
***KHARSHONG NORDEN
COMMUNITY FOREST MANAGEMENT PLAN
(1ST REVISION)***

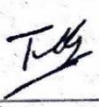
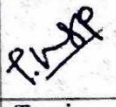
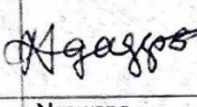





***Menbi Gewog
Lhuentse Dzongkhag
Plan Period: 2023 –2033***

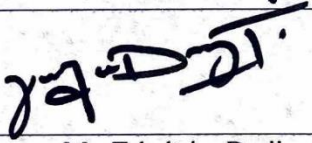
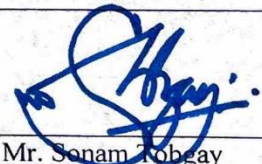
APPROVAL SHEET FOR COMMUNITY FOREST MANAGEMENT PLAN

Name of Community Forest	Kharshong Norden
Village	Kamdhar, Khashaling, Dosagang and Dangsang
Chiwoog	Kamdhar-Murmo
Gewog	Maenbi
Dzongkhag	Lhuentse
Production area (ha)	195.48ha
Protection area (ha)	71.93ha
Total Community Forest area	285.02ha
Total CFMG member (No. of HH)	60

Prepared and Submitted for Approval

	Community Forest Management Group	Forestry representative (CFMP) facilitator	Gewog Administration	Forest Range Office	Social Forestry Section	Divisional/Park Office
Signature						
Name	Pema Zangmo	Tenzin Wangpo	Ngawang Dendrup	Rinchen Dorji	Sonam Drugyel	Karma Tempa
Title	Chairperson	Forest Ranger-I	Gup	Range Officer	Section Head	Chief Forestry Officer

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(C)/2022-2023/1186 on dated June 13, 2023

Table of Contents

1. ACRONYMS & GLOSSARY	iii
2. EXECUTIVE SUMMARY	1
3. INTRODUCTION	2
4. TOTAL COMMUNITY FOREST AREA	3
5. COMMUNITY FOREST MAP	3
5.1 Map of the CF	3
5.2 CF Location Map	4
5.3 Google Map of Kharshong Norden CF	4
6. COMMUNITY FOREST BOUNDARIES	5
7. SOCIAL INFORMATION	5
8. FOREST INFORMATION (WHOLE FOREST)	6
8.1 History of the Forests	6
8.2 Block Information	6
Forest & Habitat Type	6
Forest Condition	7
Plantation	7
Forest Condition – Age	8
Forest Condition – Canopy density	8
Forest Condition – Regeneration	8
Forest Condition – Approximate density of seed trees	8
Block Condition – Summary	8
Forest Condition Class Box	8
Open spaces	9
Grazing and fodder	9
Catchment Condition	9
Soil type	10
Catchment Condition Class Box	10
Fauna	10
Biotic Pressures	11
Potential Management Options	11
8.3 Annual Allowable Cut (for each block)	12
9. FOREST MANAGEMENT	12
9.1 Block Wise Management Procedures	12
9.2 Forest Management Objectives (whole CF)	13
10. FOREST PRODUCT DEMAND OF CFMG	14
11. COMPARISON OF AAC AND DEMAND	14
12. PARTICIPATORY ENVIRONMENTAL ASSESSMENT	15
Completed Participatory Environmental Assessment Chart	15
Procedures to Address Potential Negative Environmental Effects	16

13. FOREST PRODUCT AND SPECIES PREFERENCE	16
14. MONITORING PLAN BY CFMG.....	17
15. ANNUAL WORK PLAN	18
Name of Community Forest Management Group and Community Forest	19
16. MEMBERSHIP ARRANGEMENT	19
17. MANAGEMENT COMMITTEE FORMATION	20
17.1 Criteria for Eligibility of the Members	20
17.2 Election of the CFMG Executive Member	20
17.3 Procedure for Leaving the Committee	20
18. TERMS OF REFERENCE FOR CFMG MANAGEMENT COMMITTEE.....	21
18.1 ToR of Chairperson	21
18.2 ToR of Secretary	22
18.3 TOR of Treasurer	22
18.4 TOR of Resoop	22
18.5 Roles and Responsibility of CFMG and CFMG members	23
19. FEES	23
20. FINES AND PENALTIES	24
21. MANAGING CFMG FUND AND CREDIT	25
22. BENEFIT SHARING MECHANISM	25
23. MEETINGS	26
24. CONFLICT MANAGEMENT	26
25. AMENDMENT OF CFMP AND BY-LAWS	27
26. POWERS OF THE DEPARTMENT.....	27
27. ANNEXURES	29
27.1 List of CFMG Members.	29
27.2 CF Boundary GPS Coordinates	31
27.3.1 Acer species (T-Trees).....	32
27.3.2 Persea spp (T-Trees)	32
27.3.3 Betula (T-Trees).....	33
27.3.4 Other Broadleaved (T-Trees)	33
27.3.5 Acer (N – Trees)	34
27.3.6 Betula (N-Trees)	34
27.3.7 Persea (N-Trees)	35
27.3.8 Oak (N-Trees)	35
27.3.9 Other Broad-leaved (N-Trees)	36
27.3.10 Michelia spp (N-Trees)	36
27.3.11 Schima spp (N-Trees)	37
27.3.12 Rhododendron (N-Trees)	37
27.4 Stand & Stock Table	38
27.4.1 Sheet 1 – Number of Trees (T – Trees).....	38

27.4.2 Sheet 2 – Basal Area (T-Trees).....	39
27.4.3 Sheet 3 – Volume (T-Trees).....	40
27.4.4 Sheet 1 - Number of Trees (N Trees).....	41
27.4.5 Sheet 2 – Basal Area (N-Trees)	42
27.4.6 Sheet 6 – Voume (N-Trees)	43

1. ACRONYMS & GLOSSARY

AAC	Annual Allowable Cut
CF	Community Forest
CFMG	Community Forest Management Group
CFMP	Community Forest Management Plan
CFO	Chief Forestry Officer
CFMC	Community Forest Management Committee
DBH	Diameter at Breast Height
DoFPS	Department of Forests & Park Services
DFO	Divisional Forests Office
FNCRR	Forest & Nature Conservation Rules & Regulations
Ha	Hectare
H/H	Household
N	Non-timber
Nu	Ngultrum
NWFP	Non-Wood Forest Products
RGoB	Royal Government of Bhutan
RHBT	Rural House Building Timber
RNR	Renewable Natural Resources
RO	Range Officer
SRFL	State Reserve Forest Land
T	Timber

2. EXECUTIVE SUMMARY

Kharshong Norden community forest is located in Menbi geog of Lhuentse Dzongkhag and it is initially formed by the villages of Kamdhar, Dosagang, Khashaling and Dangsang. The CF has an area of 285.02 ha of cool broadleaved forest situated at an elevation range of 2000-2900masl. The area is dominated by *Quercus griffithii*, *Quercus lanata*, *Quercus lamellosa*, *Persea* species, *Schima* species and *Alnus nepalensis*. There are also few numbers of *Juglans regia*, *Michelia champaca*, and *Betula utilis*. The overall regeneration status of CF is poor, and the forest is good habitat for Wild Pigs, Wild Dogs and Himalayan Black Bear. The area is also a better habitat for many birds.

The CF was initially established in 2012 and has completed its 10 years management plan period in 2022. The state reserved forest designated as community forest was handed over to 57 households of Kamdhar, Dosagang and Khashaling villages to be managed at local level responsibly. The revised management plan has 60 households.

The whole area of CF is considered as Kharshong Norden block with total annual allowable cut of 177.08m³ and 108.8 ha falls in Biological Corridor - 07 that connects Phrumsingla National Park and Wangchuk Centennial National Park. The current plan has inadequate timbers while there is sufficient firewood in a year. The revised plan has revealed 3 Drashing (5.51m³), 10 cham (3.07m³), 2 Tsim (0.18m³), 216 firewood (168.84m³), 102 fencing posts (4.09m³) and 155 flagpoles (15.53m³). Whereas demand for resources is much higher and it needs to be met from State Reserved Forest Land.

The overall objectives of CF are as follows:

- ✓ ***Sustainable utilization and management of timber and Non-wood Forest Products.***
- ✓ ***Protection and management of existing water sources and catchment areas.***
- ✓ ***Conservation and management of the existing forest.***

To achieve the above-mentioned objectives, CFMG will manage the forest resources and services following the annual work plan prescribed. The main activities include the harvesting and utilization of timber, plantation, cleaning and thinning, water catchment management in the designated CF area.

PART A: MANAGEMENT PLAN

3. INTRODUCTION

Kharshong Norden Community Forest Management Group was formed in 2012 with 57 members from Kamdhar, Dosagang, Khasaling and Dangsang villages. They managed the CF area of 104.6 ha for 10 years (2012-2022) successfully. As of December 31, 2022, the total funds accumulated in their group savings account is Nu.107940 (One Hundred Nine Thousand Nine Hundred and Forty only).

Now the revised CF has an area of 381.5 ha for 60 households. The elevation in the Community Forest area ranges from 2000 m to 2900 m within cool broad-leaved forest. The CF area is dominated by *Quercus griffithii* with associated species of *Quercus lanata*, *Quercus lamellosa*, and *Persea* spp. The available trees in the Community Forest are not a preferred species for timber use. The overall forest condition is moderate with mean basal area and canopy density less than 60%. However, the CF has less timber stock and the regeneration status of trees is also poor. This CF also serves as habitat for endangered Wild dogs (*Cuon alpinus*), Wild pigs (*Sus scrofa*), Common leopard (*Panthera pardus*) and Himalayan Black Bear (*Ursus thibetanus*) etc. It is also home to threatened birds like Ward's Trogon (*Harpactes wardi*), Rufous-Necked Hornbill (*Aceros nipalensis*), Great Hornbill (*Aceros bicornis*), Satyr Tragopan (*Tragopan satyra*) and other common birds.

For the past 10 years, the Community Forest members have utilized 18 Drashing, 888 firewood, 103 Dangchung and 550 fencing posts for their rural use within the AAC limits. Their community forest couldn't meet the RHBT (Rural House Building Timber) annual demand for nine CFMG members. Therefore, nine households had to avail RHBT timber for new construction and renovation of their houses from State Reserved Forest Land, as the RHBT demand of CFMG members exceed the timber stock in the CF areas except firewood.

This community forest is formed with the objectives; to sustainably utilize and manage timber and Non-Wood Forest Products, Protection and management of existing water sources and catchment areas and for conservation and management of the existing forest. To achieve the set objective, the primary management activities include thinning, plantation, patrolling, harvesting and cleaning shall be carried out.

The executive committee consisting of Chairperson, Secretary, Treasurer and Resoop is also formed for proper management of community forest and CFMG will be guided by the management plan and By-laws endorsed by the Department of Forests and Park Services. The management plan period is for ten years from 2023-2033.

4. TOTAL COMMUNITY FOREST AREA

Kharshong Norden Community Forest is bordered by Takila Guru statue in south, Karney Lhakhang in west and Zarthang Lhakhang in south overlooking Tangmochu villages located in the east of CF. It has a total area of 285.02 ha of cool broadleaved forest of which 195.48 ha is operable area and 108.8 ha of area is in Biological Corridor no.07.

5. COMMUNITY FOREST MAP

5.1 Map of the CF

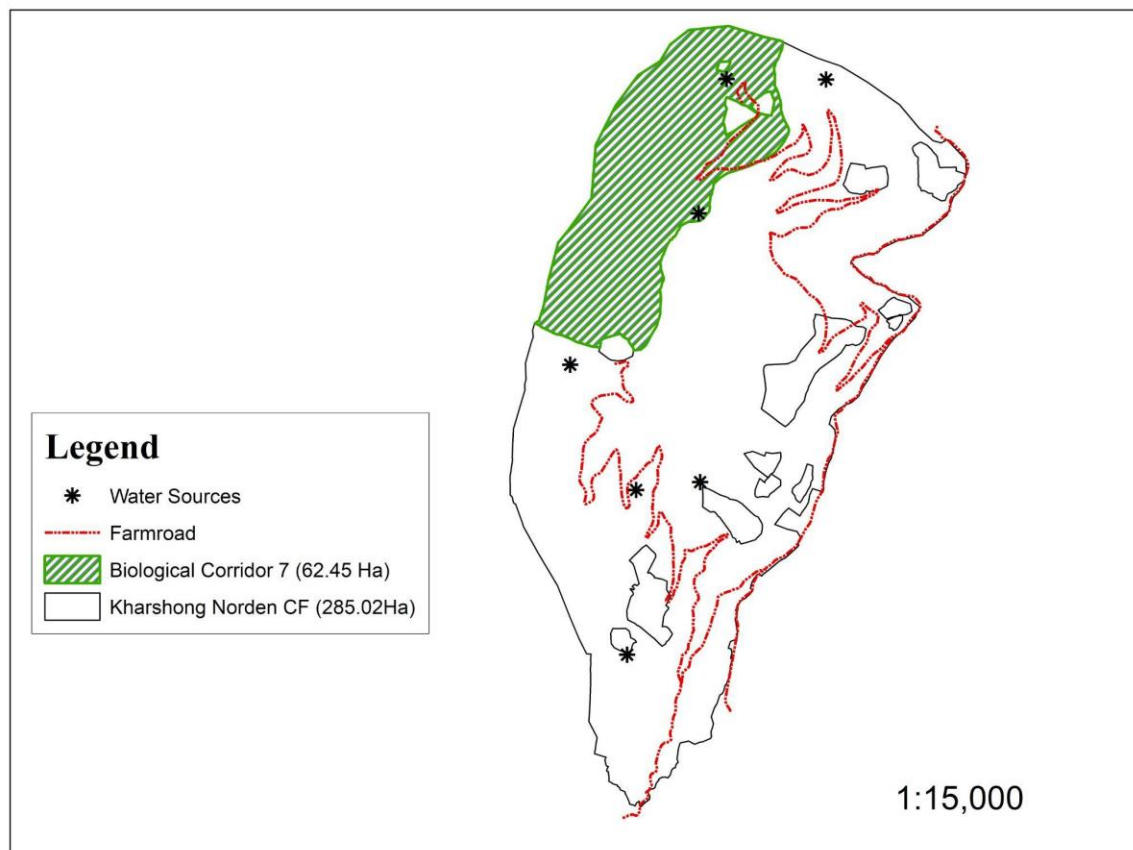
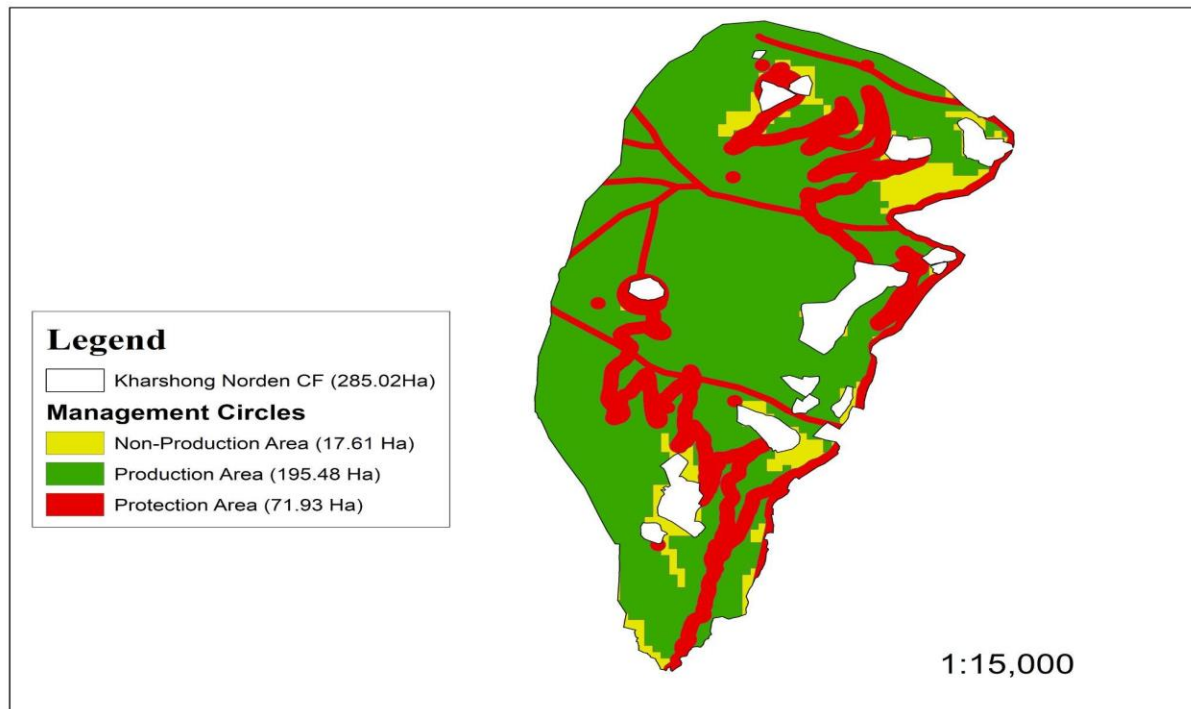


Figure 1: Conservation Regimes in CF

5.2 CF Location Map



5.3 Google Map of Kharshong Norden CF



6. COMMUNITY FOREST BOUNDARIES

Table 1: CF boundary details

Boundaries	Description of permanent features
West	Pachola
East	Takila to Murmo farm road
South	Shangrabi and Takila
North	Zashingdar and Tharmling

7. SOCIAL INFORMATION

Table 2: Social Information

	Descriptions
Name of the village	Kamdhar, Dosagang, Kusumphay and Dangsang
Ethnic groups with CFMG	Kurtoep
Basic amenities	Farm road, electricity, drinking water mobile connectivity, school, BHU & Lhakhang
Total household (HH) number of CFMG	60
Population of CFMG	318
% male and % female	58% male & 42% female
Main source of income	Agricultural
Cattle population of CFMG	112
Main crops	Paddy and maize
Cropping pattern	Mixed cropping
Average Annual Income	Nu. 40000/-
If any add:	

8. FOREST INFORMATION (WHOLE FOREST)

8.1 History of the Forests

In the past, most of the designated community forest was conserved as Sokshing by the landlord of Dromashong villages and some part of the area is used for practicing shifting cultivation by the people of Takila and Dosagang and grazing area for the local community. When the forest was managed as Sokshing, leaf litter collectors cut all the small seedlings except Qak species prior to collection of leaf litter for smooth collection of dried leaves. Hence the forest is dominated by the Quercus trees. landlord rents small land for collecting leaf litter to different people and in return contributes labor to the Landlord.

The enactment of Forest and Nature Conservation Act of Bhutan, 1969 and National Forest Policy, 1974 has discouraged and strengthened the abolishment of tseri practices resulting in good coverage of forest. However, the management of forest remains unguided, and the trees protected for litter collection are cut for the firewood freely. The NWFP like small bamboos and *Paris polyphylla* are common in the CF area but prior to community forest management group formation local community and intruder used to collect without any permits.

8.2 Block Information

Format 1. Forest Resource Assessment Format (Complete this format for each block)	
Name of Community Forest	Kharshong Norden
Date of Assessment	23/11/2022 to 26/11/2022
Name of block	Kharshong Norden
Block area	285.02ha
Name of recorder	Jamtsho Sr.FR-III, Tenzin Wangpo FR-I, Sonam Lodey FR II, & Nechen Wangchuck FR II.

Forest & Habitat Type (tick all those present, Refer definition below)			
Forest <input checked="" type="checkbox"/>	Thicket/pole stage <input type="checkbox"/>	Shrub land <input type="checkbox"/>	
Grassland <input type="checkbox"/>	Plantation <input checked="" type="checkbox"/>	Other <input type="checkbox"/>	
Vegetation type			
Subtropical forest <input type="checkbox"/>	Chirpine forest <input type="checkbox"/>	Warm broad leaved forest <input type="checkbox"/>	Blue pine forest <input type="checkbox"/>
Cool Broad leaved forest <input checked="" type="checkbox"/>	Mixed conifer <input type="checkbox"/>	Fir forest <input type="checkbox"/>	Other <input type="checkbox"/>

Definitions	
Broadleaf forest	75% or more of the tree species present are hardwoods
Conifer forest	75% or more of the tree species present are coniferous
Mixed forest	All other combinations of tree species
Mature Forest	Vegetation dominated by mature trees (trees > 40 cm dbh)
Thicket/pole stage	Vegetation > 3m in height consisting of young trees usually < 40 cm dbh
Shrubs	Non-tree species > 2 m in height (often thorny and multi - stemmed)
Shrub-land	Vegetation dominated by woody multi-stemmed plants or single stemmed plants and regeneration mostly < 3m tall
Grassland	Vegetation dominated by grass species and where only a small part of the area is covered by trees or shrubs.
Crown cover	The percentage of the area covered by the crowns of trees forming the main canopy (usually mature trees)
Regeneration	Seedlings, saplings and coppice regrowth of naturally occurring tree species that are less than 1.3 meters tall but greater than 30cm tall
Seed trees	Mature trees with healthy crowns capable of producing flowers and seed
Soil Cover	The percentage of the area with soil surface covered either by live vegetation or a layer of other plant vegetation

Forest Condition <i>(complete if the block is mainly forest)</i>			
Write the names of main tree species			
Local name	Scientific name		
Phumshing	<i>Schima khasiana</i>		
Tshekpashing	<i>Persia</i>		
Sisi	<i>Quercus griffithii</i>		
Phangkayma	<i>Quercus lamellosa</i>		
Jishing	<i>Quercus semicarpifolia</i>		
Plantation			
Is there any plantation?	Yes <input checked="" type="checkbox"/>	Approximate height	
	No <input type="checkbox"/>	Of planted trees (m) - 0.3	
Year planted -	Is the plantation?		
	Under stocked	<input checked="" type="checkbox"/>	
	Stocked	<input type="checkbox"/>	
	Overstocked	<input type="checkbox"/>	

Forest Condition – Age			
Mature <input checked="" type="checkbox"/>	Pole stage <input type="checkbox"/>	Shrub land <input type="checkbox"/>	Any <input type="checkbox"/>
Main canopy of mature trees	Main canopy of pole-stage trees	Main canopy of shrubs, young trees or regeneration	No continuous canopy. Isolated trees only

Forest Condition – Canopy density (<i>tick main canopy</i>)		
Dense <input type="checkbox"/>	Open <input checked="" type="checkbox"/>	Very open <input type="checkbox"/>
Canopy density > 70%	Canopy density < 70%	No real canopy. Isolated trees only

Forest Condition – Regeneration (<i>including coppice regrowth</i>)		
Abundant <input type="checkbox"/>	Scattered/few <input checked="" type="checkbox"/>	None <input type="checkbox"/>
Regeneration easy to find in most places	Regeneration only in some places and hard to find	No regeneration
Write the names of the 3 main tree species in the regeneration		
1) <i>Quercus griffithii</i>	2) <i>Schima</i>	3) <i>Persia</i> spp
Regeneration: Seedlings > 30cm and < 1.3m height		

Forest Condition – Approximate density of seed trees		
High <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Low <input type="checkbox"/>
> 50 seed trees per ha	10-50 seed trees per ha	< 10 seed trees per ha

Block Condition – Summary			
<i>(Use the forest condition class box below to get an average condition for the block)</i>			
Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input checked="" type="checkbox"/>	Very Good <input type="checkbox"/>
Does the main forest canopy consist of large, mature trees?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Forest Condition Class Box				
Age	Canopy density	Regeneration & Coppice	Seed tree class	Condition
Mature forest	Dense	Abundant		Very good
		Scattered/few		Good
	Open	Abundant		Good
		Scattered/few		Average

Pole stage forest	Dense	Abundant		Good
		Scattered/few		Average
	Open	Abundant		Average
		Scattered/few		Poor
Shrubland and young growth	Dense		Moderate or High	Average
	Dense		Low	Average
	Open		Low	Poor
Any	Very open	None		Poor

Open spaces (complete if there are significant open spaces in the block)

Approximate total open space area (ha)	2.5 hectares
Dominant vegetation type in the open space	Herbs and shrubs
Cause of open space e.g. grazing, fire, harvesting, etc.	Over harvesting, cattle grazing and illegal logging & Sokshing

Grazing and fodder (complete if the forest block is used for grazing or fodder)

Grassland type							
Natural	<input checked="" type="checkbox"/>	Man-made	<input type="checkbox"/>	Mixture	<input type="checkbox"/>	Predominantly forest	<input type="checkbox"/>

Main fodder species being used (<i>list 3 only</i>)	
Local name	Scientific name
Romdangshing	<i>Ficus</i> spp
Ngangla (Babana)	<i>Musa</i>

Pasture quality (list the 3 dominant species in the grassland)		
Local name	Scientific name	Palatable/unpalatable
Ngon	<i>Rumex chinensis</i>	Unpalatable
Khampa	<i>Artemesia</i> spp	Unpalatable
Nakay	<i>Fern</i>	Unpalatable

Use pattern	Seasonal	<input type="checkbox"/>	All year	<input checked="" type="checkbox"/>
-------------	----------	--------------------------	----------	-------------------------------------

Type of user	Migratory	<input type="checkbox"/>	Local	<input checked="" type="checkbox"/>	Both	<input type="checkbox"/>
--------------	-----------	--------------------------	-------	-------------------------------------	------	--------------------------

Catchment Condition (use catchment condition class box below)

(i) Catchment condition – soil cover		
Soil cover	Soil cover class	
>50% of the soils are covered by vegetation	high	<input checked="" type="checkbox"/>
25-50% of the soils are covered by vegetation	moderate	<input type="checkbox"/>
<25% of the soils are covered by vegetation	low	<input type="checkbox"/>
(ii) Catchment Condition – Soil type and erosivity		
Soil type (Colour, texture and type)		
Erosive <input type="checkbox"/>	Non-erosive <input checked="" type="checkbox"/>	
Disperses and/or breaks up in water easily	Stable to water flow	
(i) Catchment Condition –Slope		
Slope(degrees)	Slope steepness class	
<10°	Gentle	<input type="checkbox"/>
10°–30°	Moderate	<input checked="" type="checkbox"/>
>30°	Steep	<input type="checkbox"/>
Catchment Condition – Summary (Use the catchment condition class box below to get the average condition for the block)		
Less critical <input type="checkbox"/>	Moderately critical <input checked="" type="checkbox"/>	Highly critical <input type="checkbox"/>

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

Fauna (List any animal or bird species seen or which are known from the block)	
Local Name	Scientific name
Barking Deer	<i>Axis Axis</i>
Wild pig	<i>Sus scrofa</i>
Common Leopard	<i>Uncia uncia</i>
Kalij Pheasant	<i>Lophura leucomelanos</i>

Capped Langur	<i>Trachypithecus pileatus</i>
Porcupine	<i>Erethizon Dorsatum</i>
Himalayan black bear	<i>Ursus thibetanus</i>
Samber deer	<i>Rusa unicolor</i>
Blue whistling thrush	<i>Myophonus caeruleus</i>
Wild dog	<i>Lycaon Pictus</i>
Red Vented bulbul	<i>Pycnonotus cafer</i>
Oriental turtle dove	<i>Streptopelia orientalis</i>
Common Hoopoe	<i>Upupa Epops</i>
Great Barbet	<i>Megalaima virens</i>

Biotic Pressures (tick those present)			
Fire	Common <input type="checkbox"/>	Occasional <input type="checkbox"/>	Absent <input checked="" type="checkbox"/>
Grazing	Heavy <input checked="" type="checkbox"/>	Limited <input type="checkbox"/>	Absent <input type="checkbox"/>
Fodder collection (list main species used)	Common <input type="checkbox"/>	Limited <input checked="" type="checkbox"/>	Absent <input type="checkbox"/>
NWFP collection (list the main products including bamboo &cane)	Common <input checked="" type="checkbox"/>	Limited <input type="checkbox"/>	Absent <input type="checkbox"/>
Leaf litter collection	Common <input type="checkbox"/>	Limited <input checked="" type="checkbox"/>	Absent <input type="checkbox"/>
Encroachment	Common <input type="checkbox"/>	Occasional <input type="checkbox"/>	Absent <input checked="" type="checkbox"/>
Pole harvesting	Common <input checked="" type="checkbox"/>	Occasional <input type="checkbox"/>	Absent <input type="checkbox"/>
Fuel wood harvesting	Common <input checked="" type="checkbox"/>	Occasional <input type="checkbox"/>	Absent <input type="checkbox"/>
Timber harvesting	Common <input checked="" type="checkbox"/>	Occasional <input type="checkbox"/>	Absent <input type="checkbox"/>
Hunting	Common <input type="checkbox"/>	Occasional <input checked="" type="checkbox"/>	Absent <input type="checkbox"/>
Others(describe)			

Potential Management Options (list any potential management options for the CF/block)	
1	Cleaning and thinning of forest stand
2	Plantation in water source and open area
3	Harvesting of timbers
4	Protection of forest
5	Manage natural regeneration.
6	Water source protection

8.3 Annual Allowable Cut (for each block)

Table 3: Annual Allowable Cut of timber

Annual Allowable Cut Table							
Annual Allowable Cut (AAC)	Dangchung m ³	Tsim m ³	Cham m ³	Drashing m ³	Firewood m ³	Flag Poles	Fencing Posts
Block I	0	0.18	3.07	5.51	168.84	15.53	4.09
Total AAC	0	0.18	3.07	5.51	168.84	15.53	4.09

Notes: For CFMG's understanding, m³ can be converted into cft. ($1\text{ m}^3 = 35.32\text{ cft}$). Volume can also be converted into number of trees using the following factors (Adapted from FRMD);

- Trees/firewood (standing form) = 61.79 cft (Broadleaf)/70.62 cft (conifer)
- Cham sized tree =10.59 cft (BL)/14.122 cft (Conifer)
- Tsim/Flag poles =3.53 cft (Both)
- Dangchung/Fencing posts =1.41cft (BL)/1.76 cft (conifer)

Table 4: Annual Allowable Cuts of NWFP

NWFP	Blocks (for harvesting)		Quantity to be harvested annually
	No.	Name	
Fern	1	Zarhang	100 Bundles
<i>Elastotema</i>	1	Karney water source	50 Bundles
Small Bamboo	1	Karney top	200 Nos.

9. FOREST MANAGEMENT

9.1 Block Wise Management Procedures

Table 4: Block Wise Management Procedures

Produce/services	Timber (Drashing, Cham, Tsim & D/chung	Firewood & flag Post	NWFPs
Main species	<i>Quercus griffithii</i> , <i>Quercus lanata</i> , <i>Acer</i> spp, <i>Persia</i> , <i>Schima wallichii</i> & <i>Quercus lamellosa</i> .	<i>Quercus lamellosa</i> and small bamboo	<i>Paris polyphylla</i> , fern, mushroom, <i>Elatostema</i>
Problems	Inadequate stock in community forest area.	Trees along the roadside are overexploited for firewood purposes.	No market

Opportunities	Plant desirable timber species to meet timber demand in future	Use lops and tops of felled trees, diseased, deformed and dying trees	Increase CFMG fund through sale of NWFP
Management objectives (<i>reflecting problems and/or opportunities</i>)	Sustainable utilization and management of timber and Non-wood Forest Products	<ul style="list-style-type: none"> ➤ Conservation and management of the forest. ➤ Income generation through sale of the surplus firewood and NWFPs to enhance the livelihoods of the CFMGs. 	Protection and management of existing water sources and catchment areas
Activities to achieve the objective (mark as H, M or L)	<ul style="list-style-type: none"> ➤ Single tree marking in presence of Resoop (H) ➤ Plantation of native tree in degraded area (H) ➤ Identification and retention of mother trees (H) ➤ Issuance of permit to harvest NWFP (M) ➤ Sale of excess forest resources (M) 	<ul style="list-style-type: none"> ➤ Thinning and cleaning (H) ➤ CFMG shall buy energy saving devices to reduce firewood consumption (M) ➤ Marking should be done with valid permit and should not exceed AAC (H) 	<ul style="list-style-type: none"> ➤ Retention of trees and plantations near the water source area (H)
Procedures	<ul style="list-style-type: none"> ➤ Allocate timber in accordance with the AAC and avoid damage to other standing trees during tree felling and marking, site selection for plantation, site preparation, seedling arrangement, and seedling planting through labor contribution 	<ul style="list-style-type: none"> ➤ Obtain permits for the marking of trees and conduct CFMG meetings annually for planning the activities for timber allotment, marking, and issuance of permits 	<ul style="list-style-type: none"> ➤ A suitable site will be identified for a plantation near water catchment area
Responsibilities	CFMG executive members, CFMG members and concerned forest officials.		

9.2 Forest Management Objectives (whole CF)

- Sustainable utilization and management of timber and Non-wood Forest Product.
- Protection and management of existing water sources and catchment areas.

- Conservation and management of the existing forest.

10. FOREST PRODUCT DEMAND OF CFMG

Table 5: Forest Product demand of the CFMG members

Produce	Annual household requirement (estimated)		Number of households using the produce (if all then write “all”)	Total requirement (over 10 years)	
	No. of trees	Volume (cft)		No. of trees	Volume (cft)
New Construction					
Drashing	18	1112.22	1	180	11122.2
Cham	-	-	-	-	-
Tsim	-	-	-	-	-
Dangchung	-	-	-	-	-
Repair/Renovation					
Drashing	3	185.37	5	150	9268.5
Other Forest Produce					
Firewood	2		60	1200	
Flag Poles	5	17.5	5 (excluding death case)	250	883
Fencing Posts	50	75.5	6	3000	4500
NWFPs (bamboo)	100	-	5	500	-

11. COMPARISON OF AAC AND DEMAND

Table 6: Comparison of AAC and demand for timber

Produce	Total AAC		Total Annual Demand		Difference		Comments
	No. of trees	Volume (either in m ³)	No. of trees	Volume (either in m ³)	No. of trees	Volume (either in m ³)	
Drashing	3	5.51	33	57.73	-30	52.48	The genuine CFMG member applicant shall apply for new construction from SRFL through the Chairperson
Cham	10	3.07	-	-	-	-	
Tsim	2	0.18	-	-	-	-	

Dangchung	0	0	-	-	-	-	The CFMG shall carry out plantation since CF has lack of pole size trees
Firewood	216	168.84	120		+96		The excess firewood tree shall be sold for commercial purpose
Fencing Post	102	4.09	300	11.98	-198	-279.18	The fencing post will be met through conversion of excess firewood trees
Flag poles	155	15.53	436	43.57	-281	-28.08	The flag posts for death case shall be applied to SRFL and for normal flag poles hoisting shall be met from CF only
Bamboo							As there are no adequate bamboos available in the CF area the CFMG members shall continue to meet their domestic requirement from SRFL as per the existing forestry rules and regulations

12. PARTICIPATORY ENVIRONMENTAL ASSESSMENT

Table 7: Participatory Environment Assessments

Completed Participatory Environmental Assessment Chart								
	Potential Environmental Effects				Potential Socio-Economic Effects			
Activity proposed in CFMP	Soil	Water	Wild animals	Plants	Traditional forest use	Cultural and religious values	Local employment	Local benefits from forest produce
Harvesting of timber/fuel wood/ fencing posts/etc.	-	-	-	-	-	-	+	+
Plantation	+++	+++	+++	+++	+++	++	++	+++
Control illicit cutting	+++	+++	+++	+++	++	++	-	-
Removal of unwanted trees and undergrowth	-	-	-	++	+	+	+	++
Thinning	-	-	-	++	+	-	+	++

NWFP Collection	-	-	-	+	+	+	++	+++
Overgrazing	-	-	-	-	+	+	o	o
Protection of water and catchment	+++	+++	++	+++	+++	++	+	+
NB: (O) = No impact at all, (-) = Negative impact, (+) = Slight positive impact,								
(++) = More positive impact, (+++) = Much more positive impact.								

Procedures to Address Potential Negative Environmental Effects	
Activity	Procedure
Timber harvesting	<ul style="list-style-type: none"> ✓ Precautions must be taken to ensure minimum damage to the regeneration and undergrowth while felling the tree. ✓ It will be done based on the single tree selection system and ensure that the good mother trees are retained for future regeneration.
Thinning	<ul style="list-style-type: none"> ✓ Only unwanted deformed trees will be removed. ✓ Area for thinning will be identified by looking at the forest condition and growth rate.

13. FOREST PRODUCT AND SPECIES PREFERENCE

Table 8: Forest product and species preferences

Species Local name	Uses	Timbers	Fire wood	Fencing Post	Flag post	Fodder	Leaf litter
Tarkashing	Preference	XXX	X	X	X	X	X
	Availability	Y	Y	Y	Y	Y	Y
Jishing	Preference	X	XXX	X	X	X	X
	Availability	Y	YYY	Y	Y	Y	Y
Domphushing	Preference	XX	X	X	XXX	X	X
	Availability	YYY	YYY	YYY	YYY	Y	Y
Pragolishing	Preference	XX	X	X	XX	X	X
	Availability	YY	Y	Y	YY	Y	Y
Sisishing	Preference	X	XXX	X	X	X	XXX
	Availability	Y	YYY	Y	Y	Y	YYY

Puyumshing	Preference	XX	XX	XX	XX	X	X
	Availability	YYY	YYY	YYY	YYY	YYY	YYY

XXX= Highly preferred XX= Medium preferred X= Least Preferred
YYY= Highly abundant YY= Medium abundant Y= Scarcely abundant

14. MONITORING PLAN BY CFMG

Table 9: Monitoring plans by CFMG

Forest Resources Monitoring				
Activities (as per AWP)	Indicator	How it will be monitored	Responsibility	Comments
Timber harvesting	Supply of adequate timber as per the construction approval, No. of illegal cases detected. Conduct CFMG meetings annually for planning the activities for timber allotment, marking and issuance of permits.	Conduct a CFMG meeting annually for planning the activities for timber allotment, marking, and issuance of permits. Checking whether the demands of CFMG members are being met or not	CFMG members, Range Officer, SFES and CFO	CFMG will follow the CF management plan.
Issuance of Permit				
Marking of trees				
Patrolling				
Environmental Monitoring Plan				
Potential impact (negative)	Indicator	How it will be monitored	Responsibility	Comments
Cleaning and thinning	Hygiene of forest maintained in CF. No. of seedling planted/surviving, species planted	Executive members will keep records of all the activities carried out.	All the CFMG members.	
Plantation				
Social & Institutional Monitoring Plan				
General CFMG meeting	No. of minutes of meeting kept.	Monitor whether the meeting is held or not as per the plan	All the CFMG members and respective forest officials.	

15. ANNUAL WORK PLAN

Table 10: Annual Work plan of the CFMG

Management objective	Activity	Block or location	Quantity	Unit	Month
Sustainable utilization and management of timber and Non-wood Forest Product.	Plantation of native desired timber species trees.		1	Acre	March - May
	Timber and firewood permit issuance.				All round the year
	Marking of trees for firewood and timbers.	Whole CF area			All round the year
	CFMG training on book and recording keeping		Executive members	Nos.	December
	CFMG general meeting.		2	Nos.	October & May (Annually)
	Maintenance of plantation	Along Karney farm road	0.5	Acre	March
Protection and management of existing water sources and catchment areas	Plantation in the watershed area		0.5	Acre	May and June
	Creation of waterhole and cleaning of natural waterhole inside CF	Karney top and near Zarthang	2	Nos	November & December
Conservation and management of the forest	Cleaning of waste	Karney and Zarthang farm road and Takila-Lhuentse by-pass	All the CFMG members	Nos.	Bi-annually.
	Monitoring of CF activities	Whole CF area	CFMC & CFMG members	Nos.	Quarterly
	Patrolling	Whole CF area	12	Nos.	Monthly

PART B: BY LAWS

Name of Community Forest Management Group and Community Forest

The name of this community forest shall be Karshong Norden community forest, and its members are from Kamdhar, Khashaling, Dosagang and Dangsang villages of Kamdhar-Murmo chiwog. There are 60 households as a member with addition of four households to the 57 members in the past management period. One old member of CFMG resigned voluntarily due to some unavoidable circumstances.

16. MEMBERSHIP ARRANGEMENT

- Each household in Khashaling, Kamdhar, Dosagang and Dangsang can be members of the community forest.
- Anyone who wishes to join CFMG in future shall be allowed after obtaining thram and gung in the chewog but those who didn't turn up for the planning session despite having thram and gung are not allowed to join in future.
- Family division hereafter shall be allowed to join the group after registering separate Gung and thram in the chewog.
- A new member who wishes to join should complete a new membership registration application form and submit it to the chairperson, who will then approve his or her membership during the annual meeting. Then forward a copy of the membership form to the Forest Range office for information and updates.
- The head of the household with Gung & Thram can be a member as per existing guidelines.
- A new member must pay a lump sum entry fee of Nu.5,000 at the time of registration.
- Any changes in the membership shall be intimated to Forest officials for record and submission.
- Members are not entitled to any compensation during their withdrawal, even if they have a legitimate reason, if they have used the forest produce during their active membership
- Voluntary withdrawal from membership is allowed at any time, but the member is not entitled to any claim or compensation at any costs.

- If a person withdraws from the community forest, he or she will not be allowed to rejoin under any circumstances.

17. MANAGEMENT COMMITTEE FORMATION

The CFMG management committee includes five posts; Chairperson (Thrizin), Secretary (Drungchen), Treasurer/Accountant (Tsi-Zinpa) and two reservists (Caretakers) to manage the community forest. The committee members shall be elected among the CF members and should serve for a tenure of 5 years.

17.1 Criteria for Eligibility of the Members

Every member has the right to become an executive committee member unless he or she meets the following criteria:

- He/she should be a legal member of the CFMG.
- He/she should be able to read and write.
- He/she should be above 18 years and below 60 years of age.
- He/she should be mentally sound.

17.2 Election of the CFMG Executive Member

During the 4th annual CFMG meeting, the five CFMG executive members will be elected. They shall be elected through the casting of votes or through the raising of the hand. The person with the highest votes will be elected. If an executive member dies, a chairperson will serve until the annual meeting is held and the vacant position is filled. The formal handing and taking of any documents shall be done in the presence of all the CFMG members.

17.3 Procedure for Leaving the Committee

The executive committee members are not allowed to leave their posts until the end of the term. In an unavoidable case, any executive member shall write a resignation letter with genuine reasons to the chairperson prior to the CFMG meeting, and the chairperson shall forward a copy to the concern Range Officer for information and update of CFMG members list. The CFMG management committee as well as CFMG members shall be terminated from the group without

any benefit if they are found to have indulged in corruption practices. No compensation will be paid to the executive committee members by the CFMG.

Table 11: List of the CFMC executive members

Sl. No.	Name of person	Gender	Address	Post	Contact No.	Tenure
1	Pema Zangmo	Female	Khashaling	Chairperson	17500142	5 years
2	Sonam Zangpo	Male	Pangsar	Treasurer	77632787	5 years
3	Rinchen Dorji	Male	Denkaling	Secretary	17476542	5 years
4	Tashila	Male	Kamdhar	Resoop	17678230	5 years
5	Pema Tenzin	Male	Kamdhar	Resoop	77350931	5 years

18. TERMS OF REFERENCE FOR CFMG MANAGEMENT COMMITTEE

- Represents the CFMG in its interactions with other agencies including the forestry staff.
- Represents CFMG members during preparation and implementation of the CF Management Plan.
- Coordinates and organizes the administration of CF activities and ensures that CFMG members fulfill their management responsibilities.
- Responsible for the equitable distribution of benefits amongst CFMG members.
- Responsible for management of forest resources.
- Responsible for enforcing the by-laws and rules of the CFMG and for collecting fines and penalties.
- Responsible for ensuring that all the legal requirements for CF are met (including all types of records that need to be kept).
- Responsible for establishing and maintaining the CFMG fund using funds collected from various sources.
- Responsible for organizing and conducting CFMG meetings as and when required.

18.1 ToR of Chairperson

- Control overall administrative matters and CF management activities of the CFMG.
- Coordinate meetings whenever necessary and inform CF members about date, time and place and the agenda for the meeting.

- Chairs and facilitates meetings and makes sure each person is allowed to speak, thereby giving everyone a fair chance to raise issues.
- Approves applications for forest products (with Secretary).
- Coordinate overall CF management activities.
- Countersigns payment authorization (with Treasurer).

18.2 ToR of Secretary

- Assists the chairperson as required.
- Manages the correspondence (writing of letters and minutes of meetings) for the CFMG.
- Keeps the files of the CFMG.
- Maintains the list of CFMG members.
- Approves applications for forest products (with chairperson).
- Keeps minutes of CFMG meetings.
- Prepares annual progress report (with other CFMG Management Committee members).

18.3 TOR of Treasurer

- Looks after any financial transactions on behalf of the CFMG.
- Keeps records of expenditure and labor contribution during CF activities.
- Gives a detailed account of how much money or labor has been contributed, how much has been spent and how much is still left, at every CFMG meeting (or as required).
- Prepares the annual financial report (with the assistance of other CFMG Management Committee members) and submits it to the CFO through the GFEO.
- Countersigns payment authorization (with chairperson).

18.4 TOR of Resoop

- Inform the CFMG members in their respective area about the information or any instructions given by the Chairperson pertaining to CF activities execution and meetings.
- Lead CFMG members in his/her area for the collection of seeds for the nursery
- Inform Chairperson or Secretary about if any unlawful activities are going on in the CF.
- Participate during Management Committee meetings.

18.5 Roles and Responsibility of CFMG and CFMG members

- To follow the procedures and rules of the CFMG as outlined in the CF Management Plan and By-laws.
- Participation in CFMG planning and decision-making.
- Election of CFMG Management committee members.
- Participation in drafting of the CF management plan and CFMG by-laws.
- To participate in every meeting.
- Cooperation with the CF Management Committee in carrying forest management and other management operations especially by contributing labor if required.
- Cooperation with the CFMG Management Committee regulating forest use by other CFMG members and by outsiders.
- Become involved in other CFMG activities as planned.
- Be responsible for protecting Community Forest from illegal activities.

19. FEES

Table 12: Annual fees and fees for forest products

Sl. No	Forest Products/ Membership Fees	Procedures	Fees (Nu)
1	Membership fees	Annual fee of Nu.100/- will be collected from each member during annual CFMG meeting.	Nu.100/- annually
2	Drashing	The Secretary shall collect Nu.50 per tree irrespective of species. Permit shall be issued upon payment of fees.	Nu.50 per tree and Nu.200 for A class timber species
3	Cham	All the cham size trees shall be retained to attain drashing.	Nu.30/- per tree
4	Fencing post	Trees that are not sound for timber shall be allotted in thinning basis.	Nu.10/-
5	Ferns/ <i>Elatostema/mushrooms</i>	Members shall collect free of royalty for domestic purpose and for commercial	Nu.2/- per bundle

		purpose should pay fess to the CFMG as per the rate fixed	
6	Stones	Surface collection of stones for rural purpose.	Nu.50/- per Truckload.
7	Dangchung	No demand	Nu.10/-
8	Rawa	Shall be harvested on cleaning basis upon obtaining collection permit. The culms of less than one year old should be left intact and harvesting during new shooting will be restricted	2/-
9	Firewood	Only non-timber trees shall be allotted as firewood and each house is eligible for 1T/L firewood annually.	Nu.100/- per truckload.
10	Tsim	No demand	Nu.20/-
11	Flagpoles	Bamboo shall be allotted instead of trees for the purposes of Flagpole.	Nu.2/-

20. FINES AND PENALTIES

Table 13: Product-wise fines and penalties

Timber/Products/ Activities	CFMG members		Non CFMG members	
	Fines/penalty	Products	Fines/penalty	Products
1. Drashing	As per the FNCRR	Seized	As per the FNCRR	Seized
2. Cham	As per the FNCRR	Seized	As per the FNCRR	Seized
3. Tsim	As per the FNCRR	Seized	As per the FNCRR	Seized
4. Dangchung	As per the FNCRR	Release	As per the FNCRR	Seized
5. Firewood	As per the FNCRR	Release	As per the FNCRR	Seized
6. Flag poles	As per the FNCRR	Release	As per the FNCRR	Seized
7. Fencing posts/poles	As per the FNCRR	Release	As per the FNCRR	Seized
8. Stone	As per the FNCRR	Release	As per the FNCRR	Seized
9. Absent during works	Nu.500/- will be collected per occasion.			

10. Absent during meeting	Nu.500/- will be collected per occasion.	
11. Illegal collection of NWFPs	As per FNCRR	

21. MANAGING CFMG FUND AND CREDIT

- The CFMG shall collect funds from its annual membership fee, forest produce collection fee, entry fee from new members, fines and penalties, sale of excess forest produce, loan interest, and other sources.
- The CFMG shall continue to maintain a savings account in the name of the CFMG, which shall be operated jointly by the Chairperson, Secretary, and Treasurer, for proper management of the CFMG fund.
- The joint signatory members shall withdraw cash from their savings accounts. The deposit of cash can be done by any member, provided that the depositor produce the receipts of the money deposited for the purpose of keeping financial records.
- The treasurer should keep a record of any financial transaction, such as cash generated and expenditures made, and should give clear information to the CFMG members during the CF meeting.
- The fund shall be used as per the CFMG fund management guidelines to meet expenses for CFMG meetings, CF development activities and for loans.
- The CFMG has decided that the funds will be utilized for plantation of economically desired timber species within their community forest area.
- The funds shall be also used for payment of taxi fare and food expenses while going to the bank to deposit and withdraw funds.
- Loans shall be sanctioned to CFMG members in need at a 4% interest rate per annum, mainly for agricultural activities, during death or sickness, and shall have to liquidate within one year.

22. BENEFIT SHARING MECHANISM

- Forest produce should be prioritized to needy CFMG members in case of insufficient forest produce during allotment.
- Allotted timber should be strictly used for bona fide rural use and is prohibited for sale.

- Timbers for construction of Tshamkhangs and minor repair of Karney and Zarthang community Lhakhang free of royalty not exceeding AAC. Also provide firewood free of royalty for religious purposes.
- As the CFMG members don't use fallen trees it can be sold upon seeking approval from the forestry office as per NRPC rate. The timber extraction works like sawing and logging shall be done by the CFMG members and deduct charges.
- Victims of natural disasters will be provided timber on free royalty based on required volume/tree number but shall maintain record in timber utilization.
- Wild vegetables will be allowed to be collected by CFMG members at free of royalty for domestic consumption.
- The CFMG will provide firewood to Karney lhakhang and Zarthang lhakhang at concessional rate.
- During the dead case in any member of CFMG the firewood will be provided free of royalty.

23. MEETINGS

The general meeting of CFMG shall be conducted in January of each year to discuss the annual work plan, whereas CFMG committee meetings are organized frequently depending on need. During the general CFMG meeting, the executive members shall show the CF fund accumulated and the record of timber issued for transparent management of the CFMG. The secretary should keep notes of the meeting and prepare minutes with a record of the agenda, issues discussed, and actions decided in Annexure 2 Format 9 of the Community Forest Manual 2018 to be filed for future reference.

24. CONFLICT MANAGEMENT

- The conflict among CFMG members will be settled by the executive members.
- If the dispute between the CFMG members can't be resolved, it will be forwarded to Gewog Administration for settlement.
- If the conflict is not resolved by the Gewog Administration, it will be forwarded to the Forest Range Office.

- A further case will be forwarded to DFO if the dispute is not settled by the concerned Range Office.
- It will then be forwarded to the Royal court of justice for dispute settlement.

25. AMENDMENT OF CFMP AND BY-LAWS

- The amendment to the CF management plan for minor changes will be made during the annual CFMG general meeting and should be endorsed.
- The meeting resolution that needs approval should be submitted to the Range Officer.
- The major amendment of CFMP shall take place after consultation with DoFPS.

26. POWERS OF THE DEPARTMENT

Although the CFMG has an approved management plan, the DoFPS still reserves right for Cancellation/Suspension of Community Forest Certificate as stated in FNCRR, 2017 as:

- As per section 102 in the event the members of the CFMG decide to cancel the CF certificate in accordance with these Rules, the Community Forest Certificate shall be canceled with effect from the date of notification of the decision to the CFO. The CFMG shall then surrender the Certificate to the Department.
- As per section 102 the CFO shall have the right to inquire about the reason for such cancellation to ensure that no offense has been committed, as outlined under this Rules.
- As per section 104 In the event the number of member households in the CFMG fall below five or the group otherwise ceases to meet the requirements under this Rules; the CFO shall notify the CFMG that its certificate shall be canceled.
- As per section 105 the Department shall suspend the rights and privileges of the CFMG to control, manage and utilize the CF upon the recommendation of the CFO, in the event of the following:
 1. The CFMG is unable to manage the Community Forest according to its management plan or otherwise fails to meet their responsibilities; and
 2. The CFMG has engaged in any activity in contravention of the provisions of the Act, Rules, by-laws or the management plan.

- As per section 106 the period of suspension shall be for a minimum period of 3 years. During the suspension period, the CFMG members shall not be eligible for any forest produce from the SRF.

27. ANNEXURES

27.1 List of CFMG Members.

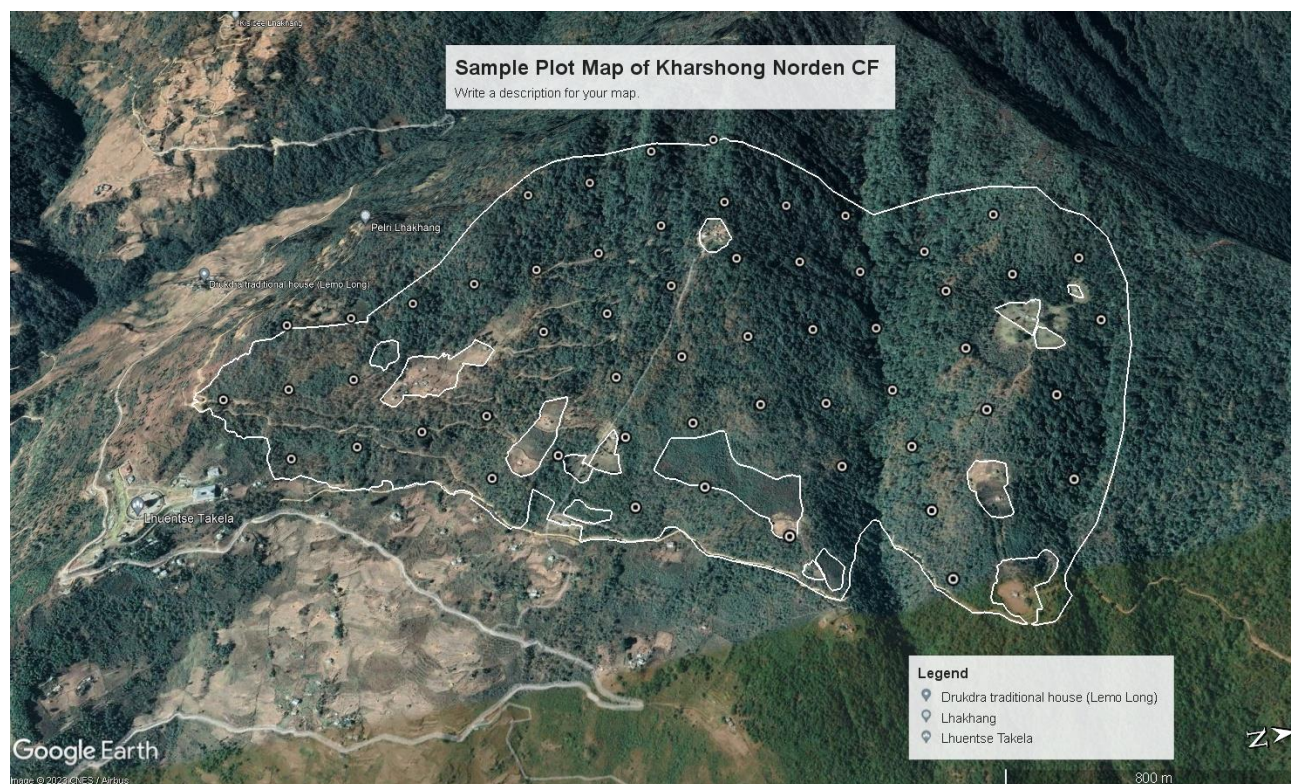
Sl. No	Name	CID. No	Village	House No	Thram. No
1	Cheki Wangmo	10605001312	Chadebe	Cha-5-64	40
2	Karma Chezom	10605001310	Lugarpang	Cha-5-10	487/314
3	Rinchenla	10605001322	Lugarpang	Cha-5-11	403
4	Sonam Kiba	10601000983	Takayla	Cha-5-395	581
5	Karpo	10605003371	Zarthang	Cha-5-14	26
6	Thubten Thinley	10605003141	Thekcholing	Cha-5-36	280
7	Dorji Dema	10605001252	Kusumphel	Cha-5-23	106
8	Seldon	10605000862	Kamdar	Cha-5-56	78
9	Sonam Lhamo	10605001089	Khashaling	Cha-5-32	96
10	Pema Yangzom	10605000999	Khashaling	Cha-5-24	91
11	Karma Lhaki	10605001097	Khashaling	Cha-5-33	84
12	Pema Choden	10605001076	Khashaling	Cha-5-30	88
13	Lekimo	10605001080	Khashaling	Cha-5-31	90
14	Tshering Wangmo	10605001013	Khashaling	Cha-5-25	15/97
15	Pema Deki	10605001188	Kusumphay	Cha-5-17	105
16	Choden	10605001197	Kusumphay	Cha-5-18	107
17	Namgay Tshering	10605001231	Kusumphay	Cha-5-21	109
18	Kunga Thinley	10605001220	Kusumphay	Cha-5-19	110
19	Yeshi Lhamo	10605001174	Kusumphay	Cha-5-16	138
20	Karma Choney	10605001238	Kusumphay	Cha-5-22	98
21	Karma Zangmo	10605001229	Kusumphay	Cha-5-20	108
22	Ngonchamo	10605003143	Thekcholing	Cha-5-37	281
23	Karma Deki	10605002102	Pangsar	Cha-5-39	191
24	Norbu Choden	10605002113	Pangsar	Cha-5-42	48
25	Tashi Wangmo	10605000845	Kamdhar	Cha-5-45	79
26	Wangchuk	10605000847	Kamdhar	Cha-5-46 ka	77/347
27	Tshering Lhamo	10605000856	Kamdhar	Cha-5-46 Kha	77
28	Sherab Dema	10605000829	Girbu	Cha-5-43	73
29	Yeshi Tshomo	10605003187	Thongmakhar	Cha-5-34 kha	285
30	Ugyen Lhaden	10605000872	Khampaling	Cha-5-48	85
31	Rinzin Dema	10605001160	Kimphay	Cha-5-51	16
32	Yangphel La	10605002619	Rewaling	Cha-5-53	21
33	Tshering Peldon	10605001034	Khashaling	Cha-5-27	92
34	Tshomo	10605003181	Thongmakhar	Cha-5-34Ka	470
35	Nidup	10605003191	Thongmakhar	Cha-5-35	284

36	Sonam Wangchuk	10605002899	Dosangang	Cha-5-188	129/300
37	Chonga Mo	10605002909	Dosangang	Cha-5-189	32
38	Langa Zangmo	10605000375	Dosangang	Cha-5-191	36
39	Yeshe Budhar	10601002668	Dosangang	Cha-5-190	1
40	Tshechumo	10605003361	Dosangang	Cha-5-187	261
41	Pema Dorji	10605000378	Dosangang	Cha-5-192	401
42	Lhaden	10605001144	Kimphay	Cha-5-49	101
43	Kinley Sithub	10605001153	Kimphay	Cha-5-50	491
44	Dechen Choden	10605002167	Petsizur	Cha-5-57	298
45	Kardungmo	10605002169	Petsizur	Cha-5-Nil/76	468
46	NaksiMo	10605002168	Petsizur	Cha-5-392	467
47	Tshering Delma	10605001722	Namnangbe	Cha-5-59	279
48	Karma Lhaki	10605001097	Khashaling	Cha-5-33	84
49	Sonam Dorji	10605002134	Pelri Goenpa	Cha-5-236	236
50	Sonam Gyelthsen	10605003568	Zhungphu	Cha-5-54	462
51	Karma Dechen	10605003157	Thongjaling	Cha-5-416	757
52	Sonam Tshering	10605000816	Kathok Goenpa	Cha-5-12	283
53	Phurpa Lhamo	10605003201	Tsampdemo	Cha-5-55	122
54	Karma Zomki	10605001287	Tsampdemo	Cha-5-09	5
55	Kezang Norbu	10605003144	Thekcholing	Cha-5-38	112
56	Sonam Choden	10605002489	Phungsinggang	Cha-5-41	16/99
57	Pema Lhamo	10605001062	Khashaling	Cha-5-29	93
58	Rinzin Wangmo	10605001022	Khashaling	Cha-5-26	97
59	Sonam Zangpo	10605002097	Pangsar	Cha-5-398	475/31
60	Pema Lhamo	10605003083	Tangmachu	Cha-5-407	273

27.2 CF Boundary GPS Coordinates

Way Points	Latitude	Longitude
Takila	27.601701N	91.177697E
Pachola	27.611471N	91.173786E
Dungtse	27.618292N	91.174005E
Karshong Dong	27.623083N	91.175429E
Zangtorpang	27.626006N	91.179137E
Zarhang	27.628086N	91.182485E
Yumlingchu	27.62497N	91.190269E
Takila-Murmo farm road	27.614757N	91.186358E

27.3 Sample Plot Map Overlaid on Google Map



27.4 Compilation Sheet

27.4.1 Acer species (T-Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden CF			4. Block Area:			267.4 Ha		
2. Block Name :			5. Compiling date:			28/11/2022		
3. No of plots : 56			6. Species group:			Acer		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.113	0.05	0.29		0	0.000	0.00
20-29	0.047	0.334	0.05	0.29		0	0.000	0.00
30-39	0.093	0.691	0.05	0.29	1	0.29	0.027	0.20
40-49	0.156	1.199	0.05	0.29		0	0.000	0.00
50-59	0.233	1.839	0.05	0.29		0	0.000	0.00
60-69	0.327	2.642	0.05	0.29		0	0.000	0.00
70-79	0.436	3.605	0.05	0.29		0	0.000	0.00
80-89	0.561	4.733	0.05	0.29		0	0.000	0.00

27.4.2 Persea spp (T-Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden CF			4. Block Area:			267.4 Ha		
2. Block Name :			5. Compiling date:			28/11/2022		
3. No of plots : 56			6. Species group:			Persea		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.086	0.05	0.29		0.00	0.00	0.00
20-29	0.047	0.295	0.05	0.29		0.00	0.00	0.00
30-39	0.093	0.673	0.05	0.29	4	1.18	0.11	0.79
40-49	0.156	1.250	0.05	0.29	2	0.59	0.09	0.74
50-59	0.233	2.051	0.05	0.29	2	0.59	0.14	1.21
60-69	0.327	3.099	0.05	0.29		0.00	0.00	0.00
70-79	0.436	4.414	0.05	0.29		0.00	0.00	0.00
80-89	0.561	6.016	0.05	0.29		0.00	0.00	0.00

27.4.3 Betula (T-Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden			4. Block Area:			267.4 Ha		
2. Block Name :			5. Compiling date:			28/11/2022		
3. No of plots : 56			6. Species group:			Betula		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.096	0.05	0.29		0.00	0.00	0.00
20-29	0.047	0.335	0.05	0.29	1	0.29	0.01	0.10
30-39	0.093	0.773	0.05	0.29		0.00	0.00	0.00
40-49	0.156	1.449	0.05	0.29		0.00	0.00	0.00
50-59	0.233	2.396	0.05	0.29	1	0.29	0.07	0.70
60-69	0.327	3.643	0.05	0.29		0.00	0.00	0.00
70-79	0.436	5.218	0.05	0.29		0.00	0.00	0.00
80-89	0.561	7.145	0.05	0.29		0.00	0.00	0.00
90-99	0.701	9.448	0.05	0.29		0.00	0.00	0.00

27.4.4 Other Broadleaved (T-Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden			4. Block Area:			267.4 Ha		
2. Block Name :			5. Compiling date:			28/11/2022		
3. No of plots : 56			6. Species group:			Other Broadleaf		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.073	0.05	0.29		0.00	0.00	0.00
20-29	0.047	0.265	0.05	0.29		0.00	0.00	0.00
30-39	0.093	0.628	0.05	0.29		0.00	0.00	0.00
40-49	0.156	1.202	0.05	0.29		0.00	0.00	0.00
50-59	0.233	2.021	0.05	0.29	2	0.59	0.14	1.19
60-69	0.327	3.116	0.05	0.29		0.00	0.00	0.00
70-79	0.436	4.518	0.05	0.29		0.00	0.00	0.00
80-89	0.561	6.252	0.05	0.29		0.00	0.00	0.00

27.4.5 Acer (N – Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden			4. Block Area:			267.4 Ha		
2. Block Name :			5. Compiling date:			28/11/2022		
3. No of plots : 56			6. Species group:			Acer		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.113	0.05	0.29	2	0.58	0.01	0.07
20-29	0.047	0.334	0.05	0.29	2	0.58	0.03	0.19
30-39	0.093	0.691	0.05	0.29	1	0.29	0.03	0.20
40-49	0.156	1.199	0.05	0.29		0.00	0.00	0.00
50-59	0.233	1.839	0.05	0.29		0.00	0.00	0.00
60-69	0.327	2.642	0.05	0.29		0.00	0.00	0.00
70-79	0.436	3.605	0.05	0.29		0.00	0.00	0.00
80-89	0.561	4.733	0.05	0.29		0.00	0.00	0.00
90-99	0.701	6.026	0.05	0.29		0.00	0.00	0.00

27.4.6 Betula (N-Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden			4. Block Area:			267.4 Ha		
2. Block Name :			5. Compiling date:			28/11/2022		
3. No of plots : 56			6. Species group:			Betula		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.096	0.05	0.29		0.00	0.00	0.00
20-29	0.047	0.335	0.05	0.29	1	0.29	0.01	0.10
30-39	0.093	0.773	0.05	0.29		0.00	0.00	0.00
40-49	0.156	1.449	0.05	0.29	1	0.29	0.05	0.43
50-59	0.233	2.396	0.05	0.29		0.00	0.00	0.00
60-69	0.327	3.643	0.05	0.29		0.00	0.00	0.00
70-79	0.436	5.218	0.05	0.29		0.00	0.00	0.00
80-89	0.561	7.145	0.05	0.29		0.00	0.00	0.00
90-99	0.701	9.448	0.05	0.29		0.00	0.00	0.00

27.4.7 Persea (N-Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden			4. Block Area			267.4 Ha		
2. Block Name :			5. Compiling date			28/11/2022		
3. No of plots : 56			6. Species group			Persea		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.086	0.05	0.29	3	0.88	0.02	0.08
20-29	0.047	0.295	0.05	0.29	4	1.18	0.06	0.35
30-39	0.093	0.673	0.05	0.29	7	2.06	0.19	1.39
40-49	0.156	1.250	0.05	0.29	1	0.29	0.05	0.37
50-59	0.233	2.051	0.05	0.29	2	0.59	0.14	1.21
60-69	0.327	3.099	0.05	0.29		0.00	0.00	0.00
70-79	0.436	4.414	0.05	0.29		0.00	0.00	0.00
80-89	0.561	6.016	0.05	0.29		0.00	0.00	0.00
90-99	0.701	7.921	0.05	0.29		0.00	0.00	0.00

27.4.8 Oak (N-Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden			4. Block Area			267.4 Ha		
2. Block Name :			5. Compiling date			28/11/2022		
3. No of plots : 56			6. Species group			Oak		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.089	0.05	0.29	48	14.12	0.24	1.25
20-29	0.047	0.310	0.05	0.29	52	15.29	0.72	4.74
30-39	0.093	0.718	0.05	0.29	67	19.71	1.83	14.15
40-49	0.156	1.349	0.05	0.29	53	15.59	2.43	21.02
50-59	0.233	2.234	0.05	0.29	29	8.53	1.99	19.05
60-69	0.327	3.402	0.05	0.29	11	3.24	1.06	11.00
70-79	0.436	4.878	0.05	0.29	7	2.06	0.90	10.04
80-89	0.561	6.687	0.05	0.29		0.00	0.00	0.00
90-99	0.701	8.851	0.05	0.29	1	0.29	0.21	2.60

27.4.9 Other Broad-leaved (N-Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden			4. Block Area			267.4 Ha		
2. Block Name :			5. Compiling date			05-03-2022		
3. No of plots : 56			6. Species group			Other Broadleaf		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.073	0.05	0.29	31	9.12	0.16	0.66
20-29	0.047	0.265	0.05	0.29	39	11.47	0.54	3.03
30-39	0.093	0.628	0.05	0.29	42	12.35	1.15	7.75
40-49	0.156	1.202	0.05	0.29	17	5.00	0.78	6.01
50-59	0.233	2.021	0.05	0.29	3	0.88	0.21	1.78
60-69	0.327	3.116	0.05	0.29	1	0.29	0.10	0.92
70-79	0.436	4.518	0.05	0.29	1	0.29	0.13	1.33
80-89	0.561	6.252	0.05	0.29	5	1.47	0.83	9.19
90-99	0.701	8.346	0.05	0.29		0.00	0.00	0.00

27.4.10 Michelia spp (N-Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden			4. Block Area			267.4 Ha		
2. Block Name :			5. Compiling date			05-03-2022		
3. No of plots : 56			6. Species group			Michelia		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.086	0.05	0.29		0.00	0.00	0.00
20-29	0.047	0.297	0.05	0.29	1	0.29	0.01	0.09
30-39	0.093	0.678	0.05	0.29		0.00	0.00	0.00
40-49	0.156	1.259	0.05	0.29		0.00	0.00	0.00
50-59	0.233	2.065	0.05	0.29		0.00	0.00	0.00
60-69	0.327	3.121	0.05	0.29		0.00	0.00	0.00
70-79	0.436	4.447	0.05	0.29		0.00	0.00	0.00
80-89	0.561	6.061	0.05	0.29		0.00	0.00	0.00
90-99	0.701	7.983	0.05	0.29		0.00	0.00	0.00

27.4.11 Schima spp (N-Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden			4. Block Area			267.4 Ha		
2. Block Name :			5. Compiling date			28/11/2022		
3. No of plots : 56			6. Species group			Schima		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.089	0.05	0.29	5	1.47	0.03	0.13
20-29	0.047	0.319	0.05	0.29	1	0.29	0.01	0.09
30-39	0.093	0.750	0.05	0.29	4	1.18	0.11	0.88
40-49	0.156	1.425	0.05	0.29	2	0.59	0.09	0.84
50-59	0.233	2.381	0.05	0.29	1	0.29	0.07	0.70
60-69	0.327	3.653	0.05	0.29		0.00	0.00	0.00
70-79	0.436	5.273	0.05	0.29		0.00	0.00	0.00
80-89	0.561	7.270	0.05	0.29	1	0.29	0.17	2.14
90-99	0.701	6.671	0.05	0.29		0.00	0.00	0.00

27.4.12 Rhododendron (N-Trees)

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name : Kharshong Norden			4. Block Area			267.4 Ha		
2. Block Name :			5. Compiling date			28/11/2022		
3. No of plots : 56			6. Species group			Rhododendron		
col1	col2	col3	col4	col5	col6	col7	col8	col9
		(3 decimals)	(3 decimals)	(3 decimals)	(0 decimals)	(2 decimals)	(2 decimals)	(2 decimals)
dbh class (cm)	class basal area (m2)	class volume (m3)	plot size (ha)	expansion factor	tally	nrha (stems/ha)	basha (m2/ha)	volha (m3/ha)
10-19	0.017	0.075	0.05	0.29	5	1.47	0.03	0.11
20-29	0.047	0.255	0.05	0.29	2	0.59	0.03	0.15
30-39	0.093	0.579	0.05	0.29		0.00	0.00	0.00
40-49	0.156	1.072	0.05	0.29		0.00	0.00	0.00
50-59	0.233	1.785	0.05	0.29		0.00	0.00	0.00
60-69	0.327	2.633	0.05	0.29		0.00	0.00	0.00
70-79	0.436	3.763	0.05	0.29		0.00	0.00	0.00
80-89	0.561	5.120	0.05	0.29		0.00	0.00	0.00
90-99	0.701	6.731	0.05	0.29		0.00	0.00	0.00

27.5 Stand & Stock Table

27.5.1 Sheet 1 – Number of Trees (T – Trees)

STAND & STOCK TABLE SHEET 1 - NUMBER OF TREES												
1. Name of CF : Kharshong Norden 2. Species Group : 3. No of Plots : 56 4. Block Name 5. estimated parameter : Average Number of Trees per Ha												
<i>Dbh class (cm)</i>												
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	total	%
Total conifer												
Acer sp			0.29								0.29	7.59%
Betula sp		0.29			0.29						0.58	15.18%
Persea			1.18	0.59	0.59						2.36	61.78%
Other Broadleaf					0.59						0.59	15.45%
total broadleaf		0.29	1.47	0.59	1.47						3.82	100.00%
total all species		0.29	1.47	0.59	1.47						3.82	100.00%
%		0.08	0.38	0.15	0.38						100.00%	

27.5.2 Sheet 2 – Basal Area (T-Trees)

STAND & STOCK TABLE SHEET 2 - BASAL AREA												
1. Name of CF		Kharshong Norden										
2. Species Group												
3. No of plots		56										
3. Name of Block												
4. estimated parameter		: Average Basal Area per Ha (m2/ha)										
Dbh class (cm)												
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	total	%
Total conifer												
Acer spp			0.027								0.03	4.60%
Betula spp		0.01			0.07						0.08	13.63%
Persea spp			0.11	0.09	0.14						0.34	57.92%
Other Broadleaf					0.14						0.14	23.85%
total broadleaf		0.01	0.14	0.09	0.35						0.59	100.00%
total all species		0.01	0.14	0.09	0.35						0.59	100.00%
%		0.02	0.23	0.15	0.60						100.00%	

27.5.3 Sheet 3 – Volume (T-Trees)

STAND & STOCK TABLE SHEET 3 - VOLUME												
1. Name of CF		Kharshong Norden										
2. Species Group		Broadleaf										
3. No of plots		56										
3. Name of Block												
4. estimated parameter		: Average Volume per Ha (m3/ha)										(report all values to 2 decimals)
Dbh class (cm)												
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	total	%
total conifer												
Acer spp			0.2								0.20	4.06%
Betula spp		0.1			0.7						0.80	16.23%
Persea spp			0.79	0.74	1.21						2.74	55.58%
Other Broadleaf					1.19						1.19	24.14%
total broadleaf		0.10	0.99	0.74	3.10						4.93	100.00%
total all species		0.10	0.99	0.74	3.10						4.93	100.00%
%		0.02	0.20	0.15	0.63						100.00%	

27.5.4 Sheet 1 - Number of Trees (N Trees)

STAND & STOCK TABLE SHEET 1 - NUMBER OF TREES													
1. Name of CF		: Kharshong Norden											
2. Species Group		: Broadleaf											
3. No of Plots		: 56											
4. Block Name		: Kharshong											
5. estimated parameter		: Average Number of Trees per Ha										(report all values to 2 decimals)	
Dbh class (cm)													
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	total	%	
Total conifer													
Acer spp	0.58	0.58	0.29								1.45	1.09%	
Betula spp		0.29		0.29							0.58	0.44%	
Persea spp	0.88	1.18	2.06	0.29	0.59						5.00	3.75%	
Oak	14.12	15.29	19.71	15.59	8.53	3.24	2.06		0.29		78.83	59.19%	
Michelia spp		0.29									0.29	0.22%	
Other Broadleaf	9.12	11.47	12.35	5.00	0.88	0.29	0.29	1.47			40.87	30.69%	
Schima spp	1.47	0.29	1.18	0.59	0.29			0.29			4.11	3.09%	
Rhododendron	1.47	0.59									2.06	1.55%	
total broadleaf	27.64	29.98	35.59	21.76	10.29	3.53	2.35	1.76	0.29		133.19	100.00%	
total all species	27.64	29.98	35.59	21.76	10.29	3.53	2.35	1.76	0.29		133.19	100.00%	
%	0.21	0.23	0.27	0.16	0.08	0.03	0.02	0.01	0.00		100.00%		

27.5.5 Sheet 2 – Basal Area (N-Trees)

STAND & STOCK TABLE SHEET 2 - BASAL AREA													
1. Name of CF		: Kharshong Norden CF											
2. Species Group		: Broadleaf											
3. No of plots		: 56											
3. Name of Block													
4. estimated parameter		: Average Basal Area per Ha (m2/ha)										(report all values to 2 decimals)	
Dbh class (cm)													
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	total	%	
Total conifer													
Acer spp	0.01	0.03	0.03								0.07	0.49%	
Betula spp		0.01		0.05							0.06	0.42%	
Persea spp	0.02	0.06	0.19	0.05	0.14						0.46	3.19%	
Oak	0.24	0.72	1.83	2.43	1.99	1.06	0.9		0.21		9.38	65.05%	
Michelia spp		0.01									0.01	0.07%	
Other Broadleaf	0.16	0.54	1.15	0.78	0.21	0.1	0.13	0.83			3.90	27.05%	
Schima spp	0.03	0.01	0.11	0.09	0.07			0.17			0.48	3.33%	
Rhododendron	0.03	0.03									0.06	0.42%	
total broadleaf	0.49	1.41	3.31	3.40	2.41	1.16	1.03	1.00	0.21		14.42	100.00%	
total all species	0.49	1.41	3.31	3.40	2.41	1.16	1.03	1.00	0.21		14.42	100.00%	
%	0.03	0.10	0.23	0.24	0.17	0.08	0.07	0.07	0.01		100.00%		

27.5.6 Sheet 6 – Voume (N-Trees)

STAND & STOCK TABLE SHEET 3 - VOLUME													
1. Name of CF		: Tadongchen											
2. Species Group		: Broadleaf											
3. No of plots		: 68											
3. Name of Block		:											
4. estimated parameter		: Average Volume per Ha (m3/ha)										(report all values to 2 decimals)	
Dbh class (cm)													
Species group	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	total	%	
total conifer													
Acer spp	0.07	0.19	0.2								0.46	0.43%	
Betula spp		0.1		0.43							0.53	0.50%	
Persea spp	0.08	0.35	1.39	0.37	1.21						3.40	3.21%	
Oak	1.25	4.74	14.15	21.02	1.06	11	10.04		2.6		65.86	62.10%	
Michelia spp		0.09									0.09	0.08%	
Other Broadleaf	0.66	3.03	7.75	6.01	1.78	0.92	1.33	9.19			30.67	28.92%	
Schima spp	0.13	0.09	0.88	0.84	0.7			2.14			4.78	4.51%	
Rhododendron	0.11	0.15									0.26	0.25%	
total broadleaf	2.30	8.74	24.37	28.67	4.75	11.92	11.37	11.33	2.60		106.05	100.00%	
total all species	2.30	8.74	24.37	28.67	4.75	11.92	11.37	11.33	2.60		106.05	100.00%	
%	0.02	0.08	0.23	0.27	0.04	0.11	0.11	0.11	0.02		100.00%		