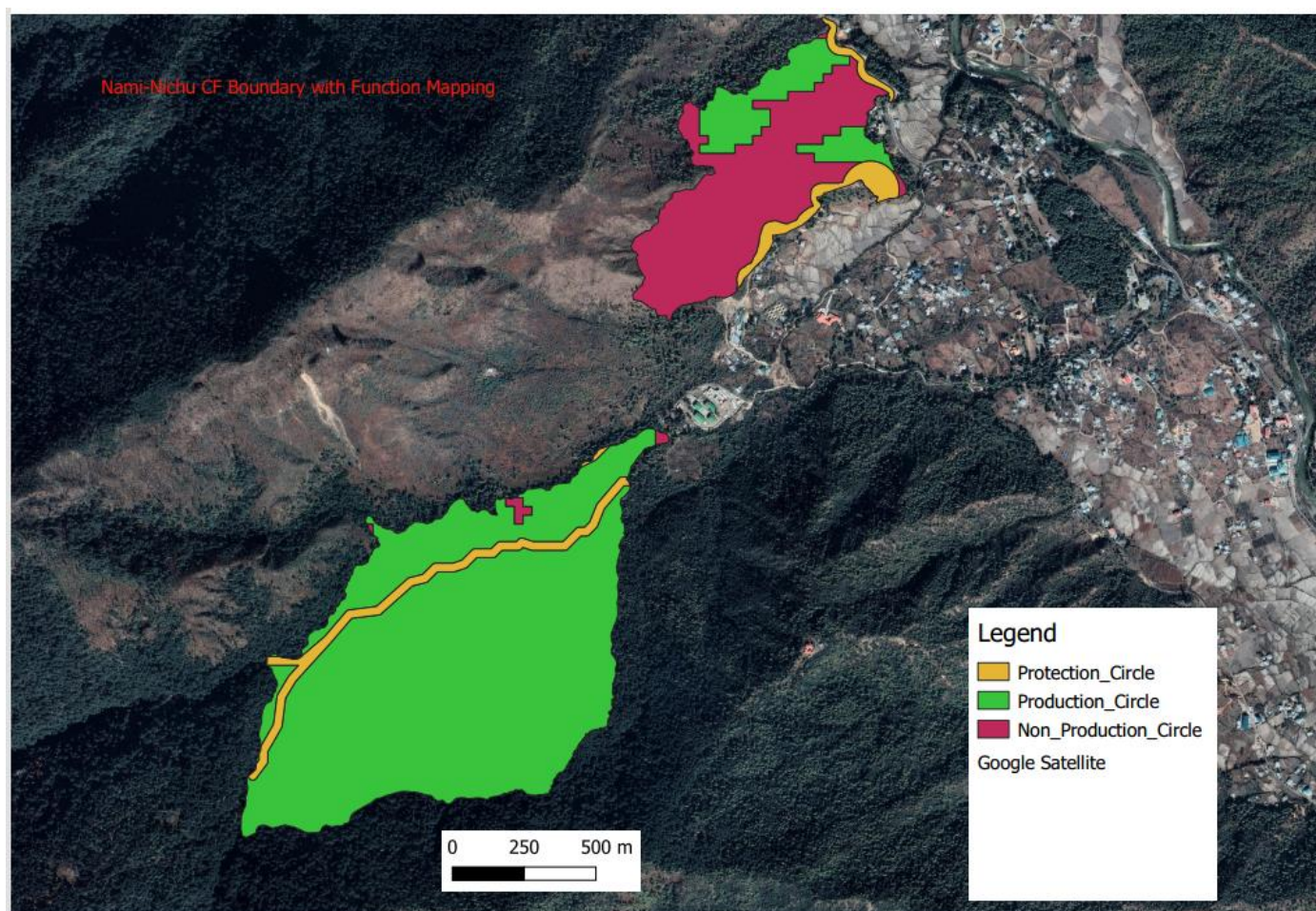


# NAMI-NICHU COMMUNITY FOREST MANAGEMENT PLAN (1ST REVISION)




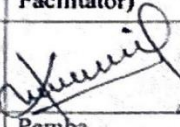

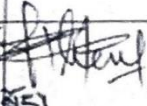
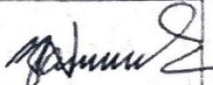
GEOG : TSENTO  
DZONGKHAG: PARO  
PARO FOREST DIVISION

Plan Period: 2022-2023



# ANNEX 3: APPROVAL SHEET

Name of the Community Forest	Nami-Nichu Community Forest
Village	Nami-Nichu
Chewogs	Tsento-Shari Chiwog
Gewog	Tsento
Dzongkhag	Paro
Production area (Ha/Acre)	117.229 Hectares.
Total Community Forests Area (Ha/acre)	160.323
Total CFMG member (No. of HH)	26 Household


## Prepared and submitted for approval

	Community Forestry Management Group	Forestry Representative (CFMP Facilitator)	Gewog Administration	Social Forestry section	Divisional/Park office
Signature					
Name	Mrs. Ugyen Lhaden	Pemba Tshering	Chencho Gyeltshen	Thinley Tshering	Namgay
Title	Chairperson	FR I	GUP	Head	Chief forestry Officer CFO Paro Forest Division

## REVIEWED AND RECOMMENDED FOR APPROVAL

Signature		
Name	Mr. Tsheltrim Dorji	Mr. Sonam Tobgay
Title	Forestry Officer (Focal)	Chief Forestry Officer
Division/Section	Forest Resources Planning and Implementation Section	Forest Resources Planning and Management Division

Approved by



Director

Department of Forests and Park Services

Approved vide Notesheet No.DoFPS/FRPMD/FRPIS/CF\_1(b)/2022-2023/1184 on dated June 13, 2023

## Contents

Part I.....	3
1. Introduction.....	4
2. Traditional Right & Responsibilities .....	5
3. Community Forest Boundaries .....	5
4. Social Information .....	7
5. Forest Information .....	8
5.1 History of the forest & village .....	8
5.2 Forest Condition.....	8
5.3 Fauna.....	9
5.4 List of products and who collects it .....	9
5.5 Block Description .....	9
5.6 Main Regeneration Species.....	9
5.7 Block-wise information Summary sheet.....	10
5.8 Main species present .....	10
5.9 Main Regeneration species .....	10
5.10 Catchment Condition .....	11
6. Forest Management.....	11
6.1 Overall Forest Management Objectives.....	12
7.0 Annual Allowable cut Block wise .....	<b>Error! Bookmark not defined.</b>
8. Annual Allowable Cut for whole CF .....	13
9. Annual Allowable Cut vs Annual Demand .....	13
10. Forest Product Demand Assessment.....	14
11. Forest Product & Species Preference.....	15
12. Participatory Environmental Assessment .....	15
13. Procedure to address Negative Environmental Effect .....	16
14. Monitoring & Evaluation Plan.....	16
15. Social & Institutional Monitoring Plan.....	17
16. Final Management Plan Evaluation .....	17
Part : B Community Forest By-laws.....	19
1. Membership Arrangement .....	19
2. Procedure for leaving the CFMG.....	19

3. Annual Fees .....	19
4. Offences and Penalties .....	20
5. Other penalties .....	20
6. Terms of Reference for CFMG Management Committee .....	20
7. Roles and Responsibilities of Management Committee .....	20
<b>7.1 Roles and Responsibilities of Chairperson</b> .....	20
<b>7.2 Roles and Responsibilities of Secretary</b> .....	21
<b>7.3 Roles and Responsibilities of Accountant/Treasurer</b> .....	21
<b>7.4 Roles and Responsibilities of Resup</b> .....	21
<b>7.5 Roles and Responsibilities of Chupoen</b> .....	21
8. Tenure for committee members .....	21
9. Fund Utilization .....	22
10. Quantity and Periodicity of Timber allotment .....	22
11. Timber Monitoring.....	22
12. Firewood collection .....	22
13. Leaf litter collection.....	22
14. Benefit sharing .....	22
15. Withdrawal of CF Fund from the Bank .....	23
16. Meetings.....	23
16.1. Committee meeting.....	23
16.2 CFMG meeting .....	23
17. Record Keeping .....	23
Annexure I : Community Forest Membership list .....	24
Annexure II Community Forest Inventory Map for FRA.....	26
Annexure III. CFMG NEW MEMBERSHIP APPLICATION FORM.....	27
Annexure IV. ANNEX IV. CFMG MEMBERSHIP RESIGNATION APPLICATION .....	28
Annexure V. LOANS APPLICATION FORM FOR CFMG MEMBERS .....	29
Annexure VI. LOANS AGREEMENT FOR CFMG MEMBERS .....	30



## Acronyms

ac.:	Acres
AAC:	Annual Allowable Cut
BDBL:	Bhutan Development Bank Limited
CC:	Gewog Community Center
CF:	Community Forest
CFMG:	Community Forest Management Group
CFO:	Chief Forestry Officer
Cfts.:	Cubic feet (volume measurement)
Chiwog:	Village Hemlet
DFO:	Divisional Forest Office
DoFPS:	Department of Forests and Park Services
DOR:	Department of Road
FIRMS:	Forest Information and Resources Management System
FNCRR, 2017:	Forest and Nature Conservation Rules and Regulations, 2017
FRDD:	Forest Resources Development Division
GBCL:	Green Bhutan Corporation Limited
GT:	Gewog Tshogde
Gup:	Locally elected leader
ha.:	Hectares
m <sup>3</sup> :	Cubic meter (Volume measurement)
LULC:	Land Use Land Cover, 2016
NRPC:	Natural Resources Pricing Committee
QGIS:	Quantum Geographic Information System
SRFL:	State Reserved Forest Land
Tshogpa:	Representative of the CFMG in CF management committee

## Executive Summary

The Nami Nichu Community Forest Management Plan under the administration of Paro, Tsento is a comprehensive and sustainable strategy designed to guide the management and conservation of the community forest resources. The primary objective of the Nami Nichu Community Forest Management Plan is to promote sustainable forest management practices that balance the ecological, social, and economic needs of the local community. The plan aims to protect and enhance the forest ecosystem while ensuring equitable access to forest resources and fostering community engagement.

Namey Nichu Community Forest was established in year 2011 and it has successfully completed its management tenure of 10 years' management in 2021. The CF has a total of 26 members who actively participate in the forest management activities. These members represent the local community of Nami and Nichu and contribute to the decision-making processes and implementation of the management plan. The community forest covers an area of approximately 160 hectares of Blue and Mixed conifer forests.

Namey Nichu community forest has managed the CF area as per the prescribed approved management plan during Management tenure towards achievement of CF objective set by CFMG during CF initiation back in 2011. From CF management, CFMG has observed positive changes in forest resources like timber stock availability, regeneration status of Namey Nichu CF. Some positive environmental impact like reduced soil erosion and mass flow in CF area was observed.

CFMG has received social benefit from the income generated from CF management especially through Payment of Environment Services. They are able to renovate their village archery ground from the CF fund and also help needy CFMG. The short process of timber acquisition from CF area has benefited the CFMG compared to lengthy timber acquisition process from SRF land.

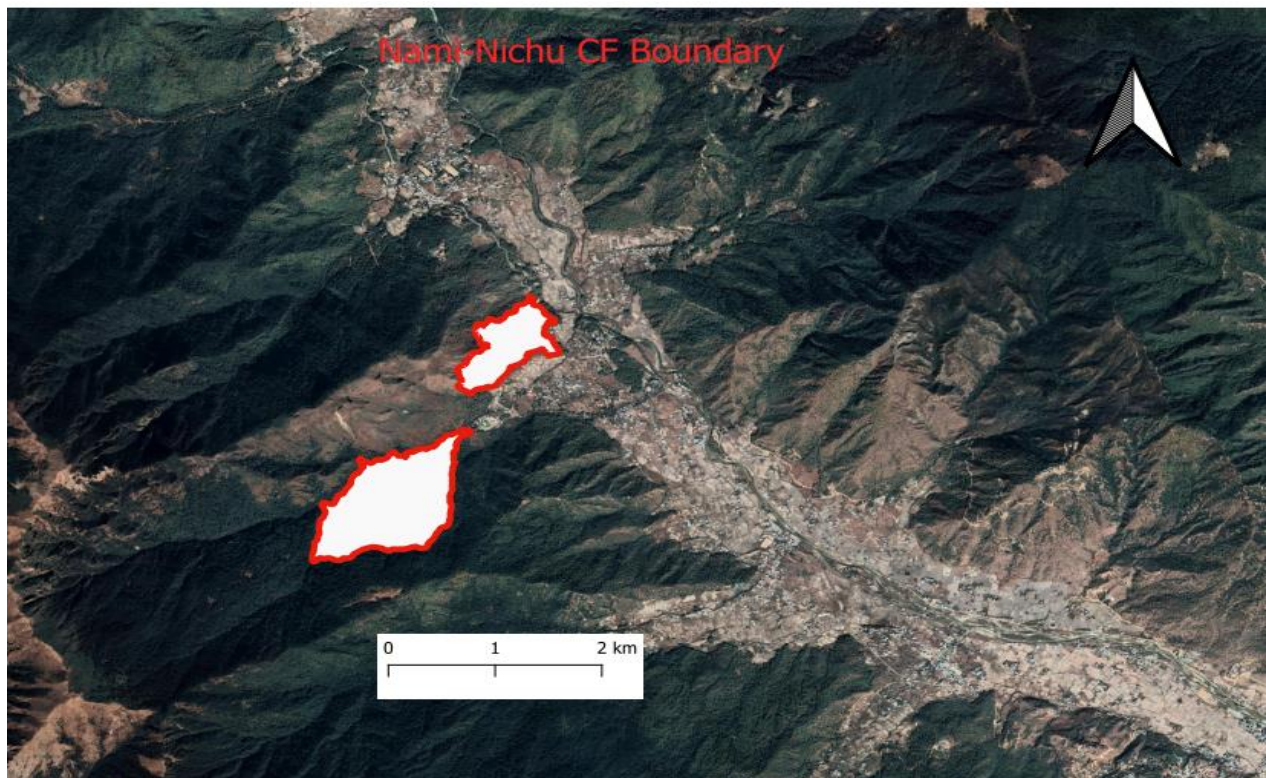
CFMG could also build the capacity through CF programme like study tour, training on governance, Book and record keeping, silviculture and CF works shops. Women feel empowered by the CF programme as equal opportunity are provided to participate in CF management and governance activity. The CFMG has managed CF area for ten years as per prescribed management plan, progressed PES management and they intend to review their management plan as per the experience gained from last management tenure.

The Nami Nichu Community Forest Management Plan recognizes the significance of this community forest and aims to protect and sustainably manage their resources to ensure long-term ecological integrity and socio-economic benefits for the local community. **The average basal area of the CF is 18.08m<sup>2</sup>/ha and Annual Allowable Cut (AAC) of the CF is 192.08 m<sup>3</sup> equivalent to 322 number of trees to be harvested from 117.229 ha production areas over 10 years of this management plan.**

# Part I Management Plan

## 1. Introduction

Nami-Nichu Community Forest falls under Tsento Geog of Paro Dzongkhag. It is approximately around 11 km drive from Paro Town towards Drugyel Dzong. **It was established in the year 2011 and the entire Community Forest has an area of 160 Hectares with the average basal area of 18.08 m<sup>2</sup>/ha. The CF is divided into 2 blocks namely the Protection block or Block I (Doley Chen Block) was completely razed by forest fire in 2008 has an area of 47 hectare with basal area of 1.92 m<sup>2</sup>/hectare and Production Block II with a production area of 117.29 hectare with basal area 16.16 m<sup>2</sup>/Ha. The Annual Allowable Cut (AAC) of the CF is 192.08 m<sup>3</sup> equivalent to 322 number of trees.** Initially 35 household started the Community Forest as member, however with time 9 household has resigned and left the Community Forest Management Group Therefore, presently only 26 household are there as community forest management group member for Nami-Nichu Community Forest. 10 household from Nami village and 16 from Nichu village. The CF is located above Nami-Nichu village above Drugyel Dzong highway at an altitude of 1697 meters.



**Figure 1.** *Google Map Showing Nami-Nichu Community Forest Boundary*

## 2. Traditional Right & Responsibilities

Forest produce	Rights	Responsibilities	Traditional management system
Timber	Harvested only CFMG members	CFMG	Timbers were allotted to CFMG members on need basis keeping in to account the annual harvesting limit
NWFP	All the CFMG members has the right to collect	Non-members will be restricted from collecting NWFPs from the CF	Even the non-members were allowed to collect NWFPs from the CF
Firewood/flag poles/fencing post	All CFMG members can collect	Committee members allot to members on need basis after maintaining the annual harvesting limit and on thinning basis.	Members can collect firewood twice a year. Only wind fallen and lops and tops will be allowed as firewood.

## 3. Community Forest Boundaries

Total area of CF is 160.323 hectares

Direction	Permanent Features
East	Paro Drugyel Highway
West	Chelela Top
North	Drugyel Sattelitte Town
South	Dagophu village



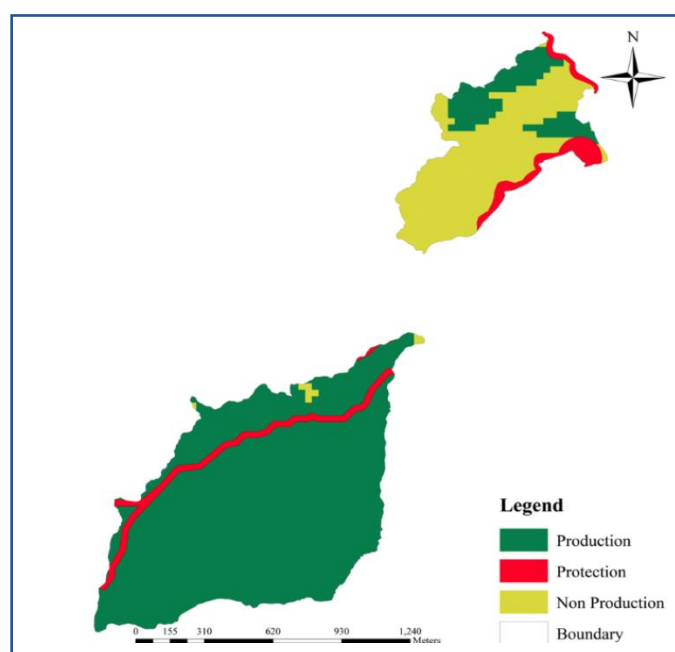
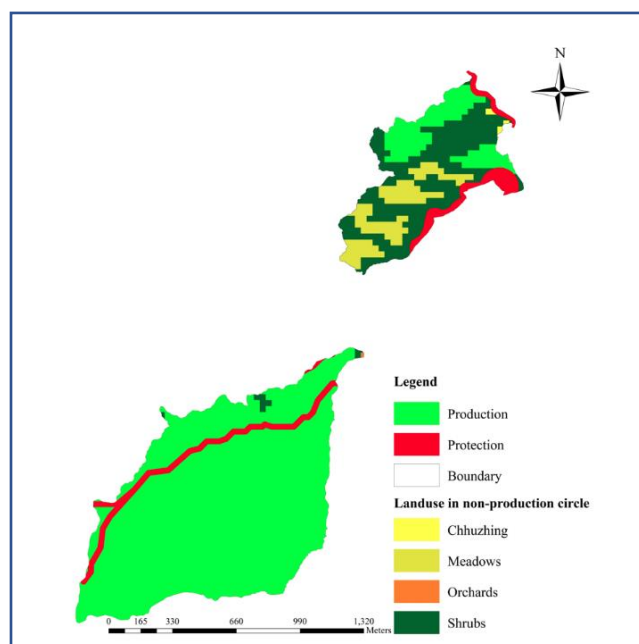
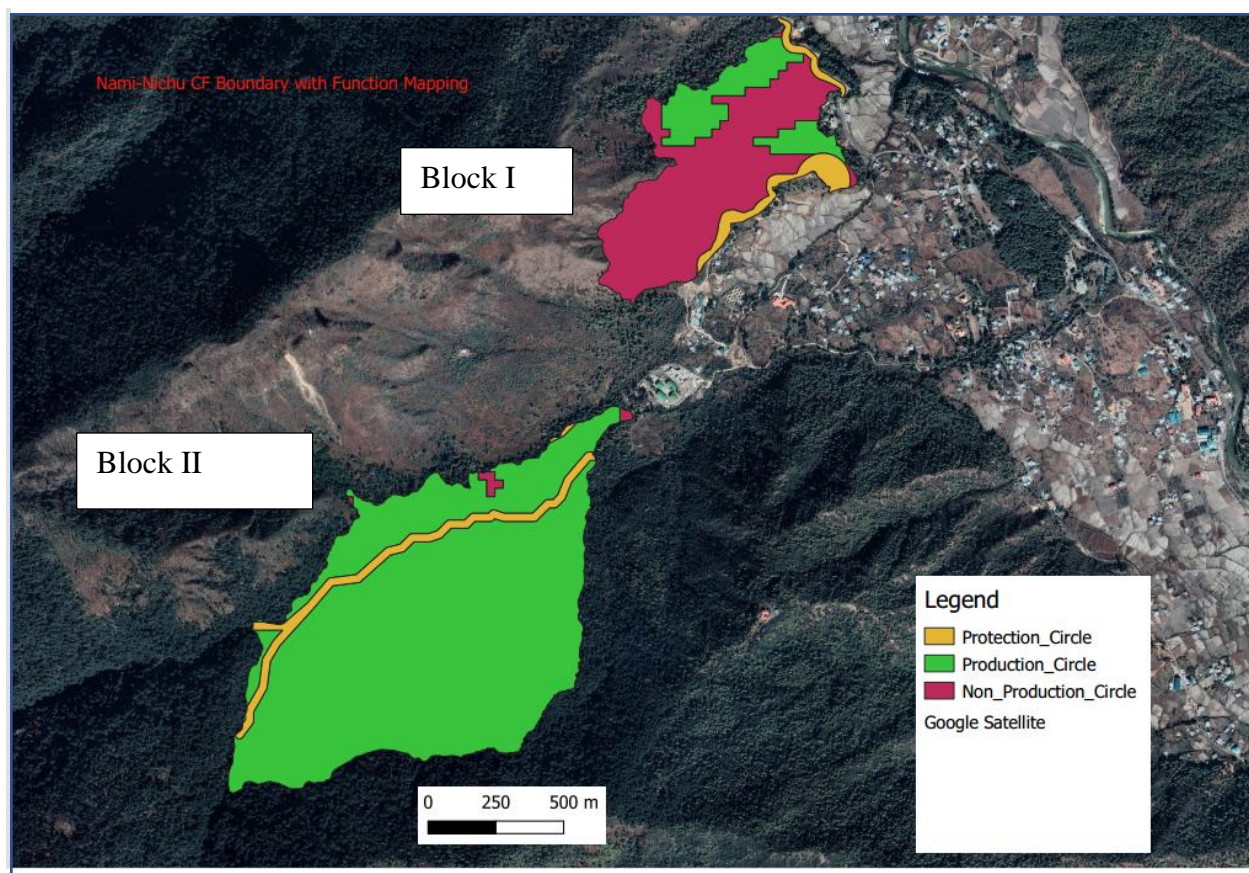


Figure 2 : Map Showing Function Mapping of Nami-Nichu CF

#### 4. Social Information

Sl no	Particular	Description
1	Name of the village	Nami & Nichu village under Tsento Gewog
2	Basic Amenities	Bothe village of Nami & Nichu is located in a very convenient place with abundant government facilities. The Drugyel Central school, Gewog Administration office, RNR center, Drugyel BHU and Jitshephu market is located at an radial distance of less than 2 km from the village.
3	Ethic groups with CFMG	All Ngalops
4	Total households under the CFMG	26
5	Total human population	190
6	% of male and female	33.3% Male 66.7% Female
7	No of civil servants	12
8	No of student	5
9	No of monks and nuns	6
10	No of people in the armed force	0
11	Well-being category of cf members	
	a. No of house hold having power tiller	14
	b. No of households having Vehicle	22
	c. No of households having rice mill	7
	d. No of households having power chain	16
	e. No. of members using cell phone	111
	f. No. of members owning 1 storied house	10
	g. No. of members owning 2 storied house	13
	h. No. of members owing 3 storied house	3
	i. Total land holding	a. Wet land :- 30.33 acres b. Dry land :- 19.81 acres c. Orchard :- 0.57 acres
12	Main source of income	Main source of income is from the sale of Dairy products and vegetables such as potato, Chilli and cabbage. people also sell fruits such as apple and walnut. Hiring of horses to the tourist industry. The civil servants also help their family by contributing during emergency time

		such as performing annual puja, construction and maintenance of house and during the death of family members. Significant members own taxis which supplement their income.
13	Cattle population of the area	45 cattle and 15 horses. 384 poultry
14	Main crops	Paddy, Chilli, potato and other vegetables and fruits such as apple and walnut.
15	Cropping pattern	Seasonal cultivation
16	Any other social features	Tiger nest resorts and many new Resorts are being constructed near the CF

## 5. Forest Information

### 5.1 History of the Forest & Village

The CF area is surrounded by the Paro-Drugyel National Highway in the east generally, the forest condition in our CFs is rated as moderate with timber potential varying from dangchung size to drashing size trees. The forest types are mainly blue pine with multi layered structure with average canopy density is very dense in Block II with >70% and approximate seed trees per hectare is 15-20 in Block II. The species composition of conifer is dominated by the bluepine, and spruce. The broadleaved species comprises of Populas, sisi, oak, Pyrus

The protection block (Block I Doley Chen) was severely damaged by Forest Fire in 2008 and it is 80% open and barren without any regeneration and only 20% of the block is covered with Blue pine with profuse BP regeneration.

**The entire Community Forest has a total area of 160.323 hectare which is divided into two blocks namely The Doley Chen (Block I) has 47.323 Ha with average basal area of 3.3 m<sup>2</sup>/Ha, which is above the Nichu village and Khenchu (block II) has 113 ha with average basal area of 24.06 m<sup>2</sup>/Ha and is the largest block.**

### 5.2 Forest Condition

Poor✓	Moderate	Good	Very Good
Does the main forest canopy consist of large, mature trees?		Yes✓	No
Mean basal area (average of all blocks)		13.68	M <sup>2</sup> /ha
Total community forest area (total of all blocks)		160.323	Ha
Number of blocks		2 (two)	No

### 5.3 Fauna

Local Name	Zoological name
Wild boar	<i>Sus scrofa</i>
Sambar	<i>Rusa unicolor</i>
Himalayan black Bear	<i>Ursusthibetanus</i>
Barking Deer	<i>Muntiac muntjac</i>
Wild Boar	<i>Susscrofa</i>

### 5.4 List of products and who collects it

List of products and services	Who collects from forest		Mark (x) if used of collected by outsider (out of CFMG) and mention which village
	Male (M)	Female (F)	
Firewood	✓	✓	
Timber	✓		
Mushroom	✓	✓	(X) since the forest is accessible with motorable road, most of the collectors were unknown
Leaf litter	✓	✓	

### 5.5 Block Description

Name	Unit	Khenchu (Block II)	Doley Chen (Block I)
Area	Ha	113	47.323
Basal Area	M <sup>2</sup> /Ha	24.06	3.3
Stocking	Stems/Ha	148.20	53.29

### 5.6 Main Regeneration Species

Sl no	Local name	Botanical name
1	Blue pine	<i>Pinus wallichaina</i>
2	Hemlock	<i>Tsuga Domusa</i>
3	Spruce	<i>Picea spinulosa</i>



### 5.7 Block-wise information Summary sheet

CF Name	Forest Type	Forest condition - age	Forest condition – canopy density	Forest condition – regeneration status	Forest condition – seed density	Biotic pressure
Khenchu Block II	Blue pine, Mixed Conifer	Main Canopy of mature age	Dense (Canopy density >70%)	Scattered/few (regeneration only in some places. Thick Bamboo undergrowth)	Moderate (15-20 seed trees per Ha)	Timber extraction as per AHL
Doleychen Block I	Blue pine	Main canopy of young BP trees	(Canopy density <40%)	Scattered/ few (many regenerations of Bp pole size)	Moderate (5-10 seed trees per Ha)	Pole and tsim extraction)
Name	Unit			CF area		
Production Area	Ha			117.229		
Non-production area	Ha			32.490		
Protection Area	Ha			10.64		
Basal area	M <sup>2</sup> /ha			18.08		
Stocking	Stems/ha			322		

### 5.8 Main species present

Local Name	Botanical name
Blue pine	<i>Pinus wallichaina</i>
Quercus	<i>Quercusgritithii</i>
Poplar	<i>Populus</i>
Rhodo	<i>Rhododenron arboreum</i>
Willow	<i>Salix</i>

### 5.9 Main Regeneration species

Sl no	Local name	Botanical name
1	Blue pine	<i>Pinus wallichaina</i>
2	Hemlock	<i>Tsuga dumosa</i>
3	Spruce	<i>Picea spinulosa</i>

### 5.10 Catchment Condition

soil cover		Soil cover class
>50% of the soils are covered by vegetation		High✓
25 – 50% of the soils covered by vegetation		Moderate
<25% of the soils covered by vegetation		Low
Slope		
Slope (degrees)		Slope steepness class
<10°		Gentle
10° - 30°		Moderate✓
>30°		Steep
Catchment condition – Summary		
Less critical ✓	Moderately critical	Highly critical

Catchment condition class box			
Slope category	Soil erosivity	Cover class	Condition class
Flat	Erosive	Moderate or high	Moderately critical
		Low	Highly critical
	Non erosive	Any	Less critical
Moderate ✓	Erosive	Moderate or high	Moderately critical
		Low	Highly critical
	Non-erosive	Moderate or high ✓	Less critical ✓
		Low	Moderately critical
Steep	Erosive	Moderate or high	Moderately critical
		Low	Highly critical
	Non-erosive	Moderate or high	Moderately critical
		Low	Highly critical

### 6. Forest Management

Nami-Nichu Community Forest is managed by 26 households formed as Community Forest management group. The entire CF area was divided into two blocks base on its geographical features, aspects and forest condition. The forest will be managed in sustainable way to fulfil the timber requirement from Block II and extraction of timber will be done base on the CFs Annual harvesting limit of each block. Trees like Blue pine, Hemlock and spruce solely used for construction and non-Timber trees like oak, populus and lops and tops of bp, hemlock and spruce will be used for firewood purpose. The CFMG has also started Payment for Environmental Services (PES)

### 6.1 Overall Forest Management Objectives

- *To protect, develop and manage the forest for sustainable utilization of forest products, ecological and environmental condition through sound silvicultural system.*
- *To reclaim the open area through different management practices.*
- *To protect the forest from forest fire.*
- *To avoid intervention and illegal harvest from the outsiders.*
- *Payment for Environmental Services (PES)*

### 6.2 Community Forest Block Management Objectives

Block Name	Objectives
Khenchu Block II	Management and utilization of forest resource on sustainable manner
	To protect the forest from forest fire
	To avoid intervention and illegal harvest from outsider
	Thinning activity in KhenchuArea
	Protection of water source for PES
	To protect forest from forest fire
Doley Chen Block I	To reclaim the forest fire burnt area through different management practices
	To avoid intervention from outsider
	Protect, develop and manage the forest for sustainable utilization through sound silvicultural system.

### Inventory result of forest resource

Stratum Name	Net operable Area (Ha)	Avg. No of tree per (Ha)	Avg. Gross volume per Ha (m <sup>3</sup> )	Avg. Basal area per Ha (m <sup>2</sup> )
Mixed Conifer	117.229	322	158.53	18.08

## 8. Annual Allowable Cut for whole CF

Annual Allowable Cut for whole CF										
<b>Production Area</b>	117.229 ha									
<b>BA</b>	18.08 m <sup>2</sup> /ha									
Produces	Dangchungདང་ཆུང་།		Tsimཐིམ།		Chamཇམ།		Drashingང་རྩེད།		N-Trees	
	(No)	(m <sup>3</sup> )	(No)	(m <sup>3</sup> )	(No)	(m <sup>3</sup> )	(No)	(m <sup>3</sup> )	(No)	(m <sup>3</sup> )
No of T- trees which can be harvested over next 10 years	1200	110.98	780	263.26	450	358.80	300	664.64	490	106.89
Annual timber tree harvesting limit (T trees)	120	11.9795	78	26.33	45	35.88	30	66.46		
Annual non-timber tree harvesting limit (N-trees)									49	10.69

## 9. Annual Allowable Cut vs Annual Demand

Produces	Total AAC		Total Annual Demand		Differences		Comments
	Nos.	(m3)	No.	(m3)	No.	(m3)	
<b>Drashing</b>	30	66.46	36	77.5728	-6	-11.11	The shortfall of cham will be meet from Drashing
<b>Cham</b>	45	35.88	0	0	45	35.88	Adequate
<b>Tsim</b>	78	26.33	0	0	78	26.33	Adequate
<b>Dangchung</b>	120	11.98	0	0	120	11.98	Adequate
<b>Firewood</b>	49	10.69	49	10.69		0.00	Adequate
<b>Total</b>	<b>322</b>	<b>151.34</b>	<b>85</b>	<b>88.2622</b>	<b>237</b>	<b>63.08</b>	
<b>Flag poles</b>			58	26.32	The demand for flagpoles will be meet from Tsim and Dangchung whereas the fencing poles will be meet from N trees through log splitting.		



## 10. Forest Product Demand Assessment

Product	Allotment for new house construction	Allotment for repair of house	No. of house hold.	Total requirement annual	Total requirement (over 10 years)
Drashing	18 Drashing	3 drashing	<ul style="list-style-type: none"> <li>2 no. of new house construction annually</li> <li>3 no. of house renovation annually</li> </ul>	36 trees for new construction 9 trees for repair annually	45 x 10 450 trees
Cowshed construction	2 trees	-	<ul style="list-style-type: none"> <li>2 constructions</li> </ul>	4 trees	40 Trees  Only unsound trees will be given
Flag Post	2 trees		26	52 trees	520 trees
Fire wood	1 tree every year		26 household	26 trees annually	260 trees

ଅବଶ୍ୟକୀୟ ଜାତୀୟ ଉତ୍ପାଦନା ଆବଶ୍ୟକତା

ଉତ୍ପାଦନା ବିଭାଗ	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା
ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା
ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା
ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା
ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା
ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା
ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା
ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା
ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା
ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା	ଉତ୍ପାଦନା



## 11. Forest Product & Species Preference

Species Local Name↓	Uses→	Timber	Firewood	Leaf litter	Fencing post	Flag poles
Blue pine	Preference	xxxxx	xxxx	Xxxxx	xxxx	Xxxx
	Availability	0	00	0000	0000	0000
Spruce <span>ལྷ་ཤིང་</span>	Preference	xxxx	xxx	X	xxxx	Xxxx
	Availability	0	0	0	00	0
Oak	Preference	xxx	xxxx	Xxx	x	
	Availability	0	0	0	0	
Poplus	Preference	x	x	X	x	
	Availability	0	0	0	0	
Hemlock	Preference	xxxxx	xxx	0	xxxx	xxx
	Availability	0000	000	0	00	00

XXXXX-Highly Preferred	X –Least preferred	00000 highly available	0 Least available
------------------------	--------------------	------------------------	-------------------

## 12. Participatory Environmental Assessment

[illegible]

NWFP Collection	00	00	--	00	++	00	++	++
-----------------	----	----	----	----	----	----	----	----

Legend: +++=positive effect --- Negative effect 00= Neutral

### 13. Procedure to address Negative Environmental Effect

Activity	Procedure
Timber harvesting	Applicant with very genuine can only avail the timber from CF with minimum damage to surrounding resources.
	Debarking stump and logs to avoid insect infestation to forest
	Strictly follow timber marking and extraction schedule as per FNCR2020
NWFP Collection	Collection will be done only for domestic purpose and commercial purpose will be strictly dealt.
Forest fire	Creating fire line along CF boundary
	Following appropriate agriculture debris burning instructions
Leaf litter collection	Collection in rotational basis in different area without compromising the negative effect.

### 14. Monitoring & Evaluation Plan

Forest Resource monitoring plan				
Objective	Indicator	How it will be monitored	Responsibility	Comments
Protection and Sustainable management of forest products	Harvested area successfully regenerated	Regeneration survey	CFMG and Geog In-charge	
	Timber harvested as per management plan.	Allotment within annual timber harvesting limit	CFMG and Geog In-charge	
	Illegal felling reduced.	Record books	CFMG and Geog In-charge	

Burning of forest products and loss of biodiversity	Forest fire	Field visit and reports	Geog In-charge, FRPMS of TD	
No regeneration, low soil moisture, less organic matter.	Leaf litter collection	Sampling and collecting data	Geog In-charge, FRPMS section of PFD	

## 15. Social & Institutional Monitoring Plan

Objective	Indicator	How it will be monitored	Responsibility	Comments
To set up effective CFMG institution	No of CF meetings conducted and equal participation in CF activities (male & female).	CF record books	Geog In-charge & FRPMS of PFD	
To set up CF fund for CFMG	Fund generated	Cash book	CFMG and Geog In-charge	

## 16. Final Management Plan Evaluation

Monitoring and evaluation are parts of the action learning cycle. As per the CF field manual, 2018, monitoring and evaluation should be at two levels, (i) self-monitoring and evaluation by the CFMG and (ii) Participatory monitoring.

While conducting self-monitoring, CFMG must follow steps mentioned in CF manual, Chapter VI, step 1. Participatory monitoring must follow step 2 & 2.1 mentioned under same chapter.

Monitoring and evaluation will be conducted at the last quarter of management plan. Evaluation of CF management plan should be carried out by staff independent of implementation activities from TD, Paro and LG. Evaluation team will provide recommendations and directives for the development of next plan. CFMG must consider what actions are necessary to implement and corrective actions recommended by the evaluation team.

## 17. Annual Work Plan (10 years)



Activities	1 <sup>st</sup> yr.	2 <sup>nd</sup> yr	3 <sup>rd</sup> yr	4 <sup>th</sup> yr	5 <sup>th</sup> yr	6 <sup>th</sup> yr	7 <sup>th</sup> yr	8 <sup>th</sup> yr	9 <sup>th</sup> yr	10 <sup>th</sup> yr	Remarks
Fireline creation/boundary demarcation	√	√	√	√	√	√	√	√	√	√	Entire management plan period
Regular patrolling	√	√	√	√	√	√	√	√	√	√	Once in every month
Stand improvement	√	√	√	√	√	√	√	√	√	√	ha/yr
Timber harvesting	√	√	√	√	√	√	√	√	√	√	As per the harvesting limit.
NWFP	√	√	√	√	√	√	√	√	√	√	If stock is available.
Retention of Plus trees	√	√	√	√	√	√	√	√	√	√	Entire management plan period.
Thinning and clearing Bushes	√	√	√	√	√	√	√	√	√	√	As per the objectives of Block

## **Part: B Community Forest By-laws**

### **1. Membership Arrangement**

- a) All the family members with valid house hold number, Thram no and census under village are eligible as member
- b) Any new member wishing to join as CFMG member he/she should deposit Nu. 10000.00 as entrance fee.
- c) Any inherited members wishing to join to join as an independent members will have to deposit Nu.5000.

### **2. Procedure for leaving the CFMG**

- a) Members willing to resign from CFMG should submit application to Chairperson of CF
- b) Incase if CFMG members voluntarily resigns after obtaining forest product benefits and timbers were found used for his/her own house construction, he/she should be allowed to resign by paying Nu. 50000/-.
- c) **The above procedure is as per the resolution of 2<sup>nd</sup> CFMG workshop held on dated 17/1/2016 among chairperson of all CFs of Paro Dzongkhag.**
- d) However, if the allotted forest product were not used for his/her house construction, than he/she should pay the cost of timbers to CF at the fair market value and resign.
- e) If CFMG members voluntarily resigns without obtaining any forest product benefits, he/she should be allowed to resign upon paying fine of Nu 5000.00
- f) Any members resigning from one Community Forest Management Group should not be allowed to be member of new CF. Resignation of the members should be notified to Paro Forestry Division.

### **3. Annual Fees**

- a) Members of the Community Forestry Management Group will pay Nu. 500.00 each as membership fees at the initial opening of CF fund as seed money.
- b) Fees for forest product will be collected as per the following fees.

<b>Products</b>	<b>Fees</b>
Drashing	100/-
Cham	50/-
Tsim	30/-
Dangchung	20/-
Flag poles	Free of royalty for death case and Nu.15 for other purpose
Fencing Post	10/-
Firewood (1T/L, softwood)	150/- for normal & free of royalty during death case
Firewood (1T/L, Hardwood)	250/-

#### **4. Offences and Penalties**

Any offences detected in CF may be dealt as per the Forest and Nature Conservation Rules irrespective of members and non-members. A reward of 25% will be paid to informers from the sale proceeds.

#### **5. Other penalties**

1	Absentee during meeting	Nu.1000/-
2	Absentee during labor contribution	Nu.1000/-
3	Late during meeting and labour contribution	Nu.50/-

#### **6. Terms of Reference for CFMG Management Committee**

1. Ugyen Lhaden:	Chairperson	17663405
2. Phub Dorji:	Secretary	77638792
3. Gyembo	Accountant	77392926
4. Denkar:	Resup	
5. Pem	Chupen	

#### **7. Roles and Responsibilities of Management Committee**

##### **7.1 Roles and Responsibilities of Chairperson**

- Chair the Committee and CFMG meetings.
- Submission of CF progress report to the Forestry sector

- c. Coordination and protocol with another stakeholder
- d. Conflict resolution and process further for unresolved conflicts
- e. Issue the forest product permits
- f. Process loaning and financial management
- g. Annual Work Planning
- h. Joint signatory authority of CF Fund
- i. Attend meetings/ workshops

## **7.2 Roles and Responsibilities of Secretary**

- a. In absence of Chairperson, he/she will Officiate as chairperson
- b. During CF committee and CFMG meeting, he/she will keep the minutes of the meeting
- c. Maintaining record books such as attendance register, stock register, Inventory Record, Seedling & Plantation record, Forestry Product utilization record and signatory of Forest product permit.
- d. Manages and correspondence (writing letters & minutes of meetings) for the CFMG
- e. Keeps the files of CFMG
- f. Approves applications for forest products with chairman
- g. Assist chairperson in annual work planning
- h. Report compilation and submission to chairperson.

## **7.3 Roles and Responsibilities of Accountant/Treasurer**

- a. Maintain the records of all financial transactions of the CF
- b. Deposit the community fund in the bank
- c. Collection of membership fees, fines and penalties
- d. Maintaining record books such as cash book, bank balance book.
- e. Receiving of money and issuance of money receipts.
- f. Joint signatory authority of CF Fund
- g. Declare financial status of CF during meeting

## **7.4 Roles and Responsibilities of Resup**

- a. Patrolling of CF area at least once a month.
- b. Maintain the records of offences
- c. Submit monthly patrolling report to chairperson.
- d. Attend meetings
- e. Report the illegal case to chairperson or Gewog Forestry Ranger

## **7.5 Roles and Responsibilities of Chupoen**

- a. Convey message to CFMG
- b. Disbursement of letters

## **8. Tenure for committee members**

All committee members will serve for tenure of 3 years. In case he/she is found guilty of offence, they will be terminated and new committee members will be nominated in general CFMG meeting. However, if he/she is found capable and competent, they will be nominated for another term. However, if they are genuinely found not capable of serving as committee members on health background, they can resign.



## 9. Fund Utilization

Areas of fund Use	Limit (%)
CF development activities (CF review, nursery creation, plantation, thinning, cleaning, salvage operation, sanitation, boundary demarcation, fire line creation, etc.)	Not more than 25%
CFMG enhancement (Loan, capacity building, study visits, meeting, workshops, networking, visitors in CF, income generation and enterprises development, etc.).	Not more than 50%
Reserve fund in the Bank (security)	Not less than 5%
Others (to be decided by the CFMG members on e.g. incentives to victims of natural calamities, incentives to disadvantaged members/households, contribution to community <i>Lhakhangs</i> , water supply, farm road, etc.)	Not more than 20%

## 10. Quantity and Periodicity of Timber allotment

The member shall be entitled for timber allotment for new house construction/ reconstruction and repair. New house construction timber will be allotted once in 25 years and for repairing of house, once in 13 years. The allotment of timber will be as provisioned in FNCR 2017.

## 11. Timber Monitoring

The monitoring of RHBT will be done by Community Forest Management group along with the forest official after every two years from the date of Permit issue.

## 12. Firewood collection

Timbers extracted during thinning will be allotted as fire wood, fencing poles, flag poles to CFMG members. Individual members are entitled to 1 tree as fire wood every year after obtaining permit from chairman. N-trees, lops and tops will be allotted as fire wood. Where ever possible and as per availability of resources, oak may be allotted.

## 13. Leaf litter collection

Leaf litter collection will be done right after the Lomba festival on 5<sup>th</sup> day of every 11<sup>th</sup> months of Bhutanese calendar.

## 14. Benefit sharing

During natural calamities (windstorm and fire) timbers will be allotted without fees immediately for construction/reconstruction of new house construction. However, if house is partially damaged, he/she will be allotted actual timber requirement upon realizing fees. However, allotment should be guided by annual harvesting limit. All CFMG members will help the victim to rebuild his/her home. During allotment of house building timber allotment, first priority will be given to victim

of disaster/natural calamities. Timber allotment should not exceed the limitations set out in demand assessment.

Type of Disaster		Amount allotment	Remarks
Fire	Completely burned	50000	Inspect and verify the committee members along with Forestry site in-Charge

## **15. Withdrawal of CF Fund from the Bank**

- a. Account will be opened with joint signatory of chairperson, secretary and accountant
- b. Financial transaction should have signatures of chairperson, secretary and accountant

## **16. Meetings**

It is mandatory to conduct meetings at regular intervals basically to plan CF activities and sort out other issues related to CF.

### **16.1. Committee meeting**

Committee meeting will be held twice a year however meeting will not be limited to twice, committee members will meet as and when required.

### **16.2 CFMG meeting**

CFMG meeting will be once a year. Between October to December every year.

## **17. Record Keeping**

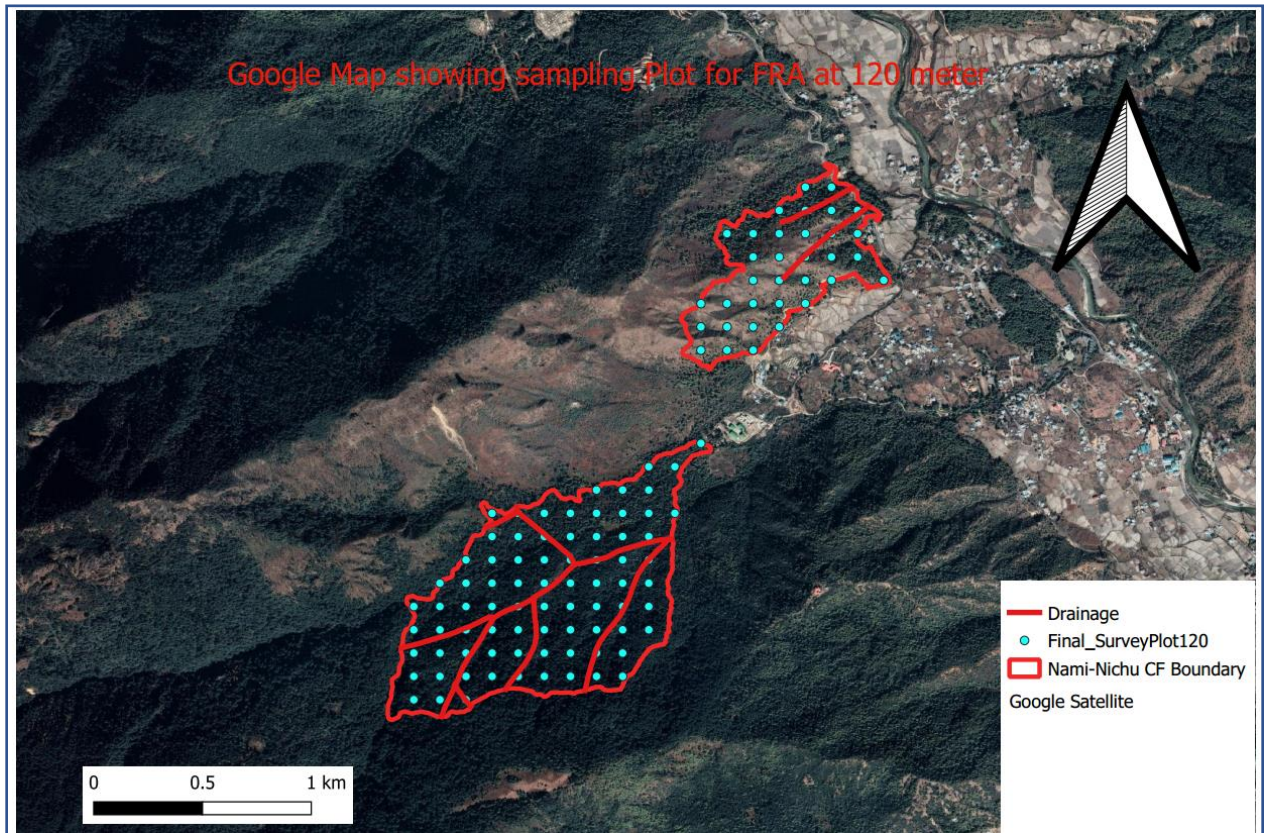
Records of CF activities will be maintained by Committee members as per their roles and responsibilities.

## Annexure I : Community Forest Membership list

SL No	Name	Village	CID No	House no	Pharm n.	Signature
1	Tshering Gyelmo	Nyemey	108/000/115	Nya-9-60	710/994	
2	Denka	Nyemey	108/000/123	Nya-9-62	357	
3	Dawa Gyeltshen	Nyemey	108/000/1079	Nya-9-56	358	
4	Phub Dorji	Nyemey	108/000/129	Nya-9-390	1086	
5	Tshering Dorji		108/000/1038	Nya-9-70	12	
6	Karma Tenzin	Nicho	115/6003/155	Nya-9-304	1227	
7	Chimmi Tshomo	Nicho	108/0002587	Nya-9-285	414	
8	Karma	Nicho	108/000/1050	Nya-9-52	05	
9	Ganlaymo	Nicho	108/000/1004	Nya-9-47	02	
10	Lhamo	Nyemey	108/000/1103	Nya-9-59	815	
11	Chencho Pem	Nicho	108/000/996	Nya-9-64	367	
12	Phub Dorji	Nicho	108/0002458	Nya-9-44	03	
13	Dorji Gyeltshen	Nyemey	108/000/132	Nya-9-392	630	
14	Pem	Nicho	108/000/1010	Nya-9-48	08	
15	Dago Gyeltshen	Nicho	108/000/1068	Nya-9-55	1321	
16	Ugyen Tshering	Nyemey	108/000/127	Nya-9-63	16	
17	Para Lham	Nicho	108/0002900	Nya-9-147	295	
18	Tshering Pem	Nicho	108/000/1045	Nya-9-51	06	

Sr. NO	Name	Village	cid. no	house no	Pharm no.	Signatures.
19	Kunzang Wangchuk	Nyamey.	10810001099	Nya-9-58	816	
20	Tshering Zangmo	Nyamey	10810001088	Nya-9-57	17	
21	Chenpo Dem	Nichu	10810001054	Nya-9-53	653	
22	Dqyen Lhaden	Nichu	108100010962	Nya-9-45	634	
23	Norbu Zangmo	Nichu	11101003469		413	
24	Choden	Nichu	10810000960	Nya-9-300	806.	
25	Tshodunq Mo	Nichu	10608002536	Nya-9-299	545	
26	Tshering Lham	Nichu	10810001061	Nya-9-54	04	
27	Tshering	Nichu	10810001924	Nya-9-388	488	
28	Tshering Zangmo	Nyamey	10810001088	Nya-9-57	17	
29						
30						

## Annexure II Community Forest Inventory Map for FRA





### Annexure III. CFMG NEW MEMBERSHIP APPLICATION FORM

To

The Chairperson

.....CF

I would like to join your CF starting from ..... I hereby furnish my details as mentioned below:

#### Part A: Applicant information

Name of household representative .....CID

No.....

Village/Chowog.....Geog

.....

Gung No.....Thram

No.....

#### Details of timber availed from SRF

Standing form	Quantity (Nos)	Year of allotment	Purpose for which timber was allotted	Remarks
Drashing				
Cham				
Tsim				
Log form (cft)				

Date of submission ..... signature and name of Applicant

Affix legal stamp

The details given above are true to the best of my knowledge. From the date joining as new member in the CFMG I shall abide with the CFMG by-laws

#### Part B: Endorsement by CF Management Committee (The membership shall be accepted and register after paying the membership fee and compensation, if any)

Signature & date.....

Name.....

Signature & date .....

Name.....

Signature & date ....

Name.....

Official seal

**Chairperson**

Official seal

**Secretary**

Official seal

**Treasurer**

**Copy to:** Concerned Forestry Officer .....Date of registration .....Serial No.....

## Annexure IV. ANNEX IV. CFMG MEMBERSHIP RESIGNATION APPLICATION FORM

To  
The Chairperson

.....CF

I would like to resign from the CFMG from ..... I hereby furnished my details as mention below:

### Part A: Applicant information

Name of household representative .....CID

No.....

Village/Chowog.....Geog

.....

Gung No.....Thram

No.....

Reasons for withdrawal from CF

membership:.....

Details of timber availed from CF during my membership in CFMG is as follows:

Standing form	Quantity (Nos)	Year of allotment	Purpose for which timber was allotted	Remarks
Drashing				
Cham				
Tsim				
Log form (cft)				

Date of submission.....signature & Name of Applicant

### Part B: To be filled up by CFMG members

Date of application received .....

The details of the application and his /her reasons of withdrawal from CFMG have been checked and found genuine and all the information provided is found to be correct.

We hereby recommend for resignation from CFMG membership of the applicant as per his/her request after clearing any dues with the CFMG.

Verified and Approved by CF Management Committee:

Signature & date.....

Name.....

Signature & date .....

Name.....

Signature & date ....

Name.....

Official seal

Official seal

Official seal



**Secretary**

## **Annexure V. LOANS APPLICATION FORM FOR CFMG MEMBERS**

Date \_\_\_\_\_

Village গাভুনা.....ThramNo**ཐྱལ་མོ་**

Mobile No

(n words)

## Mortgage ཤོད་པ་མེད་པའི་

a)ཀོ	Total value of mortgage (s)
b)ལོ	གཏང་མདེ་བརྩི་མཐོང་བཞུགས་
c)གོ	

Third party Guaranty(if any):ཁས་ལེན་ཁག་འགན་འབག་མི་ ཡོད་པ་ཅིན།

Name, CID No. M. No. Thram No. Gung No མིང་དྲི་ཐུན་ལག་ཁྱེར་ཡང་འབྲུལ་འཕྲིན་ཡང་འཕམ་ཡང་གུང་ཡང	Signature and Date མིང་རྟགས་དང་དུམིན་ཚེས་
---	--

--

ཁྱིམ་སྡོད་འགྲེམས་རྟགས་བཅས་མིང་རྟགས་དང་དབྱིན་ཆོས་

Sanctioned by:གནང་བ་སྤྱོད་མི་

Secretary

བཅེས་དྲུང

དྲུང་ཆེན་

ཁྱི་འཛིན

## Annexure VI. LOANS AGREEMENT FOR CFMG MEMBERS

### **Community Forest Management Group's Loan Agreement (translated version is also below this annex)**

This loan agreement is executed between Mr. ....CID No.....from .....Village .....Geog , .....Dzongkhag , who is a Community Forest User Group member, hereafter referred to as the “Borrower “and .....community Forest Management Group, located at .....Geog, .....Dzongkhag , who is duly respected by Chairman and Treasurer, hereafter referred to as “Lender “and jointly referred to as “Parties”.

NOW THEREFORE, The parties have agreed to the following terms and conditions:

That the Lender have promised to pay the Borrower a sum of Nu.

.....

(Ngultrum ..... ) only at an annual interest rate of .....% for the period of .....years.

That the loan amount and interest amount payable are as calculated below:

#### **Details of loan:**

Loan Amount :

Interest rate :

Loan duration :

Interest amount :

Total amount payable :

(Principal amount plus interest amount)

#### **Repayment of the loan:**

The Borrower shall repay the loan amount along with the interest amount to Nu.

.....per year upon the completion of loan term.

#### **Mortgage**

As a security for the repayment of loan and the interest thereon, the “Lender” hereby conveys the .....as mortgage in favour of the “Borrower”. The scheduled of property is as described below:

Name :

Plot No/Model No/Make :

Estimated value on the day of mortgaging :

**Guarantor's liability:**

In the event, the borrower for any reason is not able to make payment on time, the liability to repay the unpaid amount of loan along with the interest accrued thereof shall be the guarantor.

**Penalty on default of payment:**

The "Lender" shall be liable for penalty of .....% per year on the failure to repay the loan amount along with the interest as per the terms and conditions specified in this agreement. In the event of the "Lender" is not able to repay the loan amount, the burden shall be on the "Guarantor", if any or the "Borrower" shall realize the loan amount through the disposal of mortgaged property upon following a due process of law.

Done on .....day of .....month .....at  
.....

**For Borrower:**

**For Lender:**

.....

**Chairperson's signature**

.....

**signature**

.....

**Treasurer's signature**

.....

**Guarantor's signature**

**CID#**

**Contact #**

Annexure III. : Stand and stock table (Number of T trees)

Format 5: Stand & Stock Table: Number of Trees									
1. Name of CF                      Nami-Nichu CF						Production Area                      117.229ha			
2. Block Name/No.                : Khenchu									
3. Number of sample plots                113									
4. Estimated parameter    : Average Number of Timber Trees									
<i>Dbh class (cm). Write in all values to 2 decimals</i>									
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	total	%
Bluepine	93.97	68.28	37.93	10.52	6.38	0.52	0.34	217.94	79.70
spruce	9.14	3.45	2.41		0.34	0.34		15.68	5.73
Hemlock	16.55	2.93	1.72	0.69	0.52	0.34	0.86	23.95	8.76
Fir	0.52	3.62	2.93	4.66	3.45	0.52		15.70	5.74
Larch	0.17							0.17	0.06
total conifer	120.35	78.28	44.99	15.87	10.69	1.72	1.20	273.44	100 %
total broadleaf									
total all species	120.35	78.28	44.99	15.87	10.69	1.72	1.20	273.44	100 %
%	0.44	0.29	0.16	0.06	0.04	0.01	0.00	100 %	

Annexure III. : Stand and stock table (Number of T trees)

Annexure IV. : Stand and stock table (Number of non-timber trees)

Format 5: Stand & Stock Table: Number of Trees									
1. Name of CF                      NamiNichu CF						Production Area                      117.229ha			
2. Block Name/No.                : Khenchu									
3. Number of sample plots        113									
4. Estimated parameter    : Average Number of Non timber Trees									
Dbh class (cm). Write in all values to 2 decimals									
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	total	%
Bluepine	3.28	2.59	0.69	0.17	0.17			6.90	14.05
spruce	0.34	1.21	0.17	0.34				2.06	4.19
Hemlock	0.52	0.17	0.17		0.17			1.03	2.10
Fir	0.17	1.21	2.07	0.34	0.17			3.96	8.06
Rhodo spp	21.03	1.90						22.93	46.68
Populus	9.31	1.38						10.69	21.76
Oak	1.21		0.34					1.55	3.16
total conifer	35.86	8.46	3.44	0.85	0.51			49.12	100.00
total broadleaf									
total all species	35.86	8.46	3.44	0.85	0.51			49.12	100.00
%	0.73	0.17	0.07	0.02	0.01			100 %	

## Annexure V: Stand and stock table (Basal Area)

Format 6: Stand & Stock Table: Basal Area										
1. Name of CF		Nami Nichu CF								
2. Block Name/No.		: Khenchu								
3. Number of sampling units		113								
4. Estimated parameter		: Average Basal Area per Ha (m2/ha) Timber trees								
Dbh class (cm). Write all values to 2 decimals										
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	total	%
Bluepine	1.60	3.21	3.53	1.64	1.49	0.17	0.15		11.79	72.96
spruce	0.16	0.16	0.22		0.08	0.11			0.73	4.52
Hemlock	0.28	0.14	0.16	0.11	0.12	0.11	0.38	0.19	1.49	9.22
Fir	0.01	0.17	0.27	0.73	0.80	0.17			2.15	13.30
total conifer	2.05	3.68	4.18	2.48	2.49	0.56	0.53	0.19	16.16	100.00%
total broadleaf										
total all species	2.05	3.68	4.18	2.48	2.49	0.56	0.53	0.19	16.16	100.00%
%	0.13	0.23	0.26	0.15	0.15	0.03	0.03	0.01	100 %	

Annexure VI: Stand and stock table (Basal Area)

Format 6: Stand & Stock Table: Basal Area										
1. Name of CF		Nami-NichuCF								
		:								
2. Block Name/No.		Khenchu								
3. Number of sampling units		113								
		: Average Basal Area per Ha (m2/ha) Non								
4. Estimated parameter		Timber trees								
Dbh class (cm). Write all values to 2 decimals										
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	total	%
Bluepine	0.06	0.12	0.06	0.03	0.04				0.31	16.15
spruce	0.01	0.06	0.02	0.05					0.14	7.29
Hemlock	0.01	0.01	0.02		0.04				0.08	4.17
Fir		0.06	0.19	0.05	0.04				0.34	17.71
Rhodo Spps	0.36	0.09							0.45	23.44
Populus	0.16	0.06							0.22	11.46
Oak	0.02		0.36						0.38	19.79
total conifer	0.62	0.40	0.65	0.13	0.12				1.92	100
total broadleaf										
total all species	0.62	0.40	0.65	0.13	0.12				1.92	100
%	0.32	0.21	0.34	0.07	0.06				100	



## Annexure VII: Stand and stock table (Volume)

		Format 7: Stand & Stock Table: VOLUME								
1. Name of CF		Nami-Nichu CF								
2. Block Name/No.		:								
2. Block Name/No.		Khenchu								
3. Number of sample plots		113								
4. Estimated parameter		: Timber Trees                      Average								
		Volume per Ha (m3/ha)								
Dbh class (cm). Write all values to 2 decimals										
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	total	%
Bluepine	9.02	23.83	31.41	16.65	24.46	2.12	2.05		109.54	74.26
spruce	0.92	1.29	2.11		0.95	1.45			6.72	4.56
Hemlock	2.35	0.69	0.90	0.66	0.80	0.79	4.65	2.51	13.35	9.05
Fir	0.05	1.33	2.57	6.95	5.63	1.36			17.89	12.13
Laryx	0.01								0.01	0.01
total conifer	12.35	27.14	36.99	24.26	31.84	5.72	6.70	2.51	147.51	100
total broadleaf										
total all species	12.35	27.14	36.99	24.26	31.84	5.72	6.70	2.51	147.51	100
%	0.08	0.18	0.25	0.16	0.22	0.04	0.05	0.02	100	

## Annexure VIII: Stand and stock table (Volume)

Format 7: Stand & Stock Table: VOLUME									
1. Name of CF		Nami-Nichu CF							
2. Block Name/No.		:							
3. Number of sample plots		Khenchu							
4. Estimated parameter		113							
		: Non timber Average Volume							
		per Ha (m3/ha)							
Dbh class (cm). Write all values to 2 decimals									
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	total	%
Bluepine	0.31	0.90	0.57	0.27	0.66			2.71	24.59
spruce	0.03	0.45	0.15	0.57				1.20	10.89
Hemlock	0.07	0.04	0.09		0.27			0.47	4.26
Fir	0.02	0.44	1.81	0.51	0.28			3.06	27.77
Rhodo spps	1.66	0.50						2.16	19.60
Populus	0.74	0.36						1.10	9.98
Oak	0.07							0.32	2.90
total conifer	2.90	2.69	2.87	1.35	1.21			11.02	100 %
total broadleaf									
total all species	2.90	2.69	2.87	1.35	1.21			11.02	100 %
%	0.26	0.24	0.26	0.12	0.11			100 %	

