Livestock_and_ Fishery	Market_Value_C hain_Developm ent	Renewable_ Alternative_Ene rgy_CookStove	DP	ProjectName	Start	Completion	Beneficiaries	Note		
Aileu	Aileu Vila	Aisirimou	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Aileu Vila	Aisirimou	0	0	1	0	0	1	1	1	1	0	0	0	UNDP	DARDC	2014	2018				
Aileu	Aileu Vila	Bandadato	0	0	1	0	0	1	0	1	1	0	0	0	UNDP	DARDC	2014	2018				
Aileu	Aileu Vila	Bandudato	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Aileu Vila	Fahiria	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages		
Aileu	Aileu Vila	Fatubosa	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages		
Aileu	Aileu Vila	Hoholau	0	0	0	0	0	0	0	0	0	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Aileu Vila	Lahae	0	0	1	0	0	1	1	1	1	0	0	0								
Aileu	Aileu Vila	Lahae	0	0	1	0	1	0	1	1	0	0	1	0							USAID	AVANSA Agrikultura
Aileu	Aileu Vila	Lausi	0	0	0	0	0	0	0	0	0	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Aileu Vila	Liurai	0	0	0	0	0	1	0	0	1	0	0	0								
Aileu	Aileu Vila	Liurai	0	0	1	0	1	0	1	1	0	0	1	0							USAID	AVANSA Agrikultura
Aileu	Aileu Vila	Saboria	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Aileu Vila	Seloi Craic	0	0	0	0	0	1	0	0	0	0	0	0	UNDP	DARDC	2014	2018				
Aileu	Aileu Vila	Seloi Craic	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages		
Aileu	Aileu Vila	Seloi Malere	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Laulara	Bocolelo	1	0	1	0	0	0	0	1	0	0	0	0	JICA	CB- NRM2(Phase2)	2016	2020				
Aileu	Laulara	Cotolau	1	0	1	0	0	1	1	0	0	0	0	0	JICA	CB- NRM2(Phase2)	2016	2020				
Aileu	Laulara	Cotolau	0	0	1	0	0	1	1	1	1	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Laulara	Fatisi	1	0	1	0	0	0	0	1	0	0	0	0	JICA	CB- NRM2(Phase2)	2016	2020				
Aileu	Laulara	Madabeno	0	0	1	0	0	1	1	0	1	0	0	0	UNDP	DARDC	2014	2018				
Aileu	Laulara	Madabeno	1	0	1	0	0	0	1	1	0	0	0	0	JICA	CB-NRM (Phase 1)	2011	2015	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Laulara	Talitu	0	0	1	0	0	1	1	0	0	0	0	0	UNDP	DARDC	2014	2018				
Aileu	Laulara	Talitu	1	0	1	0	0	0	1	1	0	0	0	0	JICA	CB-NRM (Phase 1)	2011	2015				
Aileu	Laulara	Toumeta	1	0	1	0	0	0	1	1	0	0	0	0	JICA	CB-NRM (Phase 1)	2011	2015	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Liquidoe	Acubillitoho	0	0	0	0	0	0	0	0	0	0	0	0	JICA	CB- NRM2(Phase2)	2016	2020				
Aileu	Liquidoe	Bereleu	0	0	0	0	0	0	0	0	0	0	0	0								
Aileu	Liquidoe	Betulau	0	0	0	0	0	0	0	0	0	0	0	0								
Aileu	Liquidoe	Fahisoi	1	0	1	0	0	0	0	1	0	0	0	0	JICA	CB- NRM2(Phase2)	2016	2020	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Liquidoe	Faturilau	0	0	0	0	0	0	0	0	0	0	0	0	JICA	CB- NRM2(Phase2)	2016	2020				
Aileu	Liquidoe	Manucasa	1	0	1	0	0	1	0	1	0	0	0	0								
Aileu	Liquidoe	Namoleso	0	0	0	0	0	0	0	0	0	0	0	0	FAO and RAEBIA	CAP	2013	2017	25 Persons in the village	AVANSA - Field activities are not started in all villages		
Aileu	Remexio	Acumau	0	0	0	0	0	0	0	0	0	0	0	0								
Aileu	Remexio	Fadabloc	0	0	1	0	1	0	0	0	0	0	0	0							FAO and RAEBIA	CB-NRM (Phase 1)
Aileu	Remexio	Fadabloc	1	0	1	0	0	0	0	1	0	0	1	0	JICA	CB- NRM2(Phase2)	2016	2020	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Remexio	Fahisoi	1	0	1	0	0	0	0	1	0	0	0	0	JICA	CB- NRM2(Phase2)	2016	2020				
Aileu	Remexio	Faturasa	0	0	1	0	1	0	0	0	0	0	0	0	FAO and RAEBIA	CAP	2013	2017				
Aileu	Remexio	Faturasa	1	0	1	0	0	0	0	1	0	0	0	0	JICA	CB-NRM (Phase 1)	2011	2015	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Remexio	Hautoho	0	0	1	0	1	0	0	0	0	0	0	0	FAO and RAEBIA	CAP	2013	2017				
Aileu	Remexio	Hautoho	1	0	1	0	0	0	0	1	0	0	1	0	JICA	CB-NRM (Phase 1)	2011	2015				
Aileu	Remexio	Maumeta	1	0	1	0	0	1	0	1	0	0	0	0	JICA	CB- NRM2(Phase2)	2016	2020	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Aileu	Remexio	Suco-Liurai	0	0	0	0	0	0	0	0	0	0	0	0	Mercy Corps	M-RED2	2016	2019				
Aileu	Remexio	Tulataugeo	0	0	0	0	0	0	0	0	0	0	0	0								
Ainaro	Ainaro	Ainaro	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2020	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Ainaro	Ainaro	Ainaro	0	0	0	0	0	1	0	0	1	0	0	0	UNDP	DARDC	2014	2018				
Ainaro	Ainaro	Ainaro	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020				
Ainaro	Ainaro	Cassa	0	0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Ainaro	Ainaro	Cassa	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022				
Ainaro	Ainaro	Cassa	0	0	1	0	1	1	0	1	0	0	0	0	Mercy Corps	M-RED2	2016	2019				
Ainaro	Ainaro	Cassa	0	0	1	0	0	1	1	1	0	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Ainaro	Ainaro	Manutasi	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022				
Ainaro	Ainaro	Manutasi	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020				
Ainaro	Ainaro	Mau-Nuno	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	AVANSA - Field activities are not started in all villages		
Ainaro	Ainaro	Mau-Nuno	0	0	1	0	1	1	0	1	0											

Appendix 2-1 Gap Analysis based on the Current MAF DPs' Activities in the Important Watersheds

Municipality	Sub_District	Village	PLUP	PULP (SAPIP)	MP (CropProduction /Nursery/Sustai nable)	FMNR	CropProduction _Horticulture_C SA_CAP_FFS	CCVA_CBDRM_D RR	Nursery_and_Tr eo Planting_AgroF orestry_Conserv	Sustainable_Up l and_Manageme nt	WaterResources Management_C onservation	Livestock_and_ Fishery	Market_Value_C hain_Developm ent	Renewable_ Alternative_Ene rgy_CookStove	DP	ProjectName	Start	Completion	Beneficiaries	Note
Ainaro	Hatu-udo	Foho-Ai-Lico		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste AVANSA Agrikultura	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Ainaro	Hatu-Udo	Foho-Ai-Lico	0	0	1	0	1	0	1	1	0	0	1	0	USAID		2015	2020		AVANSA - Field activities are not started in all villages
Ainaro	Hatu-Udo	Leolima	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Ainaro	Hatu-Udo	Leolima	0	0	1	0	1	1	0	1	0	0	0	0	Mercy Corps	M-RED2	2016	2019	Around 20,000 persons in the project area	
Ainaro	Hatu-Udo	Leolima		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste AVANSA	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Ainaro	Hatu-Udo	Leolima	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ainaro	Maubisse	Aitutu	0	0	1	0	0	1	1	1	1	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitting 5,000 households in the project area	
Ainaro	Maubisse	Aitutu	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Ainaro	Maubisse	Aitutu	0	0	1	0	1	1	0	1	0	0	0	0	Mercy Corps	M-RED2	2016	2019	Around 20,000 persons in the project area	
Ainaro	Maubisse	Edi	0	0	0	0	0	1	0	0	0	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitting 5,000 households in the project area	
Ainaro	Maubisse	Fatu-Besi	0	0	0	0	0	1	0	0	0	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitting 5,000 households in the project area	
Ainaro	Maubisse	Horai-Quic	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ainaro	Maubisse	Horai-Quic	0	0	1	0	0	1	1	0	1	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitting 5,000 households in the project area	
Ainaro	Maubisse	Manelobas	0	0	0	0	0	0	0	0	0	0	0	0						
Ainaro	Maubisse	Manetu	0	0	0	0	0	0	0	0	0	0	0	0						
Ainaro	Maubisse	Maubisse	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ainaro	Maubisse	Maulau	0	0	0	0	0	0	0	0	0	0	0	0						
Ainaro	Maubisse	Suco Liurai	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baguia	Afalolcai	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baguia	Alaua Craic	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baguia	Alaua Leten	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baguia	Defa Uassi	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baguia	Haeconi	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baguia	Lari Sula	1	0	1	0	0	0	1	0	0	0	0	0	CI	TL - SNAP	2018	2021		Conservation International (CI) - Field activities are not started
Baucau	Baguia	Larisula	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Baguia	Lavateri	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Baguia	Ossu-Huna	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baguia	Samalari	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Baguia	to be identified	1	0	1	0	0	0	1	0	0	0	1	0	EU	Partnership for Sustainable Anno-forestry TL - SNAP	2017	2020	40 sucos will be targeted reaching out to 4000 households. Agro-forestry in more than 6000 ha. 300 ha area planted with indineus spp	EU Agroforestry - Field activities are not started
Baucau	Baguia	Uacala	1	0	1	0	0	0	1	0	0	0	0	0	CI		2018	2021		Conservation International (CI) - Field activities are not started
Baucau	Baucau	Bahu	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baucau	Buibau	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Baucau	Buruma	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baucau	Calbada-2	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baucau	Gariuai	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Baucau	Salalari	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Baucau	Samalari	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baucau	Seical	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baucau	Triloca	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baucau	Trilolo	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Baucau	Uailili	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Baucau	Wailili	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Laga	Atelari	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Quelicai	to be identified	1	0	1	0	0	0	1	0	0	0	1	0	EU	Partnership for Sustainable	2017	2020	40 sucos will be targeted reaching out to 4000 households. Agro-forestry in more than 6000 ha.	EU Agroforestry - Field activities are not started
Baucau	Quelicai	Abo	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Baucau	Quelicai	Abo	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Quelicai	Baguia	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Baucau	Quelicai	Baguia		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Baucau	Quelicai	Baguia	1	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	60 Persons in the village	
Baucau	Quelicai	Baguia	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Quelicai	Bualale	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Baucau	Quelicai	Bualale	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	25 Persons in the village	
Baucau	Quelicai	Guruca	1	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	83 Persons in the village	
Baucau	Quelicai	Lacoliu		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Baucau	Quelicai	Lacoliu	1	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	95 Persons in the village	
Baucau	Quelicai	Laisorolai De Balxo	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Quelicai	Laisorulai de	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Baucau	Quelicai	Laisorulai de Cima	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	30 Persons in the village	
Baucau	Quelicai	Laisorulai de Cima	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Quelicai	Lelalai	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Baucau	Quelicai	Lelalai	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Quelicai	Letemumu	1	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	58 Persons in the village	
Baucau	Quelicai	Letemuno	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Baucau	Quelicai	Letemuno	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Quelicai	Macalaco	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Baucau	Quelicai	Macalaco	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	29 Persons in the village	
Baucau	Quelicai	Namanei	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Quelicai	Waitame	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	25 Persons in the village	
Baucau	Vemase	Loilubo	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Vemase	Uatu-Lari	0	0	0	0	0	0	0	0	0	0	0	0						
Baucau	Venilale	Bado Ho'o	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	

Appendix 2-1 Gap Analysis based on the Current MAF DPs' Activities in the Important Watersheds

Municipality	Sub_District	Village	PLUP	PULP (SAPIP)	MP (CropProduction /Nursery/Sustai nable)	FMNR	CropProduction _Horticulture_C SA_CAP_FFS	CCVA_CBDRM_D RR	Nursery_and_Tr eo Planting_AgroF orestry_Conserv	Sustainable_Upl and_Managemen t	WaterResources Management_C onservation	Livestock_and_ Fishery	Market_Value_C hain_Developm ent	Renewable_ Alternative_Ene rgy_CookStove	DP	ProjectName	Start	Completion	Beneficiaries	Note
Baucau	Venilale	Bado Ho'o	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Venilale	Baha Mori	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Baucau	Venilale	Baha Mori	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Venilale	Fatulia	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Baucau	Venilale	Fatulia	1	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	35 Persons in the village	EU Agroforestry - Field activities are not started
Baucau	Venilale	Uailaha	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Baucau	Venilale	Uailaha	1	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	32 Persons in the village	EU Agroforestry - Field activities are not started
Baucau	Venilale	Uailaha	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	
Baucau	Venilale	Uaioli	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	EU Agroforestry - Field activities are not started
Baucau	Venilale	Uataco	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Baucau	Venilale	Uma Ana Ico	1	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	24 Persons in the village	EU Agroforestry - Field activities are not started
Baucau	Venilale	Uma Ana Ico	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	
Baucau	Venilale	Uma Ana Ulo	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Baucau	Venilale	Uma-Ana Ulo	1	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	120 Persons in the village	
Bobonaro	Atabae	Aidabaleten	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Bobonaro	Atabae	Atabae	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Bobonaro	Atabae	Atabae	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Atabae	Hataz	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Atabae	Rairobo	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Balibo	Balibo Vila	0	0	1	1	1	0	1	1	1	1	1	0	WVI	BACC	2012	2017	52 Persons in the village	SAPIP - Field activities are not started
Bobonaro	Balibo	Balibo Vila	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	
Bobonaro	Balibo	Batugade	0	0	0	0	0	0	0	0		0	0	0						
Bobonaro	Balibo	Leohito	0	0	1	1	1	0	1	0	0	1	0	0	WVI	BACC	2012	2017	68 Persons in the village	SAPIP - Field activities are not started
Bobonaro	Balibo	Leolima	0	0	1	1	1	0	1	1	1	1	1	1	WVI	BACC	2012	2017	132 Persons in the village	
Bobonaro	Balibo	Leolima	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Bobonaro	Balibo	Sanirin	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Bobonaro	Al-Assa	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Bobonaro	Atu-Aben	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Bobonaro	Bobonaro	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Bobonaro	Carabau	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Bobonaro	Colimau	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Bobonaro	Cotabot	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Bobonaro	Ilait-Laun	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Bobonaro	Bobonaro	Lourba	0	0	1	1	1	0	1	1	0	1	1	0	WVI	BACC	2012	2017	60 Persons in the village	EU Agroforestry - Field activities are not started
Bobonaro	Bobonaro	Male-Ubu	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Bobonaro	Malilait	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Bobonaro	Oe-leu	0	0	1	1	1	0	1	1	0	0	1	0	WVI	BACC	2012	2017	44 Persons in the village	EU Agroforestry - Field activities are not started
Bobonaro	Bobonaro	Solleso	0	0	1	1	1	0	1	1	1	1	1	1	WVI	BACC	2012	2017	44 Persons in the village	
Bobonaro	Bobonaro	Tapo	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Bobonaro	Tebabui	0	0	1	1	1	0	1	1	1	0	1	0	WVI	BACC	2012	2017	52 Persons in the village	EU Agroforestry - Field activities are not started
Bobonaro	Caialaco	Atudara	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	
Bobonaro	Caialaco	Dau Udo	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Caialaco	Goulolo	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Caialaco	Guenu Lai	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Caialaco	Manapa	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Bobonaro	Caialaco	Manapa	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Bobonaro	Caialaco	Meligo	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Bobonaro	Caialaco	Meligo	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Caialaco	Purugoa	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Caialaco	Raiheu	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Bobonaro	Maliana	Holsa	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Bobonaro	Maliana	Lahomea	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Bobonaro	Maliana	Lahomea	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Maliana	Odomau	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Bobonaro	Maliana	Odomau	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Maliana	Raifun	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Bobonaro	Maliana	Raifun	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Maliana	Ritabou	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Bobonaro	Maliana	Ritabou	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Bobonaro	Maliana	Ritabou	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Maliana	Saburai	0	0	0	0	0	0	0	0	0	0	0	0						
Bobonaro	Maliana	Tapo/Memo	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Bobonaro	Maliana	Tapo/Memo	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Covalima	Fatuluic	Fatuluic	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Fatuluic	Taroman	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Fatumean	Belulik Leten	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Fatumean	Fatumea	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Fatumean	Nanu	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Forohem	Dato Rua	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Forohem	Dato Tolu	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Forohem	Fohoren	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Forohem	Lactos	0	0	0	0	0	0	0	0	0	0	0	0						

Appendix 2-1 Gap Analysis based on the Current MAF DPs' Activities in the Important Watersheds

Municipality	Sub_District	Village	PLUP	PULP (SAPIP)	MP (CropProduction /Nursery/Sustai nable)	FMNR	CropProduction _Horticulture_C SA_CAP_FFS	CCVA_CBDRM_D RR	Nursery_and_Tr eo Planting_AgroF orestry_Conserv	Sustainable_Up and_Manageme nt	WaterResources Management_C onservation	Livestock_and_ Fishery	Market_Value_C hain_Developm ent	Renewable_ Alternative_Ene rgy_CookStove	DP	ProjectName	Start	Completion	Beneficiaries	Note
Covalima	Maukatar	Belecasac	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Maukatar	Holpilat	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Maukatar	Ogues	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Suai	Debos	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Suai	Suai Loro	1	0	1	0	0	1	1	0	1		0	0	UNDP- Mangroves	Building Shoreline	2016	2019	1,000 ha area targeted for mangrove restoration, protection, wetland conservation. Mangrove-supportive livelihood activities for 1,000 households.	
Covalima	Tilomar	Casabauc	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Tilomar	Foholulic	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Tilomar	Lalawa	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Tilomar	Maudemo	0	0	0	0	0	0	0	0	0	0	0	0						
Covalima	Zumalai	Raimea	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Dili	Cristo Rei	Ballibar	0	0	0	0	0	0	0	0	0	0	0	0						
Dili	Dom Aleixo	Bairro Pite	0	0	0	0	0	0	0	0	0	0	0	0						
Dili	Dom Aleixo	Cornoro	0	0	0	0	0	0	0	0	0	0	0	0						
Dili	Dom Aleixo	Fatuhada	0	0	0	0	0	0	0	0	0	0	0	0						
Dili	Metinaro	Duyung (Serela)	0	0	0	0	0	0	0	0	0	0	0	0						
Dili	Metinaro	Sabuli	0	0	0	0	0	0	0	0	0	0	0	0						
Dili	Vera Cruz	Dare	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Astabe	Batumanu	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Ermera	Astabe	Laubono	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Ermera	Atsabe	Atadame/Malabe	0	0	1	0	1	0	0	0	0	0	0	0	FAO-MAF	CAP	2013	2017	48 Persons in the village	
Ermera	Atsabe	Atara	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Atsabe	Baboi Craik	0	0	1	0	1	0	0	0	0	0	0	0	FAO-MAF	CAP	2013	2017	25 Persons in the village	
Ermera	Atsabe	Batumanu	0	0	1	0	1	0	0	0	0	0	0	0	FAO-MAF	CAP	2013	2017	25 Persons in the village	
Ermera	Atsabe	Beboi Leten	0	0	1	0	1	0	0	0	0	0	0	0	FAO-MAF	CAP	2013	2017	50 Persons in the village	
Ermera	Atsabe	Lacro	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Atsabe	Lasaun	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Atsabe	Leimea Leten	0	0	1	0	1	0	0	0	0	0	0	0	FAO-MAF	CAP	2013	2017	25 Persons in the village	
Ermera	Atsabe	Obulo	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Atsabe	Paramin	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Atsabe	Tiarlelo	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Ermera	Estado	0	0	1	0	0	1	1	0	0	0	1	0	Mercy Corps	M-RED2	2016	2019	Around 20,000 persons in the project area	
Ermera	Ermera	Humboe	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Ermera	Lauala	0	0	1	0	0	1	1	0	0	0	1	0	Mercy Corps	M-RED2	2016	2019	Around 20,000 persons in the project area	
Ermera	Ermera	Lauala	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Ermera	Laulala	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Ermera	Ermera	Leguimea	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Ermera	Mirtutu	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Ermera	Poetete	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Ermera	Ermera	Poetete	0	0	1	0	0	1	1	0	0	0	1	0	Mercy Corps	M-RED2	2016	2019	Around 20,000 persons in the project area	
Ermera	Ermera	Poetete	0	0	0	0	0	1	0	0	1	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the proiect area	
Ermera	Ermera	Poetete	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Ermera	Ponilala	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Ermera	Ermera	Ponilala	0	0	1	0	0	1	1	0	0	0	1	0	Mercy Corps	M-RED2	2016	2019	Around 20,000 persons in the project area	
Ermera	Ermera	Ponilala	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Ermera	Ralmerhel	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Ermera	Riheu	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Ermera	Ermera	Riheu	0	0	0	0	0	1	0	0	0	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	
Ermera	Ermera	Talimoro	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Ermera	Ermera	Talimoro	0	0	1	0	0	1	1	0	0	0	1	0	Mercy Corps	M-RED2	2016	2019	Around 20,000 persons in the project area	
Ermera	Ermera	Talimoro	0	0	0	0	0	1	0	0	1	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitinq 5,000 households in the project area	
Ermera	Ermera	Talimoro	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Hatolia	Allelo	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Ermera	Hatolia	Asulau	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Hatolia	Collate-Leotelo	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Hatolia	Fatubolu	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Hatolia	Fatuessi	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Hatolia	Hatolia	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Hatolia	Hatolia	0	0	1	0	0	1	1	0	0	0	1	0	Mercy Corps	M-RED2	2016	2019	Around 20,000 persons in the project area	
Ermera	Hatolia	Lemia Sorimbalu	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Hatolia	Limeacraic	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Ermera	Hatolia	Lissapat	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Hatolia	Manusae	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Hatolia	Mau-Ubu	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Hatolia	Samara	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Ermera	Hatolia	Urahou	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Letefoho	Catrai Leten	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	116 Persons in the village	
Ermera	Letefoho	Catrai-Craik	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	75 Persons in the village	
Ermera	Letefoho	Ducurai	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	137 Persons in the village	
Ermera	Letefoho	Eraulo	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	47 Persons in the village	
Ermera	Letefoho	Eraulo	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Letefoho	Goulolo	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Letefoho	Goulolo	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	53 Persons in the village	

Appendix 2-1 Gap Analysis based on the Current MAF DPs' Activities in the Important Watersheds

Municipality	Sub_District	Village	PLUP	PULP (SAPIP)	MP (CropProduction /Nursery/Sustai nable)	FMNR	CropProduction _Horticulture_C SA_CAP_FFS	CCVA_CBDRM_D RR	Nursery_and_Tr eo Planting_AgroF orestry_Conserv	Sustainable_Up l and_Managem ent	WaterResources Management_C onservation	Livestock_and_ Fishery	Market_Value_C hain_Developm ent	Renewable_ Alternative_Ene rgy_CookStove	DP	ProjectName	Start	Completion	Beneficiaries	Note
Ermera	Letefoho	Hatugau	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	101 Persons in the village	
Ermera	Letefoho	Hauptu	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	171 Persons in the village	
Ermera	Letefoho	Lauana	0	0	1	0	0	1	1	0	0	0	1	0	Mercy Corps	M-RED2	2016	2019	Around 20,000 persons in the project area	
Ermera	Letefoho	Lauana	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	54 Persons in the village	
Ermera	Letefoho	Leimea Sorin Balui	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	52 Persons in the village	
Ermera	Railaco	Deleco	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Railaco	Fatuquero	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Ermera	Railaco	Fatuquero	0	0	1	0	0	1	1	0	0	0	1	0	Mercy Corps	M-RED2	2016	2019	Around 20,000 persons in the project area	
Ermera	Railaco	Lihu	0	0	1	0	0	1	1	0	0	0	1	0	Mercy Corps	M-RED2	2016	2019	Around 20,000 persons in the project area	
Ermera	Railaco	Lihu	1	0	1	0	0	0	1	0	0	0	0	0	CI	TL - SNAP	2018	2021		Conservation International (CI) - Field activities are not started
Ermera	Railaco	Matata	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Ermera	Railaco	Railaco Craic	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Railaco	Railaco Leten	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Ermera	Railaco	Samalete	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Railaco	Taraco	0	0	0	0	0	0	0	0	0	0	0	0						
Ermera	Railaco	Tocoluli	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Ermera	Railaco	Tocoluli	0	0	1	0	1	0	1	1	0	0	1	0	USAID	AVANSA Agrikultura	2015	2020		AVANSA - Field activities are not started in all villages
Lautem	Iliomar	Cainilu	1	0	1	0	0	0	1	0	0	0	0	0	CI	TL - SNAP	2018	2021		Conservation International (CI) - Field activities are not started
Lautem	Iliomar	Fuat	0	0	0	0	0	0	0	0	0	0	0	0						
Lautem	Iliomar	Tirilolo	0	0	0	0	0	0	0	0	0	0	0	0						
Lautem	Lautem	Com	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	52 Persons in the village	
Lautem	Lautem	Pairara	0	0	0	0	0	0	0	0	0	0	0	0						
Lautem	Lautem	Parlamento	0	0	0	0	0	0	0	0	0	0	0	0						
Lautem	Lospalos	Bauro	0	0	0	0	0	0	0	0	0	0	0	0						
Lautem	Lospalos	Fulloro	0	0	0	0	0	0	0	0	0	0	0	0						
Lautem	Lospalos	Home	0	0	1	0	1	0	0	0	0	1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	
Lautem	Lospalos	Lore I		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	EU Agroforestry - Field activities are not started
Lautem	Lospalos	Lore I	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	54 Persons in the village	
Lautem	Lospalos	Lore II		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Lautem	Lospalos	Lore II	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	20 Persons in the village	
Lautem	Lospalos	Muapitine		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Lautem	Lospalos	Muapitine	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	35 Persons in the village	
Lautem	Lospalos	Raca	0	0	0	0	0	0	0	0	0	0	0	0						
Lautem	Lospalos	Souro	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	22 Persons in the village	
Lautem	Luro	Afabubu	0	0	1	0	1	0	1	0	1	0	0	1	HIVOS	IA4RA	2016	2018	114 Persons in the village	
Lautem	Luro	Afabubu	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Lautem	Luro	Afabubu	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Lautem	Luro	Baricafa	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Lautem	Luro	Baricafa	1	0	1	0	0	0	1	0	0	0	0	0	CI	TL - SNAP	2018	2021		Conservation International (CI) - Field activities are not started
Lautem	Luro	Baricafa	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Lautem	Luro	Cotamutu	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Lautem	Luro	Cotamutu	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Lautem	Luro	Kotamuto	0	0	1	0	1	0	1	0	1	0	0	1	HIVOS	IA4RA	2016	2018	107 Persons in the village	
Lautem	Luro	Lacawa	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Lautem	Luro	Lakawa	0	0	1	0	1	0	1	0	1	0	0	1	HIVOS	IA4RA	2016	2018	21 Persons in the village	
Lautem	Luro	Luro	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Lautem	Luro	Luro	0	0	1	0	1	0	1	0	1	0	0	1	HIVOS	IA4RA	2016	2018	120 Persons in the village Persons in the village	
Lautem	Tutuala	Mehara	0	0	0	0	0	0	0	0	0	0	0	0						
Lautem	Tutuala	Tutuala	0	0	0	0	0	0	0	0	0	0	0	0						
Liquica	Bazartete	Fahlebo	1	0	1	0	0	0	1	0	0	0	0	0	CI	TL - SNAP	2018	2021		Conservation International (CI) - Field activities are not started
Liquica	Bazartete	Leorema	1	0	1	0	0	0	1	0	0	0	0	0	CI	TL - SNAP	2018	2021		Conservation International (CI) - Field activities are not started
Liquica	Bazartete	Metagou	0	0	0	0	0	0	0	0	0	0	0	0						
Liquica	Bazartete	Tibar	0	0	1	0	0	1	1	0	1		0	0	UNDP- Mangroves	Building Shoreline	2016	2019	1,000 ha area targeted for mangrove restoration, protection, wetland conservation. Mangrove-supportive livelihood activities for 1,000 households.	
Liquica	Bazartete	Ulmera	0	0	1	0	0	1	1	0	1		0	0	UNDP- Mangroves	Building Shoreline	2016	2019	1,000 ha area targeted for mangrove restoration, protection, wetland conservation. Mangrove-supportive livelihood activities for 1,000 households.	
Liquica	Liquica	Acumano	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Liquica	Liquica	Darulete	0	0	0	0	0	0	0	0	0	0	0	0						
Liquica	Liquica	Dato	0	0	0	0	0	0	0	0	0	0	0	0						
Liquica	Liquica	Hatuquessi	0	0	0	0	0	0	0	0	0	0	0	0						
Liquica	Liquica	Leoteala	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Liquica	Liquica	Leoteala	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Liquica	Liquica	Luculai	0	0	0	0	0	0	0	0	0	0	0	0						
Liquica	Maubara	Gugleur	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Liquica	Maubara	Gugleur	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Liquica	Maubara	Guico	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Liquica	Maubara	Guico	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Liquica	Maubara	Lissadila	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Liquica	Maubara	Lissadila	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Liquica	Maubara	Maubarialissa	0	0	0	0	0	0	0	0	0	0	0	0						
Liquica	Maubara	Vatuboro	0	0	1	0	1	1	1	1	0	0	1	1	Camoës I.P.	GCCA	2014	2018	Whole village	
Liquica	Maubara	Vatuvou	0	0	0	0	0	0	0	0	0	0	0	0						
Manatuto	Barique/Natarbora	to be identified	1	0	1	0	0	0	1	0	0	0	1	0	EU	Partnership for Sustainable	2017	2020	40 sucos will be targeted reaching out to 4000 households.	EU Agroforestry - Field activities are not started
Manatuto	Barique/Natarbora	Abat Oan	0	0	1	0	1	0	0	0	0	0	0	0	FAO and RAEBIA	CAP	2013	2017	67 Persons in the village	

Appendix 2-1 Gap Analysis based on the Current MAF DPs' Activities in the Important Watersheds

Municipality	Sub_District	Village	PLUP	PULP (SAPIP)	MP (CropProduction /Nursery/Sustai nable)	FMNR	CropProduction _Horticulture_C SA_CAP_FFS	CCVA_CBDRM_D RR	Nursery_and_Tr eo Planting_AgroF orestry_Conserv	Sustainable_Upl and_Managemen t	WaterResources Management_C onservation	Livestock_and_ Fishery	Market_Value_C hain_Developm ent	Renewable_ Alternative_Ene rgy_CookStove	DP	ProjectName	Start	Completion	Beneficiaries	Note
Manatuto	Barique/Natarb ora	Aubeon	1	0	1	0	0	1	1	0	1		0	0	UNDP- Mangroves Shoreline Building	Building Shoreline	2016	2019	1,000 ha area targeted for mangrove restoration, protection, wetland conservation. Mangrove-supportive livelihood activities for 1,000 households.	
Manatuto	Barique/Natarb ora	Barique	1	0	1	0	0	1	1	1	1		0	0	UNDP- Mangroves Shoreline Building	Building Shoreline	2016	2019	1,000 ha area targeted for mangrove restoration, protection, wetland conservation. Mangrove-supportive livelihood activities for 1,000 households.	
Manatuto	Barique/Natarb ora	Manehat	1	0	1	0	0	1	1	1	1		0	0	UNDP- Mangroves Shoreline Building	Building Shoreline	2016	2019	1,000 ha area targeted for mangrove restoration, protection, wetland conservation. Mangrove-supportive livelihood activities for 1,000 households.	
Manatuto	Barique/Natarb ora	Uma Boco	0	0	1	0	1	0	0	0	0	0	0	0	FAO and RAEBIA	CAP	2013	2017	61 Persons in the village	
Manatuto	Laclo	Hohorai	0	0	0	0	0	0	0	0	0	0	0	0						
Manatuto	Laclo	Lacumesac	0	0	0	0	0	0	0	0	0	0	0	0						
Manatuto	Laclo	Uma Naruc	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Manatuto	Laclo	Umacaduac	0	0	0	0	0	0	0	0	0	0	0	0						
Manatuto	Laclubar	Batara	1	0	1	0	1	0	0	0	0	0	0	0	FAO and RAEBIA	CAP	2013	2017	44 Persons in the village	
Manatuto	Laclubar	Fatumaquerec		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Manatuto	Laclubar	Fatumaquerec	0	0	1	0	1	0	0	0	0	0	0	0	FAO and RAEBIA	CAP	2013	2017	35 Persons in the village	
Manatuto	Laclubar	Funar	0	0	0	0	0	0	0	0	0	0	0	0						
Manatuto	Laclubar	Manelima	1	0	1	0	1	0	0	0	0	0	0	0	FAO and RAEBIA	CAP	2013	2017	72 Persons in the village	
Manatuto	Laclubar	Orialan		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Manatuto	Laclubar	Orialan	1	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	50 Persons in the village	
Manatuto	Laclubar	Sananain	0	0	1	0	1	0	0	0	1	1	0	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Manatuto	Manatuto	Ailili	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Manatuto	Manatuto	Alteas	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Manatuto	Manatuto	Cribas		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Manatuto	Manatuto	Cribas	1	0	1	0	1	0	0	0	0	0	0	0	FAO and RAEBIA	CAP	2013	2017	93 Persons in the village	
Manatuto	Manatuto	Ililheu	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Manatuto	Manatuto	Sau	0	0	0	0	0	0	0	0	0	0	0	0						
Manatuto	Soibada	Fatumacerec	0	0	0	0	0	0	0	0	0	0	0	0						
Manatuto	Soibada	Leo Hat	0	0	0	0	0	0	0	0	0	0	0	0						
Manatuto	Soibada	Manlala	0	0	0	0	0	0	0	0	0	0	0	0						
Manatuto	Soibada	Manufahi	0	0	0	0	0	0	0	0	0	0	0	0						
Manatuto	Soibada	Manufahi Kiik	0	0	1	0	1	0	0	0	0	0	0	0	FAO and RAEBIA	CAP	2013	2017	22 Persons in the village	
Manatuto	Soibada	Samoro	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Alas	Mahaquidan		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Manufahi	Alas	Mahaquidan	0	0	1	0	1	0	0	0	0	0	0	0	FAO- MercyCorps	CAP	2013	2017	39 Persons in the village	
Manufahi	Alas	Taitudac	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Fatuberliu	Caicasa	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Fatuberliu	Ciacuc	1	0	1	0	0	1	1	1	1		0	0	UNDP- Mangroves	Building Shoreline	2016	2019	1,000 ha area targeted for mangrove restoration, protection, wetland conservation. Mangrove-supportive livelihood activities for 1,000 households.	
Manufahi	Fatuberliu	Fahinehan	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Fatuberliu	Fatucahi	0	0	1	0	1	0	0	0	0	0	0	0	FAO	CAP	2013	2017	25 Persons in the village	
Manufahi	Fatuberliu	Fatucahi	1	0	1	0	0	1	1	1	1		0	0	UNDP- Mangroves FAO- MercyCorps	Building Shoreline CAP	2016	2019	1,000 ha area targeted for mangrove restoration, protection, wetland conservation. Mangrove-supportive livelihood activities for 1,000 households.	
Manufahi	Same	Babulu	0	0	1	0	1	0	0	0	0	0	0	0	FAO- MercyCorps	CAP	2013	2017	74 Persons in the village	
Manufahi	Same	Betano	1	0	1	0	0	1	1	1	1		0	0	UNDP- Mangroves FAO- MercyCorps	Building Shoreline Pro-Resilience Timor-Leste	2016	2019	1,000 ha area targeted for mangrove restoration, protection, wetland conservation. Mangrove-supportive livelihood activities for 1,000 households.	
Manufahi	Same	Betano		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Manufahi	Same	Betano	0	0	1	0	1	0	0	0	0	0	0	0	FAO- MercyCorps	CAP	2013	2017	211 Persons in the village	
Manufahi	Same	Daisua	0	0	1	0	1	0	0	0	0	0	0	0	FAO- MercyCorps	CAP	2013	2017	147 Persons in the village	
Manufahi	Same	Groto	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Same	Holarua	0	0	0	0	0	1	0	0	1	0	0	0	UNDP	DARDC	2014	2018	For reforestation and agro-forestry activities - 50,000 ha degraded land and community land benefitting 5,000 households in the project area	
Manufahi	Same	Holarua	0	0	1	0	1	0	0	0	0	0	0	0	FAO- MercyCorps	CAP	2013	2017	127 Persons in the village	
Manufahi	Same	Letefoho	0	0	1	0	1	0	0	0	0	0	0	0	FAO- MercyCorps	CAP	2013	2017	59 Persons in the village	
Manufahi	Same	Rotuto	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Same	Tutuluro	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Turiscai	Aitemua	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Turiscai	Beremana	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Turiscai	Calmauc	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Turiscai	Fatucalo	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Turiscai	Foholau	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Turiscai	Lesuata	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Turiscai	Liurai	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Turiscai	Manumera	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Turiscai	Matorec	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Turiscai	Mindelo	0	0	0	0	0	0	0	0	0	0	0	0						
Manufahi	Turiscai	Orana	0	0	0	0	0	0	0	0	0	0	0	0						
Oecussi	Nitibe	Banafi	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Oecussi	Nitibe	Banafi	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Oecussi	Nitibe	Lela-Ufe	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Oecussi	Nitibe	Usi-Taco	0	0	0	0	0	0	0	0	0	0	0	0						
Oecussi	Oesilo	Bobometo	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Oecussi	Oesilo	Bobometo	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Oecussi	Oesilo	Usi-Tacae	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Oecussi	Oesilo	Usi-Tacae	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Oecussi	Oesilo	Usi-Taqueno	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Oecussi	Pante Macasar	Bobocase	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Oecussi	Pante Macasar	Costa	0	0	0	0	0	0	0	0	0	0	0	0						
Oecussi	Pante Macasar	Cunha	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Oecussi	Pante Macasar	Lalisuc	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Oecussi	Pante Macasar	Lifau	0	0	0	0	0	0	0	0	0	0	0	0						

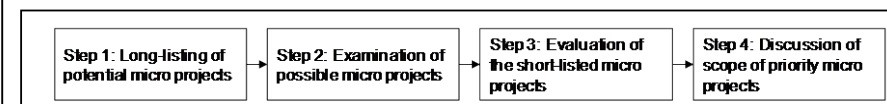
Appendix 2-1 Gap Analysis based on the Current MAF DPs' Activities in the Important Watersheds

Municipality	Sub_District	Village	PLUP	PULP (SAPIP)	MP (CropProduction/ Nursery/Sustai nable)	FMNR	CropProduction _Horticulture_C SA_CAP_FFS	CCVA_CBDRM_D RR	Nursery_and_Tr eo Planting_AgroF orestry_Conserv	Sustainable_Up l_and_Manageme nt	WaterResources Management_C onservation	Livestock_and_ Fishery	Market_Value_C hain_Developm ent	Renewable_ Alternative_Ene rgy_CookStove	DP	ProjectName	Start	Completion	Beneficiaries	Note
Oecussi	Pante Macasar	Naimeco	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Oecussi	Pante Macasar	Naimeco	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Oecussi	Pante Macasar	Nipani	0	0	0	0	0	0	0	0	0	0	0	0						
Oecussi	Pante Macasar	Taiboco	0	0	0	0	0	0	0	0	0	0	0	0						
Oecussi	Passabe	Abani	0	0	0	0	0	0	0	0	0	0	0	0						
Oecussi	Passabe	Malelat	1	1	1	0	1	0	1	1	1	1	0	0	WB	SAPIP	2016	2022	Around 16,500 households in the project area (44 villages)	SAPIP - Field activities are not started
Viqueque	Lacluta	Ahic	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Lacluta	Laline	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Viqueque	Ossu	Builale	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Viqueque	Ossu	Builale	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Viqueque	Ossu	Loi-Huno	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Ossu	Nahareca	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Viqueque	Ossu	Ossu De Cima	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Viqueque	Ossu	Ossu De Cima	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Viqueque	Ossu	Ossu-Rua	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Viqueque	Ossu	Ossu-Rua	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Viqueque	Ossu	to be identified	1	0	1	0	0	0	1	0	0	0	1	0	EU	Partnership for Sustainable	2017	2020	40 sucos will be targeted reaching out to 4000 households. Agro-forestry in more than 6000 ha.	EU Agroforestry - Field activities are not started
Viqueque	Ossu	Uabubo	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Viqueque	Ossu	Uabubo	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Viqueque	Ossu	Uaguaia	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Viqueque	Ossu	Ualibobo	0	0	1	0	0	1	1	0	1	1	0	1	GIZ	GCCA	2014	2018	Around 655 Households in the project area	
Viqueque	Uato-Lari	Afaloicai	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Viqueque	Uatucarbau	Afaloicai	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Uatucarbau	Bahatata	1	0	1	0	0	0	1	0	0	0	0	0	CI	TL - SNAP	2018	2021		Conservation International (CI) - Field activities are not started
Viqueque	Uatucarbau	Bahatata	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Viqueque	Uatucarbau	Irabin de baixo	1	0	1	0	0	1	1	0	1		0	0	UNDP- Mangroves	Building Shoreline	2016	2019	1,000 ha area targeted for mangrove restoration, protection, wetland conservation. Mangrove-supportive livelihood activities for 1,000 households.	
Viqueque	Uatucarbau	Irabin De Cima	1	0	1	0	0	0	1	0	0	0	0	0	CI	TL - SNAP	2018	2021		Conservation International (CI) - Field activities are not started
Viqueque	Uatucarbau	Loi Ulu	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Uatucarbau	Uani uma	1	0	1	0	0	1	1	1	1		0	0	UNDP- Mangroves	Building Shoreline	2016	2019	1,000 ha area targeted for mangrove restoration, protection, wetland conservation. Mangrove-supportive livelihood activities for 1,000 households.	
Viqueque	Viqueque	Bahalarauain	0	0	1	0	1	0	0	0		1	1	0	DFAT	TOMAK	2016	2021	14,000 households in the project area	EU Agroforestry - Field activities are not started
Viqueque	Viqueque	Bahalarauain		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Viqueque	Viqueque	Caraubalo	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Viqueque	Luca		0	1	0	1	1	0	0	0	0	0	0	FAO	Pro-Resilience Timor-Leste	2017	2019	2,880 households in the project area (Total beneficiaries of the Project)	
Viqueque	Viqueque	Maluro	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Viqueque	Uai Mori	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Viqueque	Uma Quic	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Viqueque	Uma Uain Craic	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Viqueque	Watu Dere	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Watulari	Afaloicai	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Watulari	Babulo	0	0	0	0	0	0	0	0	0	0	0	0						
Viqueque	Watulari	Vessoru	0	0	0	0	0	0	0	0	0	0	0	0						

Appendix 4-1: Key Activities in the Process and Procedures for Establishment of the CBNRM Mechanism at Suco Level

11 Steps for Participatory Land Use Planning	
<p>Stage 1: Preparatory works and future land use planning</p> <p>Step 1: Consultation with local leaders → Step 2: Organization of a working group → Step 3: Study tour to a JICA project village → Step 4: Present land use mapping → Step 5: Future land use planning</p> <p>Stage 2: Formulation of village regulations</p> <p>Step 1: Review of the past and existing rules → Step 2: Discussion of the village regulations → Step 3: Review of the draft village regulations → Step 4: Consultation with communities about the draft village regulations → Step 5: Finalization of the village regulations and preparation of Tara Bandu ceremony</p> <p>Step 6: Organization of Tara Bandu ceremony</p> <p>Steps to be Taken in PLUP</p>	<p>An A0-size aerial photo covering the territory of a village, of which the scale should range from 1/7,500 to 1/15,000, shall be prepared prior to the meeting.</p> <p>Session 1: Explain the purpose, timeframe, and expected outputs of the meeting.</p> <p>Session 2: Show the participants the A0-size aerial photo and help them interpret the photo.</p> <p>Session 3: Ask them to depict land marks (e.g., boundaries of sub-village, streams, roads, houses, sacred places, and water sources) on a transparent plastic placed on the aerial photo.</p> <p>Session 4: Put another transparent plastic over the aerial photo and ask them to: i) demarcate the boundaries of land uses (i.e., forests, shifting cultivation lands, permanent farms, coffee plantations, grasslands, and others) and ii) classify forests in terms of density of crown canopy and dominant tree species.</p> <p>Session 5: Ask them to demarcate i) grazing areas, ii) areas for firewood collection, iii) those prone to forest fires, and iv) communal areas on another blank transparent plastic overlaid on the aerial photo.</p>
<p>Stage 1: Preparatory works and land use planning</p> <p>Stage 1-Step 1 Consultation with local leaders</p> <p>Session 1: Explain the purpose of the meeting.</p> <p>Session 2: Introduce to the participants i) objective, ii) overall process, and iii) expected results of the CB-NRM mechanism by introducing the results of the JICA Project.</p> <p>Session 3: Explain the process of PLUP and responsibilities of relevant stakeholders in the course of PLUP.</p> <p>Session 4: Confirm villages' intention/willingness to introduce the CB-NRM mechanism.</p>	<p>Tip on discussion</p> <ul style="list-style-type: none"> ◆ Prepare a format shown in the Operation Manual prior to the meeting. ◆ Refer the points of discussions described in the Operation Manual. <p>Session 3: Ask them to determine the village rules based on the discussions of i) good and bad points of the past rules, ii) parts that can be used as village rules, and iii) changes/revisions to be made.</p>
<p>Stage 1-Step 2 Organization of a working group</p> <p>Session 1: Explain the purpose, timeframe, and expected outputs of the meeting.</p> <p>Session 2: Explain the necessity of a working group and select its members.</p> <p>Session 3: Discuss roles of members of the working groups.</p> <p>Tips on discussion</p> <ul style="list-style-type: none"> ◆ Suco council and large land owners should be the members of the working group. ◆ Use the sample shown in the Operation Manual (Appendix-4.1) as references. 	<p>Stage 2-Step 2 Discussions of the Draft Village Regulations</p> <p>Session 1: Explain the purpose, timeframe, and expected outputs of the meeting.</p> <p>Session 2: Present the results of Stage 1-Step 5 and Stage 2-Step 2.</p> <p>Session 3: Ask the participants to discuss and determine the objectives of the village regulations using the guidelines described in the Operation Manual.</p> <p>Session 4: Introduce the typical contents (12 chapters described in the Operation Manual) of the village regulations.</p> <p>Session 5: Ask the participants to discuss the contents of village regulations using those of the JICA-MAF CB-NRM Project villages attached to the Operation Manual.</p>
<p>Stage 1-Step 3 Study tour to a JICA Project Village</p> <p>Session 1: Explain the purpose, timeframe, and expected outputs of the tour after introduction.</p> <p>Session 2: Ask leaders in the host village to explain the process and results of the JICA Project, e.g.,:</p> <ul style="list-style-type: none"> - Major activities that they have done; - Outline and effectiveness of the village regulations and future land use plan; - Results of the CB-NRM mechanism; - Roles of leaders and other members; and - Lessons learned and good practices. <p>Session 3: Facilitate the discussions among the participants.</p> <p>Session 4: Observe the CB-NRM techniques introduced.</p>	<p>Stage 1-Step 5 Future land use planning</p> <p>Session 1: Explain the purpose, timeframe, and expected outputs of the meeting.</p> <p>Session 2: Show the present land use map made in Step 4 and ask the participants to confirm if it correctly represents the situations in a village.</p> <p>Session 3: Ask them to discuss functions and values of the land uses and forest types in the present land use map.</p> <p>Session 4: Ask them to i) discuss the current management practices in the respective land uses and forest types and ii) evaluate the functions of the same.</p> <p>Tip on discussion</p> <ul style="list-style-type: none"> ◆ Prepare a format in the Operation Manual (Appendix-4.3) prior to the meeting. <p>Session 5: Discuss the extent and causes of land and forest degradation in a village.</p> <p>Session 6: Discuss potential rules (dos and don'ts) on land and forest management in the respective land uses/forest types as well as important natural resources.</p> <p>Tip on discussion</p> <ul style="list-style-type: none"> ◆ Advise them to develop environmentally-friendly rules as shown in the Operation Manual. <p>Session 7: Ask the participants to examine if current land uses need to be changed.</p> <p>Tip on discussion</p> <ul style="list-style-type: none"> ◆ Some recommendable changes are shown in the Operation Manual. <p>Session 8: Prepare a matrix which contrasts the present land use with the future land use options and recommended management practices as shown in the Operation Manual.</p> <p>Also, ask the participants to demarcate the boundaries of future land use options on a blank transparent plastic sheet overlaid on the present land use map.</p>
<p>Stage 1-Step 4 Present land use mapping</p>	<p>Stage 2: Formulation of village regulations</p> <p>Stage 2-Step 1 Consultation with local leaders</p> <p>Session 1: Explain the purpose, timeframe, and expected outputs of the meeting.</p> <p>Session 2: Ask the participants to assess the past and existing rules focusing on:</p> <ul style="list-style-type: none"> - Banned activities relating to natural resource management; - Responsible persons to enforce the rules; - Fines and penalties imposed on violations; - Enforcement/implementation system; etc.
	<p>Stage 2-Step 3 Review of the draft village regulations and future land use plan</p> <p>A set of the village regulations shall be drafted on the basis of the discussions in Step 3 prior to the meeting.</p> <p>Session 1: Explain the purpose, timeframe, and expected outputs of the meeting.</p> <p>Session 2: Help the participants check one article by one article of the draft village regulations and revise the same if any of them are not applicable.</p> <p>Session 3: Explain the necessity of consultation meetings with communities at the sub-village level and determine i) dates of the meetings and ii) roles of members of the working group in the meetings.</p> <p>Stage 2-Step 4 Consultation with local communities about the draft village regulations and future land use plan</p> <p>Session 1: Explain the purpose, timeframe, and expected outputs of the meeting.</p> <p>Session 2: Help members of the working group i) explain the process of PLUP and ii) read through the village regulations.</p> <p>Session 3: Ask the participants (communities who attend the meetings) to give their opinions and comments on the village regulations and future land use plan.</p> <p>Session 4: Help members of the working group reply to the questions/inquiries given by the participants.</p> <p>Stage 2-Step 5 Finalization of the village regulations and preparation of Tara Bandu ceremony</p> <p>Action 1: Revise and finalize the village regulations and future land use plan by referring the comments and feedbacks given in the consultation meetings.</p> <p>Action 2: Bind up the village regulations with a future land use plan in a simple book form.</p> <p>Action 3: Hold a meeting with the working group to decide the date of the ceremony, guests to be invited, and tasks of the working group and NDFWM/MAF Municipal Office in the preparation.</p> <p>Action 4: Prepare for the customary ceremony (Tara Bandu ceremony) in collaboration with members of the working group.</p> <p>Action 5: Help members of the working group prepare for the ceremony.</p> <p>Stage 2-Step 6 Organization of the Tara Bandu ceremony</p> <p>The ceremony should be held in a customary/traditional manner of a village. Hence,</p>

4 Steps for Selection of Extension Services



Steps to select agricultural and forestry extension services

Step 1 Long-listing of Potential Extension Services

The 10 extension services (or micro progrms) designed by the JICA-MAF CB-NRM Project can be used as a master list, as their effectiveness has been proven in the field. More details of the extension services are given in the Operation Manual.

Step 2 Examination of the Potential Extension Services/Micro Programs for Short-listing

Session 1: Explain the purpose, timeframe, and expected outputs of the meeting.

Session 2: Explain the main purpose of the extension services stressing that they would provide technical support but not cash incentives and relationship with the future land use plan.

Session 3: Explain the outline of the potential extension services and obligations of the communities.

Session 4: Split the participants into 2 groups, male and female, and ask each group to select 3 preferable extension services among the long-listed ones.

Session 5: Ask each group to introduce the results of the discussions to one another.



Tips on discussion

- ◆ Prepare explanatory flipcharts of the extension services by referring the Operation Manual.
- ◆ Help them assess the extension services in terms of i) importance, ii) easiness of implementation, and iii) relevance to the future land use plan for selection.

Step 3 Evaluation of the short-listed Extension Services/Micro Programs

Session 1: Explain the purpose, timeframe, and expected outputs of the meeting.

Session 2: Explain the results of the discussions in Step 2

Session 3: Help them evaluate the extension services according to 5 criteria: effectiveness, relevance, applicability, impact, and contribution to livelihoods.

Session 4: Calculate the total scores of the respective extension services and select the priority ones.



Tips on discussion

- ◆ Transcribe a format in the Operation Manual on flipcharts prior to the meeting.
- ◆ Clearly explain the implication of the five (5) criteria in the beginning of the meeting.
- ◆ Evaluate the extension services by using a 3-rating system.

Step 4 Discussion of Scopes of Priority Extension Services/Micro Programs

Session 1: Explain the purpose, timeframe, and expected outputs of the meeting.

Session 2: Explain the results of the discussions in Step 3.

Session 3: Introduce the draft scope of the priority extension services.

Session 4: Discuss the draft scopes of the priority extension services and make an agreement with village leaders on the same.



3 Activities for Institutionalization of the Village Regulations

It might be difficult for village leaders to govern a village using the village regulations without any support even though the village regulations are in place through PLUP. It is, therefore, essential to keepenhancing their governance capacity using the village regulations through the following activities.

- Monthly monitoring meeting at the village level

- Quarterly information sharing meeting at the sub-village level
- Annual evaluation meeting at the village level

Activity 1 Monthly Monitoring Meeting at the Village Level

Session 1: Introduce the purpose, outline and timeframe of the meeting.

Session 2: After opening remarks given by Chef de Suco, ask Chef de Aldeia to report any illegal cases or problems happening in sub-villages in a month and how they have solved the cases/problems. If there is any problem that Chef de Aldeia cannot settle/solve, help the participants discuss how to solve the problem using the village regulations.



Session 3: Discuss any important issues, if necessary.

Activity 2 Quarterly Information Sharing Meeting at the Sub-village Level

Session 1: Introduce the purpose, outline and timeframe of the meeting.

Session 2: After opening remarks given by Chef de Suco, ask the village committee to report the results of the monthly meetings at the village level.

Session 3: Facilitate discussions between the participants and the members of the village committee.



Activity 3 Annual Evaluation Meeting at the Village Level

Session 1: Introduce the purpose, outline and timeframe of the meeting.

Session 2: After opening remarks given by Chef de Suco, ask Chef de Aldeia to report i) major problems happening in aldeias in a year, especially wild fire, illegal cutting, and crop damage, and ii) actions taken in accordance with the village regulations.

Session 3: Ask the participants evaluate the effectiveness of the village regulations.

Session 4: Ask the participants if they need to change the regulations, and discuss the revision of the village regulations if necessary.



5 Activities for Implementation of Priority Extension Services

The priority extension services shall be put into action in this phase. The following activities shall be carried out for 2 years

- Organization of farmers/beneficiaries groups at the sub-village level
- Study tour/cross visit to the JICA CB-NRM Project Village
- Preparation of an annual work plan in a participatory manner
- Conducts of a series of hands-on training courses/farmers field schools (FFSs)
- Annual evaluation and planning of an annual work plan for the following year
- Repeat activities c. to e. in the second year.

Step 1 Organization of Farmers/Beneficiaries Groups

Session 1: Introduce the purpose, outline and timeframe of the meeting.

Session 2: Explain the outline of the priority extension services, especially objectives, major activities, responsibilities of the members, and expected benefits.

Session 3: Ask the participant to select about 20-30 households as members. The guidelines on selection of members are shown in the Operation Manual.

Session 4: Help members select key members and discuss roles and responsibilities of key members referring the ones described in the Operation Manual.

Session 5: Help members determine visions, missions, and rules of the farmers' group by referring the ones described in the Operation Manual.

Tip on discussion

- ◆ Prepare explanatory flipcharts for Sessions 3, 4, and 5 by referring the guidelines and samples shown in the Operation Manual prior to the meeting.

Step 2 Study Tour/Cross Visit to the JICA CB-NRM Project Village

Session 1: Introduce the participants in the study tour to host communities and explain the purpose, timeframe, and expected outputs of the tour to the participants.

Session 2: Ask village leaders in the host village to explain the CB-NRM activities in

which they have engaged and the results of the same.

Session 3: Facilitate the discussions between the participants in the tour and communities in the host village.

Session 4: Show the participants the results of the CB-NRM activities in the field (e.g., the farms with soil conservation measures, plantation, and local commodities produced by communities).



Step 3 Participatory Planning of Annual Work Plans of Extension Services

Session 1: Introduce the purpose, outline and timeframe of the meeting.

Session 2: Introduce the activities planned in the extension services by explaining: i) objectives and outline of the activities, ii) target group, and iii) timeframe of the activities.

Session 3: Discuss timing and expected outputs of the respective activities.

Session 4: Discuss the roles and responsibilities of members and other stakeholders and ask members to select persons responsible for the activities planned.



Tip on discussion

- ◆ Transcribe formats shown in the Operation Manual on flipcharts prior to the meeting.

Step 4 Conducts of Hands-on Training Courses/Farmers Field Schools (FFSs)

The whole period of the training courses or FFSs ranges from six (6) months to a year depending on the type of extension service. The training courses/FFSs of agriculture and forestry extension services will be held in a demonstration plot established in each sub-village in principle. The demonstration plot shall be selected among farms/plots owned by members according to the guidelines described in the Operation Manual. The training courses shall be conducted in accordance with the following procedures.

Session 1: Introduce the purpose and timeframe of the training course.

Session 2: Explain the techniques introduced in the course.

Session 3: Demonstrate the techniques in a demonstration plot and help members practice the techniques in the plot to learn the same.

Session 4: Help the participants evaluate the techniques that they have practiced in the demonstration plot.



Step 5 Annual Evaluation and Planning of an Annual Work Plan

Session 1: Introduce the purpose, outline and timeframe of the meeting.

Session 2: Introduce i) training courses held, ii) major techniques introduced, and iii) the level of participation in the training courses in a year.

Session 3: Ask the participants to i) evaluate the results of the training courses and techniques introduced, ii) enumerate difficulties that they have faced, and iii) discuss how to solve such difficulties, if necessary.

Session 4: Introduce activities planned in the extension services in the following year.

Session 6: Help the participants make an annual work plan using the format shown in Step 3.

Tip on discussion

- ◆ Prepare explanatory flipcharts and formats for a work plan according to the guidelines given in the Operation Manual.

