

Community Forest Management Plan
**Tshagphu Tag Tshey Tse Community
Forest**
(1st Revision)



**Khasadrapchu Chewog, Mewang Gewog
Thimphu Dzongkhag**

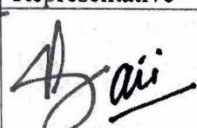
**Under
Khasadrapchu Forest Range Office**

Plan Period: 2023- 2033

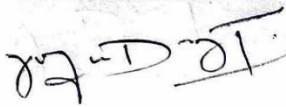
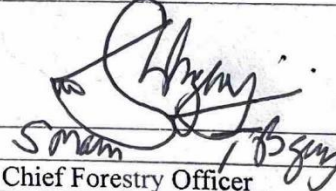
AANX 3: APPROVAL SHEET

Name of the Community Forest	Tshagphu Tag Tshey Tse
Villages	Tshagphu, Sigay and Khasdrapchu
Chewog	Khasadrachpu
Gewog	Mewang
Dzongkhag	Thimphu
Production area in Ha/ Acres	144 Ha / 355.82 Acres
Protection area in Ha/Acres	6 Ha / 14.83 Acres
Total Community Forest Area in Ha/Acres	150 ha. / 370.65 acres
Total CFMG members (Number of households)	50 households

Prepared and submitted for Approval

	Community Forest management group	Forestry Representative	Gewog Administration	Division Office
Signature				
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Reviewed and Recommended for Approval

Signature		
Name		
Title	Focal Officer	Chief Forestry Officer
Division	Forestry 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

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ABBREVIATIONS

AAC	Annual Allowable Cut
AHL	Annual Harvesting Limit
AWP	Annual Work Plan
BA	Basal Area
CF	Community Forest
CFMG	Community Forest Management Group
CFMC	Community Forest Management Committee
CFMP	Community Forest Management Plan
CFO	Chief Forestry Officer
cft	Cubic feet
DBH	Diameter at Breast Height
DoFPS	Department of Forests and Park Services
DT	Dzongkhag Tshogdu
FMU	Forest Management Unit
FNCA	Forest and Nature Conservation Act, 1995
FNCRR	Forest and Nature Conservation Rules & Regulations, 2017
FYP	Five Year Plan
GPS	Global Positioning System
GT	Geog Tshogde
Ha	Hectare
MoENR	Ministry of Energy and Natural Resources
M ³	Cubic meter
Nu	Ngultrum
NWFP	Non-Wood Forest Produce
OP	Operational Plan
PFMP	Participatory Forest Management Project
PRA	Participatory Rural Appraisal
RGoB	Royal Government of Bhutan
FRPMD	Forest Resources planning and Management Division
SRF	State Reserved Forest
FRPIS	Forest Resources planning and Implementation Section
BNB	Bhutan National Bank
RWSS	Rural Water scheme
T trees	Timber trees
N trees	Non timbers trees

PART A: Forest Management

Summary

Tshagphu Tag Tshey Tse Community Forest is located above Tshagphu village, under Mewang Gewog, which falls under the administrative jurisdiction of Thimphu Dzongkhg. The community forest first established in 2012 with 46 household as the community forest member. The Community Forest Management Group (CFMG) consists of 50 at present with few new members' households from Tshagphu, Sigay and Khasadrapchu villages. The said community forest covers an area of 150`hectares. The altitude ranges from 2350m to 3293m above sea level. The local inhabitants use fencing posts, fuel wood, leaf litter, flagpoles and timbers for construction and rural uses.

The community had submitted the application in 2012, Government has approved the community forest, they have successfully completed the first ten years of management plan, and they want to continue the community with few new members and some as resign from member due to their personal reason. The community want to continue the CF so the CF management plan has been reviewed as per the FNCR 2017. With the support from the Gewog Administration and the Khasadrapchu Range Office. The first 10 years of management plan has been successfully completed and the CFMG, want to continue again with more CF members joining and they want to extend the community forest area towards upper site. The Community Forest contains of mixed conifer with upper parts of are dominated by spruce forest and lower with blue pine forest. With the increasing population and fast economic growth, the CF area was pressurized with heavy demand for the forest produce ranging from firewood and fencing posts and more on constructional timbers. The CFMG members intend to protect and manage the forest through the following main management objectives:

- I. To harvest and utilize the forest resources on a sustainable manner***
- II. To restrict outsiders from harvesting any forest resources illegally and in an unhealthy manner.***
- III. To protect the existing only water sources.***
- IV. To distribute and use the resources among the CFMG members equally.***
- V. To protect and safeguard the forest from fire and to prevent landslides.***
- VI. In long run to generate some income.***

There are about ten species of plants in the community forest that includes, Spruce, Blue pine, Oak (Jeshing and Sisi shing), hemlock *Populas*, *Rhododendron*, etc. In addition, the area has about seven species of birds, nine kinds of animals and five types of edible mushrooms. The overall canopy of the community forest is less than 70 percentage. Thinning, cleaning, harvest the trees as per the annual harvest limit, retention of seed trees is among the important and common activities envisaged in the management plan. No area is degraded as such the area has the potential for the natural regeneration as per the regeneration-collected report during inventory. The blue pine stand is likely to dominate in future looking at the natural regeneration of blue pine saplings in CF area.

The CF has recorded an average basal area of 15.89 m²/ha, trees for Tshagphu CF indicating that the forest has the potential to supply timber for the CFMG. Based on compilation of the quantitative resource assessment conducted from 80-sample plots, the community forest in 10 years plan period can annually harvest Drashing 58 nos Cham 94 nos. Tshim 290 nos. and Dangchung 185 nos. (AAC of T trees is 190.31 m³ and N trees is 104.75m³). The firewood, which will be adjusted from Drashing and Cham, sized N trees. Fencing post can be use from Tshim size trees. Flagpoles for dead case can be adjusted from Dangchung size. The harvesting of trees from CF can be adapted to single tree selection sivilcultural system with technical guidelines and support from Division Office.

While analyzing the annual demand and the annual harvest limit on varied produce, there is no shortage of timber from the CF area as per the annual demand of CFMG. The requirement of fuel wood, fencing post can easily be met form the N-quality of Chams and Drashing and from Tshim. In addition, the branches would complement the fuel wood as the result of annual cleaning, de branching and thinning activities. As per the data and management, plan CFMG members may be able to sell the constructional timbers if the demand is less by CFMG. The young and uniform blue pine stand indicates for better flow of timber for the CFMG in the near future.

Problems and opportunities

There are no significant problems as such discussed briefly above regarding the annual flow of the required forest produces for the community and annual demand, however if the need is genuine the addition timber can be issue from stare reserve forest as per the FNCR 2017. It felt very important still to need supports from the Territorial Division on monitoring and evaluation aspects of the Community Forest until they are confident to handle themselves through experiences. One problem is many blue pines are drying every year. Therefore, if this continues there is chances of timber and other forest produces shortage may occur as times goes.

Part A: Management Plan

1. Introduction

The Tshagphu Tag Tshey Tshe community forest was established in 2012 with the support from the Department of Forest and Park Service. The first plan has been successfully completed and the community member wants to renew CF plan as per the Government rules. The community forest is located above Tshagphu village. With the changing time and rapid socio-economic development and the population growth in the community, the forest resources are depleted annually. The people irrespective of the nature of residence used the forest resources in the nearby forest area. Owing to the increasing pressure over the forest resources in the nearby State Reserve Forest (SRF), the community felt the need to adopt certain strategies to protect and use the resources on a sustainable basis. This is how the community collectively came forward to establish the community forest 10 years ago in 2012 with 46 households as member. The first 10 years of the CF management plan has been completed successfully. Therefore, the community wants to continue their CF with new members joining with area extension as per the FNCR 2017.

The main objectives to establish and to continue community forest are as follows,

- 1 To harvest and utilize the forest resources on a sustainable manner
- 2 To restrict outsiders from harvesting any forest resources illegally and in an unhealthy manner.
- 3 To protect the existing only water sources.
- 4 To distribute and use the resources among the CFMG members equally.
- 5 To protect and safeguard the forest from fire and to prevent landslides.
- 6 In long run to generate some income

1.1 Review of the past management plan

- a) The CFMG have used the forest resources sustainable, as they have used much less forest produce and save for future as per the 10 years record.
- b) In 10 years, there is no single fire outbreak in CF area as CFMG has taken care of forest fire.
- c) They have protected the outsider from illegal activities in CF areas, as there is not even single record of it.
- d) They have use and distribute the forest produce base on need and requirement on sustainable.
- e) In 10 years CF members has constructed 7 new houses, 9 house renovated and 5 new cowsheds has been built. Total of 75 nos. of Drashing in standing form and 14,469 cfts in log form and 323 nos. Chams, 137 nos. Tshims and 10 nos. Dangchung have been issued for CF members in 10 years. 950 backloads, 3 truckloads and 7 nos. of trees has been marked for firewood in 10 years. 600 nos. of fencing posts have been issues for CF members. 517 nos. of flagpoles have been issued to CF members in last 10 years.
- f) The forest condition has improved as lots of natural regeneration taken place due to less human interference.
- g) In 10 years the CF member has use less forest produce than what was reflected annual demand in the community forest management plan.

- h) They have managed to have community saving which will be useful in future and in times of need, at present they have Nu. 36,952/- in community saving which was collected as permit fee, members fee and some fines collected from CF members.

1.2 Constraints in 10 years of CF

- a) The CF management face problem in electing CFMC as there is very few people who know how to read and write so major problem was face in record keeping of the CF.
- b) They could not sell any forest produces as there is shortage of timber to sell, whatever they have, they save timber for future generation as their CF don't have much mature trees to convert timber.
- c) There is some problem cooperation among the CFMG but was not a big issue.

1.3 Some of the lesson learned in 10 years by CFMG

- a) There are many advantages after establishing CF in their village, as they save time to get permit for forest resources.
- b) Their forest has been protected from outsider so that their environment has been protected and conserve for future generation.
- c) The CFMG has more ownership and power to protect and conserve their local forest resources (empowerment).

The management plan of Tshagphu Tag Tshey Tse Community Forests has been prepared for the period of ten years. The community forest has kept as one block. The plan consists of two parts namely management objectives, annual activities/work plans, and the By-laws. There are no NWFP that requires management plan except negligible quantity of edible mushrooms. The activities shall be implemented by the CFMG under the wise supervision and guidance from the CFMG Committee supported by the relevant Governmental agencies.

2. Traditional Rights and Responsibilities

There were no significant traditional management systems in the past. The area has been used by local inhabitants as well as the outsiders. The area is the common source of forest produce for every village of the Gewog. As such, the area faced tremendous pressure in the recent years due to population growth vis-à-vis fragmentation of land holdings and constructional purposes.

Produce/Service	Rights	Responsibilities	Traditional Management System
Constructional Timbers	Any individual from within the local community and from other villages and Gewogs holding the valid forest permits can harvest the timbers from the area.	The issuance of forestry permits vis-à-vis monitoring and the territorial division does evaluation.	Only the local residents were allowed to collect the timbers from the area before 1997.

Fuel wood	Only the local inhabitants are allowed to collect the fuel wood from the area.	-DO-	No traditional management system existed.
Leaf litter	Outsiders and the local inhabitants have the rights to collect.	No forestry permits required.	-DO-
Mushrooms	-DO-	-DO-	-DO-
Grazing	No restriction over the use of the area as the grazing land.	-DO-	-DO-

3. Community Forest Boundary

Total community forestry area 150 ha

Boundaries	Describe the permanent features
West	Tshagphu village
East	Tshagtshey Gu
South	Tsho Zow CF boundary with Khasakha CF
North	Damrugonpa area

4. Planning Process

The first 10 years has been completed successfully with not much big problem. The review of CF has been done and the CF member wants to continue CF with more new members joining.

Sl.No.	Activity	Duration	Remarks
1	Coordination meeting with CFMG whether they want to continues the CF	2 days	
2	Review of the past 10 years	1 Day	Conducted at Sigay village
3	Boundary survey	1 Day	.
4	Forest resources inventory in the CF areas	3 Days	
5	Data compilation and analysis	2 days	
6	CF management planning	5 Days	
7	Plan writing	1 week	
6	Presentation of the plan and discussion	1 day	Submit to DoFPS

The first 10 years of community, forest has been successfully completed and the CF member wants to continue so is the review of the past CF plan. Now due to increase in the CF member and the changes in CF rules area, the CF member want to extend their CF area.

5. Social Information

	Description
Name of the villages	Tshagphu, Sigay and Khasadrapchu
Ethnic groups with CFMG	Ngalong, Shachop Lhotshampa

Basic amenities	2 Small community lhakhang, irrigation water, drinking water, farm road, electricity, TV cables services, phone networks,
Total household number of CFMG	50 as CFMG, but there are few who didn't join because of some problem
Population of CFMG	209
% of male and % female	35% male, 65% female
Main sources of income	Apple, rice, vegetable, off farm activities
Cattle population of the CF area	32 nos.
Main crop	Paddy
Cropping pattern	Single

All the 50 households in villages are the members of the Community Forest. Their livelihoods mainly depend on Agriculture Farming and off farm activities. Some CF members work in Government and some run private business.

The community has access to services from RNR, Forest Range Office, schools, telecommunications, health and RWSS. Unlike in the past, the community has easy access to the Gewog Administration and Dzongkhag headquarter.

Table 1: Seasonal Calendar

Products	Spring (Sokha)	Summer (Bjar)	Autumn (Sekha)	Winter (Guen)
Timber	XX (M)		XX(M)	XXX(M)
Fuel wood	X (M/F)		XX (M/F)	XXX (M/F)
Leaf litter			X (M/F)	XXXXX (F)
Fencing posts	X (M)			XXX(M/F)
Mushrooms		XXX (F/M)	XXX (F/M)	
Flag poles	X(M/F)	X(M/F)	X(M/F)	X(M/F)

Seasonal Calendar depicts the collection time of the forest products by the CFMG. It defines the community involved in forest product collection at definite seasons as describe in the above-cited tabular form. For dead case flag poles there no season.

6. Forest Information

The forest has been using by them for many generations and whatever forest resources available they use so far. At present, they do not have enough forest resources, as the forest condition is poor. The community forest area is kept, as single block as the forest condition and type is same. This forest area consists of uniform stand with pure blue pine forest. The CF area is facing south mostly so the overall condition of forest is poor due to dryness of the place; there are no single water sources in the CF area. The CFMG do not have to take up the plantations but they have to do other annual activities like cleaning, thinning and harvesting of the resources as per the annual harvest limit. The CF area has many stone and boulders, which can be used by the CFMG for domestic purpose however they are not allow for commercial purpose as per the rules.

Forest information whole CF area

6.1 Forest and Habitat type

Forest	35 %	Mature forest can be used as timber
Thicket /pole stages	45%	Flag poles, fencing posts and Tshim for construction
Bushes with dwarf trees	20%	Fencing posts and firewood

6.2 Main timber species in local name

Local name	Common name	Semitic name
Tongphu	Blue pine	Pinus wallichii
Bashing	Spruce	Picea spinulosa

6.3 Forest age in CF area

Mature	40 % trees are mature	
Pole stage	40 % of trees are pole stage	
Bushes with dwarf blue pine	20 % of the trees	

6.4 Canopy density of CF forest area

Dense	60 %	
Open	30 %	
Very open	10%	

6.5 Regeneration condition in CF area

Abundant	60 %	
Scattered	45%	
Non	5 %	
Three main tree species in regeneration	Blue pine, oak and spruce	

6.5 Density of seed trees in CF area

High	>50 seed trees per Ha.	Half of CF area fall in high
Moderate	10 -50 seed trees per Ha.	Half of CF area in the moderate
Low	< 10 seed trees per Ha.	

6.6 Overall forest condition of community forest

Poor	
Moderate	20 % of CF forest condition falls in moderate condition
Good	50 % of CF forest condition falls in moderate condition
Very good	30 % of CF forest condition falls in very good condition

6.7 Grazing and fodder in CF area.

Natural	100 %	Grazing are natural and predominantly by forest, there is no fodder trees as such in CF area, cattle graze on natural grasses and plants
Man –made		
Mixture		
Predominantly forest		

6.8 Grazing use pattern in CF area

Seasonal	
All years	There is very less grazing pressure in CF area, in upper part there is seasonal grazing by highlander.

6.9 Types of user

Migratory	In winter some high lander cattle graze at upper part of CF area
Local	Local cattle use for grazing only
Both	

6.10 Catchment condition in CF area less critical

Soil cover in the CF area		
High	>50 % of soil are covered by vegetation	CF fall in high soil cover
Moderate	25 -50 % soils are covered by vegetation	
Low	<25% of soils are covered by vegetation	
Soil type in CF area		
Erosive		
Non – erosive stable to water flow	CF soil type fall in non – erosive	
Slope (Degree)		
<10 degree gentle		
10 -30 degree moderate	CF area fall under moderate slope degree	
>30 degree steep		
Catchment condition		
Less critical		
Moderate critical	CF fall in moderate critical as has only water sources for village	
Highly critical		

6.11 Fauna

Local name	Zoological name
Wild pigs	Sus scrofa
Kasha (Barking deer)	Muntiacus muntjak
Show (Samber deer)	Rusa unicolor
Dom (Bear)	Selanarctos thibetanus
Cha kap (Langur)	Semnopithecus
Leko	Lophura leucomelanos

6.12 Biotic pressure in CF area

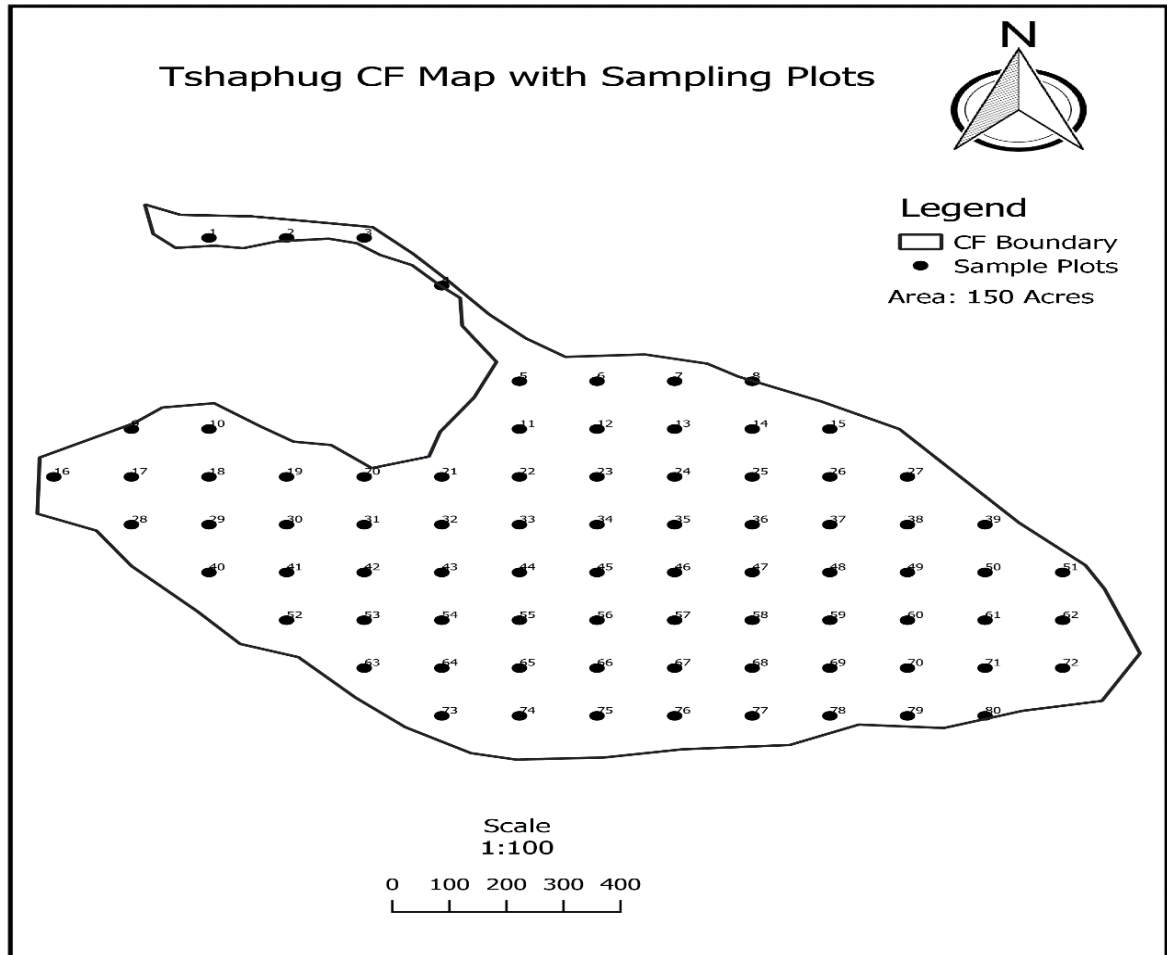
Biotic pressures	Common	Occasional	Absent
Fire			Yes
Fodder collection			Yes

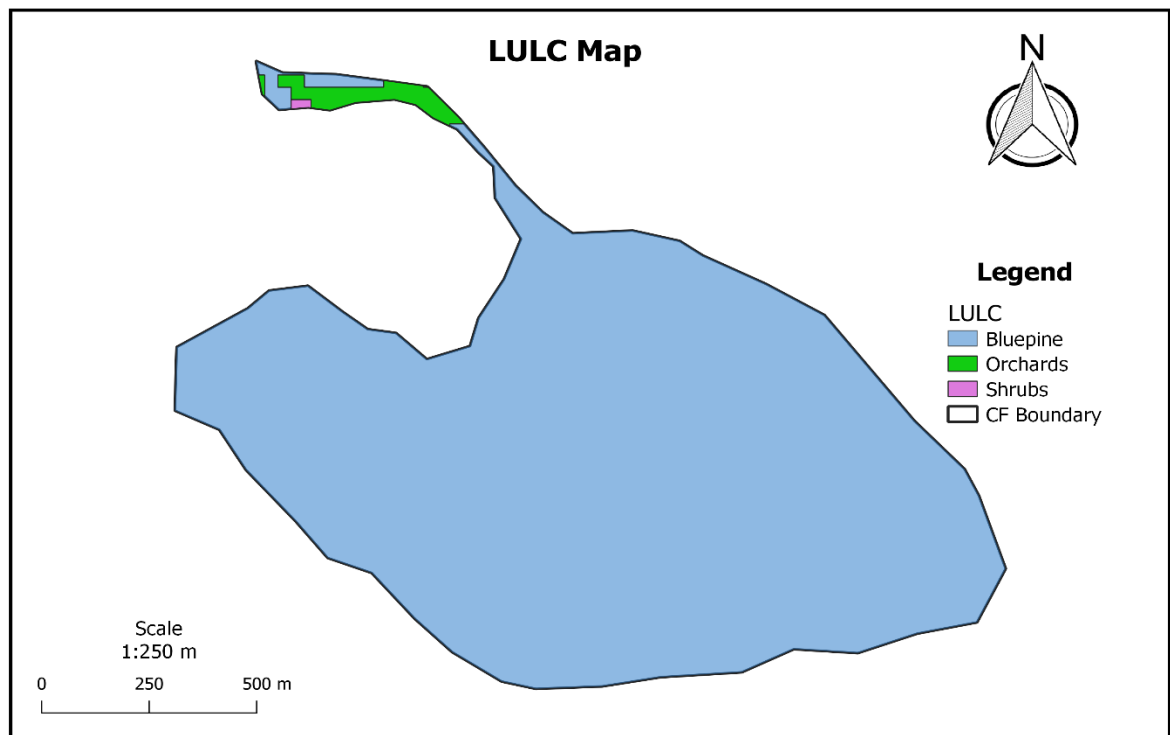
Grazing		Yes	
NWFP Collection		Yes (only mushroom)	
Pole harvesting	Yes		
Fuel wood harvesting	Yes		
Timber harvesting	Yes		
Encroachment		Yes in few pockets	
Hunting		Yes few traps for Leko	

6.13 List of forest products and who collects

List of products and services	Who collects from forest		Mark (X) if used or collected by outsider (out of CFMG) and mention which village
	Male (M)	Female (F)	
Timber	Male		X
Fencing posts	Male	Female	X
Firewood	M	F	X
Flag poles	M	F	X
Leaf litters	M	F	X
Leaf mold	M	F	X
Mushroom	M	F	X

6.14 Tshagphu Tag Tshey Tse Community Forest Map





Land use map of Tshagphu Tag Tshey Tse community forest.

6.15 Main species present

Local name	Botanical name
Tongphu	<i>Pinus wallichina</i>
Bashing	<i>Picea spinulosa</i>
Jee-shing	<i>Quercus semecarpifolia</i>
Sisi shing	<i>Quercus griffithii</i>
Ka-shing	<i>Populous</i> spp.

7. Forest Management

7.1 Overall CF Forest management objective

The overall management objectives for the community forest have been defined by the CFMG has highlighted below:

- 1 To harvest and utilize the forest resources on a sustainable manner
Since the demand for forest resources increases due to increase in population, they want to use the forest resources on sustainable manner by proper scientific management with proper management plan.
- 2 To restrict outsiders from harvesting any forest resources and other like boulders illegally in an unhealthy manner.
- 3 To distribute and use the resources among the CFMG members equally as and when they require. They want to utilize the forest resources base on management plan equally among CF members as and when they require base on need basis.
- 4 To protect and safeguard the forest from fire. The CF member want to protect their forest from forest fire as their CF area lies in fire risky areas.

7.2 Total Annual harvesting limit whole CF area

Annual Harvesting limits for Tshagphu Tag Tshey Tse Community Forest

Name of CF	Tshagphu Taag Tshey Tse		CF area - 150 ha (370.65 acres)		Harvestable area - 144 ha (355.82 acres)
Total sample plots	80 nos.		Area of 1 sample plot - 0.05 ha (0.12 acre)		Total area of sample plots – 4 ha (9.89 acres)
	Danchung (10 – 19 cm)	Tshim (20 -29 cm)	Cham (30 -39cm)	Drashing (40 cm +)	Total
AAC of T trees in Nos.	185 nos.	290 nos.	94 nos.	58 nos.	627 nos.
AAC of T trees in m3	9.22 m3	27.51 m3	37.58 m3	116 m3	190.31 m3
AAC of T trees in cfts	325.6 cfts	971.5 cfts	1327.28 cfts	4095.96 cfts	6720.34 cfts
AAC of N trees in No.	186 nos.	171 nos.	56 nos.	28 nos.	441 nos.
AAC of N trees in m3	9.27 m3	17.09 m3	22.39 m3	56 m3	104.75 m3
ACC of N trees in cfts	327.36 cfts	603.63 cfts	790.72 cfts	1977.36 cfts	3699.07 cfts
No. of T trees in the block whole CF area(T)	26640 nos. (46996.4 cfts)	41760 nos. (147412.8cfts)	13536 nos. (191128.32 cfts)	8352 nos. (589818.24 cfts)	90288 nos. (975355.76 cfts)
No. of non - timber trees in the block (N)	26784 nos. (47139.84 cfts)	24624 nos. (86922.72 cfts)	8064 nos. (113863.68 cfts)	4032 nos. (284739.84 cfts)	63504 nos. (532666.08cfts)
Total of all trees in the block (T + N)	53424 nos. (94026.24 cfts)	66384 nos. (234335.52cfts)	21600 nos. (304992 cfts)	12384 nos. (874558.08 cfts)	153792 nos. (1507911.84cfts)
Annual harvesting limit of all trees (T+N)	371 nos. (652.96 cfts)	461 nos. (1627.33 cfts)	150 nos. (2118 cfts)	86 nos. (6073.32 cfts)	1068 nos. (10471.61 cfts)
No. of trees which can be harvested over next 10 years	3710 nos. (6529.6 cfts)	4610 nos. (16273.3 cfts)	1500 nos. (21180 cfts)	860 nos. (60733.2cfts)	10680 nos. (104716.1 cfts)

Conversion factor to converting No. of trees or poles or firewood in CFT. Source. FRDD 2004

Species wise Annual Allowable Cut for Timber species trees

Blue pine	Danchung (10 – 19 cm)	Tshim (20 -29 cm)	Cham (30 -39cm)	Drashing (40 cm +)	Total
ACC of T trees in nos.	160 nos.	260 nos.	80 nos.	13 nos.	513 nos.
AAC of T trees in m3	7.9 m3	25.99 m3	31.99 m3	26 m3	91.88 m3
AAC of T trees in cfts.	281.6 cfts	917.8 cfts	1129.6 cfts	918.06 cfts	3247.06 cfts
.					
Spruce	Danchung (10 – 19 cm)	Tshim (20 -29 cm)	Cham (30 -39cm)	Drashing (40 cm +)	
ACC of T trees in nos.	24 nos.	29 nos.	13 nos.	40 nos.	106 nos.
ACC of T trees in m3	1.19 m3	2.89 m3	5.19 m3	80 m3	892.7m3
ACC of T trees in cfts.	42.24 cfts	102.37 cfts	183..56 cfts	2824.8 cfts	3152.97cfts
Hemlock	Danchung (10 – 19 cm)	Tshim (20 -29 cm)	Cham (30 -39cm)	Drashing (40 cm +)	
ACC of T trees in nos.	1 no.	1 no.	1 no.	4 nos.	7 nos.
ACC of T trees in m3	0.05 m3	0.09 m3	0.39 m3	7.96 m3	8.49 m3
ACC of T trees in cfts.	1.76 cfts	3.53 cfts	14.12 cfts	282.48 cfts	301.89 cfts
Total mix conifer					
AAC of T trees in Nos.	185 nos.	290 nos.	94 nos.	58 nos.	627 nos.
AAC of T trees in m3	9.22 m3	28.99 m3	37.58 m3	116 m3	191.79 m3
AAC of T trees in cfts	325.6 cfts	1023.7 cfts	1327.28cfts	4095.96cfts	6772.26 cfts

This information is added for better understanding by CFMG on timber species as they give more important and more demand to T trees than N trees.

Conversion factor to converting No. of trees or poles or firewood in CFT. Source. FRDD

As per the finding there is no shortage of Timber from CF area as per the annual demand of community forest members, however if natural disaster than may face shortage problem. There are also some trees dyeing due to die back and global warming this may lead to face shortage of timber in future. The annual demand for fencing posts is 150 pieces were Tshim size trees are require for that that will further shortage of Tshim from CF area. Firewood can be met from N trees from the CF. For dead case flagpoles demand cab ne made from Dangchung size trees, as there is no demand for Dangchung for house construction purpose. The shortage of Cham and Drashing has to make from State Forest if felt very necessary in future.

7.3 Problems and opportunities block wise

Block name	Problems	Opportunities	Management objectives	Activities
CF area	There is no as such problem as forest condition is very good however blue pine species started dyeing due to dry back	To generate income by selling the forest produces, if the demand of CFMG is less	<ul style="list-style-type: none"> - Protect from fire - Sustainable harvesting 	<ul style="list-style-type: none"> - Less harvesting - Cleaning require in some area - Thinning in some areas - protection for outsider and illegal activities

7.4 Silviculture options and systems

Block Name	Tshagphu CF			
Utilization	Improvement	Protection	Silviculture system	Comments
Timber	<ul style="list-style-type: none"> - Cleaning - Thinning 	From forest fire	Single tree system	Remove mature and unwanted trees and keep seed trees
Firewood	<ul style="list-style-type: none"> - Remove dead and mail form trees - cleaning 	<ul style="list-style-type: none"> - From forest fire - Do not cut the good quality trees for firewood 	Single tree system	Remove mature, oak, populus trees so that natural regeneration for blue pine can be encourage
Fencing posts	Use the trees which cannot be used for timber purposes	Retain using blue pine	Single trees and in some small group	Use the species which cannot be used for construction, like populus,
Flag poles	Thinning	From forest fire	Single tree and small group feeling	Mostly dangchung size can be used for flag poles

7.5 Forest Product Preference Ranking Matrix

Forest produce	Timber	Fire wood	Fencing Posts	Leaf litters	Grazing	Flag poles	Mushroom	Water
Timber								
Fire wood	Timber							
Fencing Posts	Timber	Fencing posts						
Leaf litters	Timber	Fire wood	Fencing Posts					
Grazing	Timber	Fire Wood	Fencing posts	Grazing				
Flag poles	Timber	Firewood	Fencing posts	Leaf litter	Grazing			
Mushroom	Timber	Firewood	Fencing posts	leaf litters	Grazing	Flag poles		
Water	Water	Water	Water	Water	Water	Water	Water	

The water protection and manage emerged to be the top priority among the forest resources followed by timbers for constructional purposes.

7.6 Forest Product Prioritization Matrix

Uses Species		Timber	Fuel Wood	Leaf Litter	Fencing Posts	Flag poles	Tsim
Blue Pine	Preference	XXX	X	XXX	XX	XX	XXX
	Availability	OO	OOO	OOO	OOO	OOO	OOO
Spruce	Preference	XXX	XX	-	XXX	-	XXX
	Availability	OO	OO	-	OO	OO	O
Oak	Preference	-	XXX	XXX	-	-	-
	Availability	-	OO	O	O	-	-
Populous	Preference	-	X	-	X	-	-
	Availability	OO	O	O	O	O	O
Acer	Preference	-	X	-	X	-	-
	Availability	-	-	O	-	O	-
Hemlock.	Preference	X	XX	-	XX	X	X
	Availability	O	O	-	O	-	-

Note: Preference = X (Highly preferred=XXXXX)
Availability = O (Available abundantly =OOOOO)

The most preferred species is Blue pine and spruce for timber at present is available for self-sufficient quantity at their required size. The most preferred species for firewood is ok but less available at the CF.

8. Forest Product Demand Assessment

The annual forest product demand has been discussed among the beneficiaries of the community forest and drawn the details of requirement as recorded in table below. The requirement indicated is both for new and repair purposes including the requirement for cow shed construction. The demand is calculated based on past 10 year's experiences and requirement among CF members.

Product	Annual requirement (estimate)		Number of HH that require product annually (C)	Total requirement of the product (annually)		Total requirement of produce in 10 years	
	Numbers (A)	Volume in cfts /m3 (B)		Number (AXC)=D	Volume in cfts /m3 (BXC)-E	Numbers (DX10)	Volume in cfts .M3EX10
For New construction							
Drashing	18	8000 cfts	2 households	36	16000 cfts	360	160000 cfts
Cham	80			160		1600	
Tshim	80			160		1600	
Renovation							
Drashing	3	700 cfts	1 household	3	700 cfts	30	7000 cfts
Cham	10			10		100	
Tshim	15			15		150	
Other rural construction							
Drashing	1	200 cfts	1 household	1	200 cfts	10	2000 cfts
Cham	3			3		30	
Tshim	10			10		100	
Fire wood	2 trees	4 m3	10 households	20 trees	80 m3	200 trees	800 m3
Flag poles	5 nos.		5 households	25 tress		250 trees	
Fencing posts	50 pieces.		3 households	150 pieces.		1500 pieces	

We could not estimate demand for dead case flagpoles is a dock basis

Comparison of AAC and Demand

Annual Allowable cut and Demand format							
Produces	Total AAC		Total amount demand		Difference		Comments
	No. of trees	Volume cfts	No. of trees	Volume in cfts	No. of trees	Volume in cfts.	
Drashing	58		22		+36		Drashing is more than sufficient as per demand
Cham	94		93		+1		Just sufficient as per demand

Tshim	290		105		+185		More than sufficient as per demand, can be used as fencing post and flag poles
Dangchung	185		-		+185		Can be used as flag poles for dead case
Firewood	441		20		+421		N trees can be used as firewood
Fencing posts	227		150		+77		N trees of Chams and Tshim size can be used as fencing posts
Flag poles			25				T tree of Dangchung and Tshim can be used as flag poles

9. Climate hazard assessment

The assessment were carry out by participants base on past record and experiences in their locality

Climate hazard	Landslides	Flood	Forest fire	Drought	Animal diseases	Plant diseases	Wind cyclones
Landslide							
Flood	Landslide						
Forest fire	Forest fire	Forest fire					
Drought	Drought	Drought	Drought				
Animal diseases	Animal diseases	Animal diseases	Forest fire	Drought			
Plant diseases	Plant diseases	Plant diseases	Plant diseases	Plant diseases	Plant diseases		
Wind/cyclones	Wind cyclone	Wind cyclone	Wind cyclone	Wind cyclone	Wind cyclone	Wind cyclone	

The most vulnerable is wind cyclone, followed by drought and plant diseases as per the past experinces.

10. Waste management

Waste management in the community forest is very important and is great concern.

- Dumping of any waste in the community forest is not allowed
- If anyone found damping of any waste in the CF, area will be fine as per the waste management act of Bhutan.
- The permit holder of the CF member will be responsible to manage waste while collection forest produces in the CF area.
- The fine and penalty will be as per the waste management act of Bhutan.

11.Participatory Environmental Assessment

Proposed activities	Potential Environmental Effects				Potential Socio-Economic Effects			
	Soil	Water	Wild animals	Plants	Traditional Forest Use	Cultural & Religious values	Local Employment	Local benefits from forest produce
Water source protection	+++	+++	+++	+++	++	++	0	+++
Timber harvesting	---	---	---	--	-	0	++	--
Restrict the outsiders from using the resources	+++	+++	+++	+++	++	0	0	+++
Creation of fire line	+++	+++	+++	+++	0	++	0	+++
Fuel wood harvesting	---	---	---	--	-	0	0	-
Cleaning Campaign	+++	+++	++	+++	+++	++	0	+++
Thinning & cleaning	++	--	---	+	0	0	+	+

+++ Positive effect, --- negative effect, 0 no effect

The water source protection compasses more positive environmental effects. Any activity that confines to the extraction of the resources like timber and fuel wood harvesting contributes negative impacts to the environment and its components.

The harvesting of any forest resources shall be done as per Silviculture guidelines which will help towards mitigating the negative impacts without requiring taking up separate major correction measures.

11.1 Procedure to address potential negative environment effect

Activities	Procedure
Timber harvesting	<ul style="list-style-type: none"> - Sustainable harvesting as per the management plan - Not to fail trees in slope more than 45 degree - No felling within 30 meters either side of the water sources and course - Timbers will be distributed within CFMG according to priority needs
Firewood harvesting	<ul style="list-style-type: none"> - Reduce use of firewood - No felling in steep slopes.
Forest fire protection	<ul style="list-style-type: none"> - Regular patrolling and monitoring by CF members during fire season. - Not to burn and make any fire within CF area and nearby CF boundary - Create awareness regularly before on set of fire season
Grazing control	Not a big issue at present

12. Management Procedures for Tshagphu CF

Procedures/services	Timber	Firewood	Flag poles	Fencing posts	NWFPS	Leaf litters
Main species	Blue pine , spruce	Oak, blue pine, populus	Blue pine	Blue pine populus	Sisi shamu	Pine needles
Problems	No road Long distance	-Long distance for collection -no road	-No problem	No problem	Illegal collection	No problem
Opportunities	-Harvest trees -sale excises timber -improve livelihood	- sufficient firwood for CFMG but soft wood mostly	-no shortage of flag poles	-sufficient fencing post	-Only few eatable mushroom -no bamboos	-plenty
Management objectives	-protect and conserve forest -sustainable use of forest resources	-used dead and dying trees -use N trees as firewood -reduce use of firewood unnecessary	-mark thinning biases - use less flag poles	- use only N trees - single tree selection	-no management plan as such require so far	-protect from fire
Activities	-protect from forest fire -protect from outsider - selection harvesting -patrolling	-permit issue -marking -cleaning	-permit issue -marking -cleaning	-permit issue -marking	Patrolling during mushroom season	-free of royalty for CFMG
Procedures	-obtain construction approval -issue permits Mark trees -extract timber within 2 years	- get approval from CFMC -marking -extract with 15 days after marking	-get approval from CFMC -marking -extract with 10 days after marking	- get approval from CFMC -marking -extract with 15 days after marking	- free of permit and royalty	-collect as and when require -not allow to sell by individual CFMG
Responsibilities	-Forest officials -CFMC -CFMG	-Forest officials -CFMC -CFMG	-Forest officials -CFMC -CFMG	-Forest officials -CFMC -CFMG	CFMC	CFMG

13. Monitoring Plan

Forest Resources Monitoring Plan				
Objective	Indicator	How it will be monitored	Responsibility	Comments
To improve forest condition	Regeneration status	In fix area number of seedling will	Lead by Chairperson and CFMG	Division forest staff will support

		be counted each year		
To use timber on sustainable basis	Make sure all trees are marked before harvesting Evidence of illicit tree cutting	From CFMG record Regular inspection by CFMC	CFMC will timely inspect and CFMG will times patrolling the CF area	Division Forest Office will marked the trees base on CF management plan
To conserve water sources	No tree feeling in the areas with 30 meters either site of the stream and water sources	Regular inspection and patrolling	CFMG	If require Division Forrest Office will support
Forest fire protection	No fire out break incident	Regular inspection of CF area	CFMG	
Social and institutional Plan				
Objective	Indicator	How it will be monitored	Responsibility	Comments
Equitable destruction of CF benefits	Proportion of CFMG income use for specific development in community	Participatory audit	CFMC with Division Forest Staff	Carry out annually
Enhanced CFMG good governance	Level of participants of CFMG in meeting and trainings	Checking the record of meeting and training	CFMC	Collect the name list of the CFMG every meeting and training
	No. of women and man participants	Record	CFMC	To see the representation of women and man
Environmental monitoring Plan				
Potential impact (negative)	Indicator	How it will be monitored	Responsibility	Comments
Reduce water level	Quantity discharge during dry season	Time to fill the bucket with fix time to know the volume	CFMC with support from Division Forest Staff	Record should be kept for every year in fix season and date
Increase in soil	Silt loaded	Measuring the	CFMC with	Will try every year and

PART B: By-Laws

1. Community Forest Management Group

Tshagphu Tag Tshey Tse is the name of the Community Forest collectively decided by the CFMG. The Tag Tshey depicts the name of the local deity. The community forest consists of 50 members of household.

2. Community Forest Membership Arrangement

Any household registered in the CFMG member list shall be called the member of the community forest. Any interested household can be eligible to become the member of the community forest if the following criteria are fulfilled:

- Being the rural inhabitants of the community, the household should have Thram, census and house number.
- Should be willing to contribute whatever the expenses in terms of labour and money had been contributed for community forest by the CFMG.
- Any household who have contributed labour and money up to the day on which the willing household apply for membership shall be exempted from contribution but have to deposit the new membership fee and annual registration fee as per the by-laws.
- None of the new members shall be not entertained within the ten years as per the decision of the CFMG.

2.1. Procedures to apply and become the member of the CFMG.

The set of procedures as provided below will be followed to recruit the new members as per the CFMG decision

- The applicant shall submit application to the Chairman
- The Chairman shall conduct meeting with the CFMG
- If eligible, agreement between the CFMG and the applicant will be signed
- CFMG committee to collect the required contribution
- Registration of the new member(s).after 10 years

2.2. Procedures to resign from the membership

- CF member are not allow to resign from member if he/she availed timber from CF and if he or she stay in same locality or area. But if he or she leave for other place than he or she is allowed to resign from member but without any benefit sharing from the group.
- Any member wishing to resign from the membership should submit the resignation letter with “*No Objection Letter*” from the household members who are above 18 years of age as an enclosure to the Chairman during the general CFMG meeting.
- The application should contain a statement “***I shall not claim any forest resources from the CF area henceforth and shall stand liable for any legal action as per the by-laws of the Community Forest and existing rules of the government***”.
- The resigning member shall not be eligible for any share or benefit confined to the collective income of the CFMG including his/her contribution made until that day.

3. ToR for CFMG Management Committee

The roles and responsibilities of the CFMG members are defined and presented in the tabular form as under:

SL.NO.	TITLE	RESPONSIBILITIES
1	Chairman	Chair the CFMG meetings Coordination with other stakeholders Conduct annual and ad hoc emergency meeting Initiate the activities as per the plan Approves applicants for forest products with secretary Monitor & Review the plan activities Report to forest office, on the developments on CF. Attend important meetings and trainings on CF
2	Secretary	Officiate in the absence of the Chairman Approves applicants for forest products with chairman Keep records on CF Maintain minutes of the meetings Correspondences of the CF
3	Treasurer	Maintain proper financial records. Collect and deposit the fund in the bank. Keep records of expenditure Present the budget status of the CF fund during annual general meeting of CFMG and as and when require and ask.
3	Risups	To conduct ad hoc patrolling in the CF area Collect the information from the CFMG members and inform the Chairman accordingly. Attend the CFMG Committee meeting & trainings on CF

4. Roles and Responsibilities of the CFMG members

All the members of the CFMG shall comply with the decision of the CFMG Committee and ensure the proper implementation of the planned activities. They are responsible to the roles and responsibilities provided in the FNCR 2006 and as provided below:

- Report any unhealthy and violation of the rules of the CFMG to the management committee for needful action
- Provide equal support to protect the CF area
- To follow the procedure and rules of the CFMG as outline in the community forest management plan and by-laws
- Participate in CFMG planning and decision making.
- Election of CF management committee members.
- Participate in CFMG meetings.
- Have equal rights over the use of the resources and the fund generated through the sale of the resources
- Implementation of any planned activity through contribution of equal work force.
- Protect the wild life, plants and minerals available in the CF area.
- Implement the proper disposal system of the wastes management.
- Co-operation with the CF management committee and other CFMG
- Become involved in other CFMG activities as planned.

- The members failing to comply with any of the aforementioned roles shall be liable to fine of Nu.700=00 (seven Hundred) as prescribed in offences and penalties.

The CFMG members have the rights to terminate the committee members if any of the members are found guilty of not performing the desired duties as per the set responsibilities and performing works that are harmful to the CF existence

4.1 Record Keeping

The following records shall be maintained by the CFMG Committee.as per the guide lines provided by DoFPS

- Implemented activities as per the plan.
- Receipts and expenditure of the fund
- Visit to the CF by the outsiders
- Fine collection
- Sale of forest products
- Marking of trees
- Status of the fund
- Loan lending
- Grants
- Permit issuances and product allotment details
- Apprehension of offenders

5. Management Committee Formation

The community forest comprises of four management committee members. The positions of the committee members include Chairman, Secretary and Risups

The rules and procedures for the formation of the committee including the eligibility and election shall be as per the following prescribed manners:

- Any member acquainted with writing and reading skills and knowledge shall be eligible to become the member of the CFMG Committee
- Election will be held during the general meeting of the CFMG
- The elected CFMG Committee members shall serve for the period of 10 The Resup will be nominated every year during the CF annual meeting
- The election of the new members shall be convened fifteen days before the completion of the tenure of the previous members
- The CFMG members will collectively decide whether to re-elect the existing member(s) or new members.
- Resup will be done turn wise by the CFMG base on schedule made by the CFMC with 4 resup every year.

5.1. Power of the CFMG Committee on decision making on the CF matters
The CFMG management committee reserves the power as listed hereunder:

- In any deliberation on the CF matters during the CFMG Committee Meeting, the decision of the majority will be considered as the final decision.
- Monitor and evaluate the activities
- The CFMG committee shall rectify the lapses in the implementation and inform the CFMG members for required support.

Regarding the management committee member position, any committee member travelling to perform the works about community forest shall be paid Nu.600/day. The wage shall be calculated and paid accordingly from the CF saving.

Any committee member attending meetings/trainings on CF as per the directives of the relevant organizations shall not be eligible for payment if they are paid by organization. The Chairman should be made aware of the travel with reasons beforehand.

5.2. Termination of membership

The CFMG management committee shall cancel the membership if any member violate the rules of the management plan and set by laws. The member will also be terminated if he/she fails to comply with the rules upon repeated reminders of two times. The terminated member shall not be eligible to claim any benefit and shall have no rights over the community forest area. The Chairman and the management committee shall issue the termination letter.

6. Fees and Fines for offenses and Penalties

SI NO	Forest products/Membership fees	Procedures	Fee (Nu.)
1	Membership fees	Will be collected once only right after the approved of new management plan	Nu. 300/CFMG Member and Nu.800 for those new members
2	Timber in log form	For The collection permit fee will be collected before issue of permit.	Nu. 1/CFT
3	Standing form Drashing		Nu. 100/tree
4	Cham		Nu. 80/tree
5	Tshim		Nu. 20/tree
6	Dangchung		Nu. 6/ tree
6	Firewood standing		Nu. 100/tree
7	Lops and tops		Nu. 50 for 50 back loads
8	Fencing posts		Nu. 10/peace
9	Flag poles		Nu. 5/pole
10	Mushroom ballet		Nu.10/peace
11	Life litter and life mold /top soil	For CF member domestic use	Free cost
12	Leaf mold /top soil	For commercial purpose	Nu. 150 / truckloads
13	Mushroom collection		free of cost
14	CF work /activities	Members absent in the CF work	Nu. 700 per day

Timber /forest products	CFMG Members		Non CFMG Members	
	Fines /penalty	Products	Fines /penalty	Products
As per the CFMG members decision the fines and penalties will be apply base on the Forest and Nature Conservation Rules and Regulation of Bhutan, 2017 for both CFMG and Non CFMG. The CFMG committee members through the support from the CFMG members shall enforce the rules consistently. The collection of the fines shall be done by the CFMC and with help from DoFPS, including forest fire outbreak in community forest areas.				

7. Financial Arrangement and Management of Funds

A saving account at BNB, which is in the name of Tshagphu Tag Tshey Tse Community Forest Management Group, will be use continues for proper management of the fund. The account shall be opened jointly wherein the signatures of the Chairman and treasurer will be required for fund withdrawal. The fines, membership fee, permit fees, penalties for absentees; grants etc. will be the sources of fund. The amount realized through the above-cited sources shall be deposited in the bank by the treasurer. Proper records on receipt and releases of fund shall be maintained by the treas. With the support from the Chairman, the secretary will be responsible to manage the fund as the CFMG has decided not to appoint treasure as they don't have much work and the group is small at present and as per the past 10 years experiences.

The areas to spend the fund shall be decided by the CFMG Committee during committee meeting. The committee is vested with the financial rights and power to decide, withdraw and spend the fund up to Nu.5,000=00 (Five thousand only) wherever necessary. The fund shall be used for the CF matters only. No loan will be allowed as the no sufficient amount at present however if the financial statutes improve, after 5 years the CFMG will discuss in CF general meeting.

As per the CFMG Members decision. The fund/amount exceeding Nu. 5,000=00(Five thousand only) shall require the decision of the CFMG members. Proper records on fund transaction shall be maintained by the secretary. The some of the foreseen areas to spend the fund are:

- Purchase registers
- Files
- Official Seal for the office
- One seals each for Chairman and Secretary.

The CF common fund will not be allowed to share in cash among them; however the CFMG members will decide the use the fund as per the guideline provided by the DoFPS.

SI NO	Fund management	% ceiling	Remarks
1	Development of CF relativity activity	Not less than 25 %	CF review, plantation, sanitation work, cleaning, boundary demarcation, fire line creation etc.
2	CFMG enhancement	Not more than 50%	Capacity building, study tour/visit, meeting, workshop, visitor in CFs,
3	Reserve fund in the bank	Not less than 5 %	All the time

4	Others	20%	Semso, Maintenance of farm roads, drinking water, irrigation water, community Lhakhang etc
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8. Benefit sharing arrangement / Procedures on benefit sharing

- Any CFMG member desiring to apply for the forest product shall submit requisition to the Chairman of the CFMG.
- The CFMG Committee members shall verify the requisition to check whether the requirement is genuine.
- The allotment shall be done upon thorough verification but will be done according to the annual harvest limit. And past records.
- The forest products shall be meant for the use of the members themselves only.
- Members whosoever found lending or selling the allotted forest product shall be liable to penalties as per the existing forestry rules of the government and shall require producing back the products.
- If the requirement (Timber) is for new construction, renovation and other construction, the incumbent should produce the construction approval of the Gewog and Dzongkhag administration.
- In case of any timbers traded by the members, the offender(s) shall be liable to pay the fines on commercial values according to the existing market rate and the fine will be deposited in the bank in CFMG account.
- None of the member shall apply for the forest products as the vested right to claim blindly.
- The requisition is open throughout the year for the timbers and other produces produces permit
- Timbers, the forest produce like mushrooms and leaf litter can be collected by the CFMG members as and when required but shall not be permitted to give to outsiders.
- Regarding the sale of the forest produces, collective decision shall be made through the CFMG meeting.
- The fixation of price shall be done through the diligent discussion among the CFMG members.
- Any forest products shall be sold if there is surplus of the products after fulfilling all the community's demand;
- The CFMG shall bear the sale taxes as per the prevailing rules of the government.
- The transportation of the products shall be done upon prior approval from the Department of Forest as per the rules.

8.1. Timbers for rural construction for CFMG member

Every CFMG members has equal right for use of timber but as per the decision made by the CFMG are as follows

Timing for forest produces

SI	Activities	Time	Responsible	Remarks
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NO				
1	Collect permit forms for rural house new construction, Renovation and other rural construction	Throughout the year	CFMG member	Have to get construction approval before issuing collection permit
2	Firewood	Throughout the year	CFMG Members	
3	Flag poles for normal	Throughout the year	CFMG members	5 nos. per household per year
4	Flag poles for dead case	Throughout the year	CFMG members	108 nos. per case
5	Fencing posts	Throughout the year	CFMG Members	50 per year per household
6	Leaf litters collection	Throughout the year	CFMG members	No quantity
7	Leaf mold /top soil	Throughout the year	CFMG members	No quantity
8	Mushroom logs	Do	Do	Depends on availability

8.2. Timber for rural use for CFMG members shall be allotted in standing trees and in log volume base on their choice

Rural house New construction				
Option	type of timber	Quantity	Type of house	Remarks
A	Standing trees	Drashing - 8 nos. Cham – 80 nos. Tshim – 80 nos. Or 18 Drashing	2. stored	Once in 25 years
		Drashing – 4 nos. Cham – 40 nos. Tshims – 80 nos. Or 9 Drashing	1 stored	Once in 25 years
Rural House Renovation				
A	Standing trees	Drashing - 3 nos. Cham – 10 nos. Tshim – 15 nos. .		Once in 12 years
Others Rural Construction				
A	Standing trees	Drashing – 1 nos. Chams – 4 nos. Tshims – 10 nos.		Once in 25 years
Firewood	Standing	2 trees per household per year		Once in a year
Fencing posts	Standing	50 nos. per household per		Once in a year

		year		
Flag poles	Standing	5 nos. per household per year		Once in a year
Flag poles	Standing	108 nos. per case		Per dead case maximum
Mushroom ballet	1 meter length	As per demand		Depends on availability
Leaf litters/leaf mold and top soil		Any quantity for domestic use		

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9. Meetings

The general meeting of the CFMG members shall be conducted once in a year. The general meeting will be conduct in January month. All the members shall be present and the sum of Nu.700/- shall be imposed as fine for any member failing to attend the meeting. If need be, the CFMG can convene more than two general meetings in a year.

Similarly, the CFMC management committee meeting shall be held as and when require

The purposes of the meetings shall be to:

- Review the planned activities
- Discuss about the problems and constraints and find out solutions
- Deliberate on the status of the operation of the activities
- Discuss on the financial position of the CF
- Explore the funding sources
- Conduct election of the committee members if required

10. Conflict Resolution

In the first instance, any conflict among the CFMG members shall be tackled by the CFMG committee and the CFMG members headed by Chairman.

The matter shall be forwarded to the Gewog Administration if the case is not being able to solve by the CFMG committee and the CFMG members.

The Gewog Administration shall forward the case to the Division Forest Office, if the case remains unresolved at the Gewog level.

The Division Forest Office shall study the case and try to mitigate and solve the case through the support of Gewog Administration and CFMG Committee.

Division Forest Office will forward the case to FRPMD, DoFPS, if the case remain unresolved at the Division Forest Office.

If the case is not solved at the DoFPS level, the matter shall be forwarded to the Royal Court of Justice for legal interventions which shall be final.

11. Amendments and Revision of CF Management Plan

The revision of the CF management plan will be carry out as per the Forest and Nature Conservation Rules 2017 in general however some few trips were set for more connivance as follows:

- Coordinated by the Chairman of the Community Forest, the CFMG meeting shall be convened.
- The CFMG shall inform the DoFPS.
- The plan shall be amended by the CFMG only upon the endorsement of the proposed amendments by the DoFPS
- The whole responsibility to study the need and accordingly apply for amendment of the plan is the duty of the CFMG.

12. Roles and Responsibilities of important stakeholders

Sl.No.	Stakeholder	Roles and Responsibilities	Remarks
1	Forest Range Office	Provide practical trainings and technical supports to the CFMG on overall implementation of the planned activities and record keeping.	
2	CFO /Territorial Division Office	To provide full support to the field forest office on CF matters and exploration of the funding. Facilitate the plan amendment. To create awareness on the procedures on fine imposition, marking and silviculture system. To provide support/facilitate in the amendment of the management plan	
3.	Gewog Administration	To assist the CFMG on conflict resolution, and support Forest field office	
4	Do FPS	To conduct study tour for the CFMG in the region Provide trainings for the CFMG Committee members.	

13. Power of the Department

The Department of Forest has the Power as per the FNCR 2017 to monitor and take action to the overall activities of the community forest, if they are deviated from the rules of the Government. In addition, the Department of Forest is empowered to:

- Take action against violators of the Act, Rules or Management plan, regardless of whether requested by the CFMG or not.
- Inspect, monitor, review the records of and otherwise supervise the activities of the CFMG, and take action (including revocation of the CFMG certificate, where warranted under these Rules) against the CFMG or any of its members who may be acting in violation of the provisions of the Management plan or any provisions under this chapter,
- Establish record-keeping and financial reporting obligations.

Annexure VI: Application to Establish Community Forests

**ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF AGRICULTURE & FORESTS
Department of Forests & Park Services**

APPLICATION TO REVIEW COMMUNITY FOREST

PART A (To be filled by the applicant)

The Gup,

In accordance with the Forest and Nature Conservation Rules and Regulations, 2017, I, **Dawa Tshering**, the Chairman of the Community Forest Management Group of **Tshagphu, Sigay and Khasadrapchu** villages(s) consisting of 50 households, would like to submit this application for Review of Community Forest. (map attached)

a) Gewog: **Mewang**

b) Description of the State Forest land proposed for review of Community Forest:

i) Name of the forest: **Tshagphu**

ii) Boundary description:

N Damru Gonpa

S Khasakha CF boundary

E Tshagphu Ridge

W Tshagphu Village

iii) Estimated area: **150** (ha)

iv) Forest type: **Mixed conifer**

Signature: 

Name of the CFMG Chairman: Dawa Tshering

Date: 21/12/22

Annexure 1: Name list of the Community Forest Management Group of Tshagphu Tag Tshey Tse

SI NO	Name of the CF member	Village	Thram No.	House No.	Household No.	CID Number	Signature
1	Dema	Khasadrapchu	429	Pha-2-94	140700099	11407000718	<i>[Signature]</i>
2	Tandin	Do	455	Pha-2-95	140700100	11407000726	<i>[Signature]</i>
3	Yangchen Dema	Do	131	Pha-2-96	140700101	11407000736	<i>[Signature]</i>
4	Namgay Denker	Do	428	Pha-2-100	140700096	11407000702	<i>[Signature]</i>
5	Namgay Om	Do	133	Pha-2-101	140700097	11407000707	<i>[Signature]</i>
6	Am Peldon	Do	136	Pha-2-227	140700098	11407000712	<i>[Signature]</i>
7	Chemi Lhadon	Do	668	Pha-2-404	140700328	11407002569	<i>[Signature]</i>
8	Choden	Do	1033	Pha-2-nil 146	140700406	11407000738	<i>[Signature]</i>
9	Tandin Dorji	Do	1035	Pha-2-nil 147	140700405	11407000732	<i>[Signature]</i>
10	Lekey Dorji	Do	527	Pha-2-nil 102	140700346	11407002704	<i>[Signature]</i>
11	Tshering Dorji	Do	455	Pha-2-95 kha	140700100	11407000727	<i>[Signature]</i>
12	Tshering	Tshagphu	431	Pha-2-97	140700102	11407000743	<i>[Signature]</i>
13	Yangchen Lhamo	Do	441	Pha-2-102	140700300	11407002266	<i>[Signature]</i>
14	Thinly /Dechen Wangmo	Do	426	Pha-2-102	140700299	11407002258	<i>[Signature]</i>
15	Ugyen Dema	Do	432	Pha-2-104	140700301	11407002273	<i>[Signature]</i>
16	Sangay Bidha	Do	430	Pha-2-105	140700302	11407002280	<i>[Signature]</i>
17	Kenzang Choden	Do	434	Pha-2-106	140700303	11407002291	<i>[Signature]</i>
18	Jamyang Choden	Samakha	1036	Pha-2-107	140700107	11407001696	<i>[Signature]</i>
19	Zangmo	Tshagphu	840	Pha-2-218	140700304	11407002299	<i>[Signature]</i>
20	Norbu Drukpa	Samakha	960	Pha-2-382	140700480	11407000755	<i>[Signature]</i>
21	Dago Tshering	Tshagphu	291	Pha-2-nil 104	140700345	11407000968	<i>[Signature]</i>
22	Phub Lham	Tshagphu	427	Pha-2-nil 13	140700305	11407002305	<i>[Signature]</i>
23	Tshering Gayemo	Sigay	335	Pha-2-108	140700232	11407001710	<i>[Signature]</i>
24	Damcho Lham	Do	336	Pha-2-110	140700234	11407001737	<i>[Signature]</i>
25	Sangay Yigzen	Do	347	Pha-2-109	140700233	11407001728	<i>[Signature]</i>

26	Tshewang Lham	Do	331	Pha-2-111	140700235	11407001745	<i>Lham</i>
27	Sangay	Do	337/625	Pha-2-112	140700236	11407001761	<i>Sangay</i>
28	Dawa Zam	Do	677	Pha-2-114	140700238	11407001780	<i>Dawmo</i>
29	Dechen Om/ Rinchen Om	Do	338	Pha-2-115	140700239	11407001789	<i>Dechen</i>
30	Dawo Tshering	Do	338 kha	Pha-2-380	140700550	11407001784	<i>Dawo</i>
31	Pasang Dorji / Chugum	Do	2327	Pha-2-550	140700761	11407001813	<i>Pasang</i>
32	Kelzang Choden	Do	349	Pha-2-231	140700244	11407001811	<i>Kelzang</i>
33	Namgay Thinley	Do	1579	Pha-2-nil 241	140700545	11407001729	<i>Namgay</i>
34	Tshering Om	Do	615	Pha-2-230	140700243	11407001801	<i>Tshering</i>
35	Gyem Lham	Do	617	Pha-2-427	140700380	11407001763	<i>Gyem</i>
36	Sonam Dema	Do	1383	Pha-2-111 ka	140700235	11407001747	<i>Sonam</i>
37	Hap Wangchuk /Am Pasang	Khasadrpachu	344	Pha-2-99	140700103	11407000757	<i>Hap</i>
38	Choden (Ap Wangchuk)	Tshagphu	1319	Pha-2-nil 139	140700392	11407002306	<i>Choden</i>
39	Choki	Khasadrapchu	131	Pha-2- 96 kha	140700101	11407000741	<i>Choki</i>
40	Tenzin	Tshagphu	434	Pha-2-106 kha	140700303	11407002296	<i>Tenzin</i>
41	Namgay Zam <i>ngmo</i>	Samakha	1025	Pha-2-nil 373	140700230	11407001698	<i>Namgay</i>
42	Khandru Om	Tshagphu	840	Pha-2-218 kha	140700304	11407002300	<i>Khandru</i>
43	Dechen Wangdi (Dechen Pem)	Tshagphu	426	Pha-2-102	140700299	11407002265	<i>Dechen</i>
44	Nima Dorji	Sigay	337	Pha-2-486	140700246	11407001814	<i>Nima</i>
45	Nim Dorji	Tshagphu	3743	Pha-2- nil/530	140700302	11407002289	<i>Nim</i>
46	Auchi	Tshagphu	640	Pha-2- nil/354	140700610	11510004105	<i>Auchi</i>
47	Tshering Lham (Haa Zam)	Sigay	2462	Pha-2- nil 566	140700884	10807001382	<i>Tshering</i>
48	Khendu Wangmo	Tshagphu	1909	Pha-2-nil 483	140700303	11407002293	<i>Khendu</i>
49	Tshering Yuden	Tshagphu	432	Pha-2-104	140700301	11407002274	<i>Tshering</i>
50	Nim Dem / Lhamo	Tshagphu	375	Pha-2- 213	140700295	11407002207	<i>Nim</i>

SD Kintey Sigay 1698

11407002788 Kintey

Annexure VI (continued)

I have reviewed the application and hereby recommend for the formation of CF in the proposed area.

Name and Signature of Gup:Tandin Pema

Gewog:Mewang

Date: 21-12-2022.

Tandin Pema
Maedwang Gup
Thimphu Dzongkhag

PART B (To be certified by Range Officer)

We have evaluated the area applied for and the qualifications of the group to manage it according to the criteria established in the Forest and Nature Conservation Rules and Regulations of Bhutan, 2017. We recommend/do not recommend, the application for establishment of the Community Forest.

Justification for approval/rejection:

1. Establish m. 2012. 8075 for CF plan Review.

2.....

Signature:
Name:.....J.B. Rai ...
Name of Range:.....Khasadrapchu
Date:.....

Forest Range Officer,
Khasadrapchu Range,
Thimphu Forest Division

PART C (To be certified by the CFO)

I have reviewed the application and I am ☒ satisfied/☐ not satisfied, with the details provided in the application and the area is ☒ suitable/☐ unsuitable for Community Forest Management. I accept/☐ do not accept the application for ~~establishment~~ **Review** of Community Forest.

Justification:

1.....

2.....

Signature:  Chief Forest Officer

Name of CFO: Thimphu Forest Division
DoFPS, Thimphu

Division/Park: ... Thimphu Forest Division

Date: ... 30/12/2022 ✓

**FOREST AND NATURE CONSERVATION RULES AND REGULATIONS OF
BHUTAN, 2017**

ANNEX 2: 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/Chiwog: Gewog:

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 & Name of the Applicant _____

Affix legal stamp

The details given above are true to the best of my knowledge. From the date of 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 registered afterpaying the membership fee and compensation, if any)

Signature & Date.....

Signature & Date

Signature & Date

Name

Name

Name.....

Official seal

Official Seal

Official Seal

Chairperson

Secretary

Treasurer

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

ANNEX 3: CFMG MEMBERSHIP RESIGNATION APPLICATION FORM

To

The Chairperson

_____ *CF*

I would like to resign from the CFMG starting from _____. I hereby furnish my details as mentioned below:

Part A: To be filled by the Applicant

Name of Household representative: CID No:

Village/Chiwog:Gewog:

Gung No: Thram:

Reason of 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 the Applicant _____

Part B: To be filled up by CFMC members

Date of application received:

The details of the applicant and his/her reason 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 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

Chairperson

Official Seal

Secretary

Official Seal

Treasurer

Copy to: Concerned Forestry Officer Date of resignation: Serial No.

ANNEX 4: APPLICATION FORM FOR FOREST PRODUCE FROM CF FOR RURAL USE

Part A – To be filled in by the Applicant/member

- a. Name of applicant:
- b. Citizenship I.D. no: c. Village:
- d. Gung No: e. Thram No:
- f. Details of timber availed from SRF/CF If yes, please provide details of the timber allotted as follows:

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

- g. Details of following timber applied for the purpose

Products	Quantity (Nos.)	Volume (cft)	Remarks
Drashing			
Cham			
Tsim			
Dangchung/Flag			
Firewood			
Sand			
Stones			
NWFPs(specify)			
Others			

- h. Purpose.....

Note: An applicant can avail timber as per the FNCRR, 2017 once in 25 years for new construction and 12 years for renovation which will be calculated from previous timber allotments from SRF/CF.

- k. Copy of construction approval attached:

I hereby certify that the details given above are true to the best of my knowledge. In case of any false or wrong information, I am liable to be penalized under the Forest & Nature Conservation Act 1995 and the Rules and Regulations made there under.

Signature of applicant with legal stamp affixed

Date.....

PART B: To be filled up by the CF Management Committee

Construction approval no: Date.....

We hereby certify that:

- i. We have verified the details of the applicant and found to be true and correct
- ii. Timber requirement is genuine
- iii. The details of the applicant and quantity of timber/other forest products applied for rural use have been verified with the records maintained by the CFMG and found to be correct.

We hereby Approve/Reject the application for allotting timber/other forest products to the applicant from CF

Reasons for rejection:

.....
.....
.....
.....
.....

1. Name & Signature of Chairperson & Date

2. Name & Signature of Secretary & Date

3. Name & Signature of Treasurer & Date

ANNEX 5: HANDING TAKING CHARGE NOTE FOR CFMG

I/we Mr.
Chairperson/Secretary/Treasurer, of
..... Community Forest
Management Group, Gewog, Dzongkhag after rendering
..... years of service is resigning with the permission from CFMG members as decided or approved during the
CFMG meeting conducted on Therefore, the undersigned hereby handed over the complete
charge of the CF to new CF Management
Committee members

(Chairperson/Secretary/Treasurer) on dated

The charge lists are as attached below:

i. CFMG fund status on handing taking over day

1. Cash in hand (Nu.):
2. Bank balance (Nu.):
3. Loan (Nu.):
4. Total CFMG fund (Nu.):

ii. Record Keeping Books/Registers and files

Sl. No.	List of books/register	Quantity	Used for year	Remarks

iii. List of Tools, Equipment & furniture

Sl. No.	Detail of items	Quantity	Acquired/ from	Transferred	Remarks

iv. Others (mention if any)

Handed over by

Taken Over By

In Presence of

Format 2. Quantitative Forest Resources Assessment – Tally Sheet												
Name of CF		Tshaagphu Tag Tshey Tse					Date		5 to 7 December 2022			
Block		1					Canopy height		<5. <10, <20, <30, 30+			
Plot number /ID		1 to 80					Canopy closure		<10, <40, 40+			
Name of the Recorder		Chorten, Changana, Tashi Dorji and Dorji Wangchuk					T = suitable for Timber. N = Not suitable for Timber					
		DBH Class (Cm)										
Species (local name)	Suitability	< 10 cm	10 -19 cm	20 - 29cm	30 -39 cm	40 -49 cm	50–59 cm	60-69 cm	70 -79 cm	80-89 cm	90 -99 cm	100 +cm
		Seedling	Dangchung	Tshim	Cham	Drashing	Drashing	Drashing	Drashing			
Blue pine (Tongphu)	T	345nos.	281	249	130	39	15	5	1	0	0	
	N		31	50	18	7	1	1	1	0	0	
Spruce (Bashing)	T	77 nos.	39	26	18	13	13	14	9	4	2	3
	N		6	4	4	4	1	0	1	0	0	0
Hemlock (Seshing)	T	20 nos.	1	1	4	4	1	4	1	2		
	N		0	0	4	2	1	1	1	0		
Oak (Jeshing)	T	85 nos.										
	N		199	90	18	8	7	2	1			
Oak (Sisi shing)	T	4 nos.										
	N		3	1	7	1		1				
Populus (Karshing)	T	3 nos.										
	N		18	22	23	8	7	2	1			
Acer (Chalam)	T											
	N		4	1								
Rodo (Eto)	T	9 nos.										
	N		4	2								
Total	T		321	276	152	56	29	23	11	6	2	3
	N		265	170	26	30	17	7	5	0	0	0
	% N		45.22%	38.64%	14.61%	34.88%	36.96%	23.33%	31.25%	0%	0%	0%

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)

1. CF Name		: Tshagphu Tag Tshey Tse			4. Block Area		150 ha	
2. Block Name		: Block I			5. Compiling date			
3. No of plots		80			6. Species group		Blue pine (T)	
<i>col1</i>	<i>col2</i>	<i>col3</i>	<i>col4</i>	<i>col5</i>	<i>col6</i>	<i>col7</i>	<i>col8</i>	<i>col9</i>
		(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	No/ha (stems/ha)	Bas/ha (m2/ha)	Vol/ha (m3/ha)
10 --19	0.017	0.095	0.05	0.25	281	70.25	1.19	6.67
20-29	0.047	0.349	0.05	0.25	249	62.25	2.92	21.72
30-39	0.093	0.827	0.05	0.25	130	32.5	3.02	26.88
40-49	0.156	1.583	0.05	0.25	39	9.75	1.52	15.43
50-59	0.233	2.66	0.05	0.25	15	3.75	0.87	9.97
60-69	0.327	4.099	0.05	0.25	5	1.25	0.41	5.12
70-79	0.436	5.94	0.05	0.25	1	0.25	0.11	1.48
80-89	0.561	8.218	0.05	0.25				
90-99	0.701	10.966	0.05	0.25				
100-109	0.585	14.218	0.05	0.25				

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)

1. CF Name		: Tshagphu Tag Tshey Tse			4. Block Area		150 Ha	
2. Block Name		: Block I			5. Compiling date			
3. No of plots		80			6. Species group		Blue pine (N)	
<i>col1</i>	<i>col2</i>	<i>col3</i>	<i>col4</i>	<i>col5</i>	<i>col6</i>	<i>col7</i>	<i>col8</i>	<i>col9</i>
		(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	0.095	0.05	0.25	31	7.75	0.13	0.74
20-29	0.047	0.349	0.05	0.25	50	12.5	0.59	4.36
30-39	0.093	0.827	0.05	0.25	18	4.5	0.42	3.72
40-49	0.156	1.583	0.05	0.25	7	1.75	0.27	2.77
50-59	0.233	2.66	0.05	0.25	1	0.25	0.06	0.66
60-69	0.327	4..099	0.05	0.25	1	0,25	0.08	1.03
70-79	0.436	5.94	0.05	0.25	1	0.25	0.11	1.48
80-89	0.561	8.218	0.05	0.25				
90-99	0.701	10.966	0.05	0.25				
100-109	0.585	14.218	0.05	0.25				

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name		: Tshagphu Tag Tshey Tse			4. Block Area		150 ha	
2. Block Name		: Block I			5. Compiling date			
3. No of plots		80			6. Species group		Spruce (T)	
<i>col1</i>	<i>col2</i>	<i>col3</i>	<i>col4</i>	<i>col5</i>	<i>col6</i>	<i>col7</i>	<i>col8</i>	<i>col9</i>
		(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	0.105	0.05	0.25	39	9.75	0.16	1.02
20-29	0.047	0.375	0.05	0.25	26	6.5	0.31	2.44
30-39	0.093	0.875	0.05	0.25	18	4.5	0.42	3.94
40-49	0.156	1.655	0.05	0.25	13	3.25	0.51	5.38
50-59	0.233	2.755	0.05	0.25	13	3.25	0.76	8.95
60-69	0.327	4.214	0.05	0.25	14	3.5	1.14	14.75
70-79	0.436	6.066	0.05	0.25	9	2.25	0.98	13.65
80-89	0.561	8.343	0.05	0.25	4	1	0.56	8.343
90-99	0.701	11.076	0.05	0.25	2	0.5	0.35	5.54
100-109	0.858	14.293	0.05	0.25	3	0.75	0.64	10.72

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)

1. CF Name		: Tshagphu Tag Tshey Tse			4. Block Area		150 ha	
2. Block Name		: Block I			5. Compiling date			
3. No of plots		80			6. Species group		Spruce (N)	
<i>col1</i>	<i>col2</i>	<i>col3</i>	<i>col4</i>	<i>col5</i>	<i>col6</i>	<i>col7</i>	<i>col8</i>	<i>col9</i>
		(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	0.105	0.05	0.25	6	1.5	0.03	0.16
20-29	0.047	0.375	0.05	0.25	4	1	0.05	0.37
30-39	0.093	0.875	0.05	0.25	4	1	0.09	0.87
40-49	0.156	1.655	0.05	0.25	4	1	0.16	1.66
50-59	0.233	2.755	0.05	0.25	1	0.25	0.06	0.69
60-69	0.327	4.214	0.05	0.25	0			
70-79	0.436	6.066	0.05	0.25	1	0.25	0.11	1.52
80-89	0.561	8.343	0.05	0.25	0			
90-99	0.701	11.076	0.05	0.25	0			
100-109	0.858	14.293	0.05	0.25	0			

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)

1. CF Name		: Tshagphu Tag Tshey Tse			4. Block Area		150	ha
2. Block Name		: Block I			5. Compiling date			
3. No of plots		80			6. Species group		Hemlock (T)	
<i>col1</i>	<i>col2</i>	<i>col3</i>	<i>col4</i>	<i>col5</i>	<i>col6</i>	<i>col7</i>	<i>col8</i>	<i>col9</i>
		(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	0.071	0.05	0.25	1	0.25	0	0.02
20-29	0.047	0.234	0.05	0.25	1	0.25	0.01	0.06
30-39	0.093	0.522	0.05	0.25	4	1	0.09	0.52
40-49	0.156	0.953	0.05	0.25	4	1	0.16	0.95
50-59	0.233	1.542	0.05	0.25	1	0.25	0.06	0.38
60-69	0.327	2.302	0.05	0.25	4	1	0.33	2.3
70-79	0.436	3.247	0.05	0.25	1	0.25	0.11	0.81
80-89	0.561	4.386	0.05	0.25	2	0.5	0.28	2.19
90-99	0.701	5.729	0.05	0.25				
100-109	0.585	7.288	0.05	0.25				

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)

1. CF Name		: Tshagphu Tag Tshey Tse			4. Block Area		150 ha	
2. Block Name		: Block I			5. Compiling date			
3. No of plots		80 nos.			6. Species group		Hemlock (N)	
<i>col1</i>	<i>col2</i>	<i>col3</i>	<i>col4</i>	<i>col5</i>	<i>col6</i>	<i>col7</i>	<i>col8</i>	<i>col9</i>
		(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	0.071	0.05	0.25	0	0	0	0
20-29	0.047	0.234	0.05	0.25	0	0	0	0
30-39	0.093	0.522	0.05	0.25	4	1	0.09	0.52
40-49	0.156	0.953	0.05	0.25	2	0.5	0.08	0.48
50-59	0.233	1.542	0.05	0.25	1	0.25	0.06	0.38
60-69	0.327	2.302	0.05	0.25	1	0.25	0.08	0.57
70-79	0.436	3.247	0.05	0.25	1	0.25	0.11	0.81
80-89	0.561	4.386	0.05	0.25	0			
90-99	0.701	5.729	0.05	0.25				
100-109	0.585	7.288	0.05	0.25				

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name		: Tshagphu Tag Tshey Tse			4. Block Area		150 ha	
2. Block Name		: Block I			5. Compiling date			
3. No of plots		80			6. Species group		Jeshing Oak (N)	
<i>col1</i>	<i>col2</i>	<i>col3</i>	<i>col4</i>	<i>col5</i>	<i>col6</i>	<i>col7</i>	<i>col8</i>	<i>col9</i>
		(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	0.095	0.05	0.25	199	49.75	0.84	4.72
20-29	0.047	0.343	0.05	0.25	90	22.5	1.05	7.72
30-39	0.093	0.827	0.05	0.25	19	4.75	0.44	3.93
40-49	0.156	1.597	0.05	0.25	8	2	0.31	3.19
50-59	0.233	2.705	0.05	0.25	7	1.75	0.41	4.73
60-69	0.327	4.195	0.05	0.25	4	1	0.327	4.19
70-79	0.436	6.111	0.05	0.25	1	0.25	0.11	1.52
80-89	0.561	8.495	0.05	0.25	2	0.5	0.28	4.24
90-99	0.701	11.383	0.05	0.25				
100-109	0.585	14.813	0.05	0.25				

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name		: Tshagphu Tag Tshey Tse			4. Block Area		150 ha	
2. Block Name		: Block I			5. Compiling date			
3. No of plots		80			6. Species group		Sisi Oak (N)	
<i>col1</i>	<i>col2</i>	<i>col3</i>	<i>col4</i>	<i>col5</i>	<i>col6</i>	<i>col7</i>	<i>col8</i>	<i>col9</i>
		(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)
19-Oct	0.017	0.095	0.05	0.25	3	0.75	0.01	0.07
20-29	0.047	0.343	0.05	0.25	1	0.25	0.01	0.08
30-39	0.093	0.827	0.05	0.25	7	1.75	0.16	1.44
40-49	0.156	1.597	0.05	0.25	1	0.25	0.04	0.39
50-59	0.233	2.705	0.05	0.25				
60-69	0.327	4.195	0.05	0.25	1	0.25	0.08	1.05
70-79	0.436	6.111	0.05	0.25	1	0.25	0.11	1.53
80-89	0.561	8.495	0.05	0.25				
90-99	0.701	11.383	0.05	0.25				
100-109	0.585	14.813	0.05	0.25				

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)

1. CF Name		: Tshagphu Tag Tshey Tse			4. Block Area		150 ha	
2. Block Name		: Block I			5. Compiling date			
3. No of plots		80			6. Species group		Populus (N)	
<i>col1</i>	<i>col2</i>	<i>col3</i>	<i>col4</i>	<i>col5</i>	<i>col6</i>	<i>col7</i>	<i>col8</i>	<i>col9</i>
		(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)
19-Oct	0.017	0.081	0.05	0.25	18	4.5	0.08	0.36
20-29	0.047	0.279	0.05	0.25	22	5.5	0.26	1.53
30-39	0.093	0.639	0.05	0.25	23	5.75	0.53	3.67
40-49	0.156	1.191	0.05	0.25	8	2	0.31	2.38
50-59	0.233	1.96	0.05	0.25	7	1.75	0.41	3.43
60-69	0.327	2.969	0.05	0.25	2	0.5	0.16	1.48
70-79	0.436	4.238	0.05	0.25	1	0.25	0.11	1.06
80-89	0.561	5.787	0.05	0.25				
90-99	0.701	7.633	0.05	0.25				
100-109	0.585	9.792	0.05	0.25				

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name		: Tshagphu Tag Tshey Tse			4. Block Area		150 ha	
2. Block Name		: Block I			5. Compiling date			
3. No of plots		: 80			6. Species group		Acer (N)	
<i>col1</i>	<i>col2</i>	<i>col3</i>	<i>col4</i>	<i>col5</i>	<i>col6</i>	<i>col7</i>	<i>col8</i>	<i>col9</i>
		(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	0.081	0.05	0.25	4	1	0.017	0.08
20-29	0.047	0.279	0.05	0.25	1	0.25	0.01	0.07
30-39	0.093	0.639	0.05	0.25				
40-49	0.156	1.191	0.05					
50-59	0.233	1.96	0.05					
60-69	0.327	2.969	0.05					
70-79	0.436	4.238	0.05					
80-89	0.561	5.787	0.05					
90-99	0.701	7.633	0.05					

OPERATIONAL INVENTORY: COMPILATION SHEET (FIXED-SIZE PLOT)								
1. CF Name		: Tshagphu Tag Tshey Tse			4. Block Area		150 ha	
2. Block Name		: Block I			5. Compiling date			
3. No of plots		: 80			6. Species group		Rodo (N)	
<i>col1</i>	<i>col2</i>	<i>col3</i>	<i>col4</i>	<i>col5</i>	<i>col6</i>	<i>col7</i>	<i>col8</i>	<i>col9</i>
		(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	0.081	0.05	0.25	4	1	0.017	0.081
20-29	0.047	0.279	0.05	0.25	2	0.5	0.02	0.14
30-39	0.093	0.639	0.05	0.25				
40-49	0.156	1.191	0.05	0.25				
50-59	0.233	1.96	0.05					
60-69	0.327	2.969	0.05					
70-79	0.436	4.238	0.05					
80-89	0.561	6.787	0.05					
90-99	0.701	7.633	0.05					

STAND & STOCK TABLE SHEET 1 - NUMBER OF TREES

1. Name of CF Tshagphu

2. Species Mix
Group Conifer

3. No of Plots 80

4. Block Name Tshagphu

5. estimated parameter : Average Number of Trees per Ha T Trees t

(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	110-119	120+	total	%
Blue pine	70.25	62.25	32.5	9.75	3.75	1.25	0.25						180.00	81.91%
Spruce	9.75	6.50	4.50	3.25	3.25	3.50	2.25	1.00	0.50	0.75			35.25	16.04%
Hemlock	0.25	0.25	1.00	1.00	0.25	1.00	0.25	0.50					4.50	2.05%
total conifer	80.25	69.00	38.00	14.00	7.25	5.75	2.75	1.50	0.50	0.75			219.75	100.00%
total broadleaf														
total all species	80.25	69.00	38.00	14.00	7.25	5.75	2.75	1.50	0.50	0.75			219.75	100.00%
%	0.37	0.31	0.17	0.06	0.03	0.03	0.01	0.01	0.00	0.00			100.00%	

STAND & STOCK TABLE SHEET 1 - NUMBER OF TREES

1. Name of CF	Tshagphu
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2. Species Group

Mix

Conifer

3. No of Plots

80

4. Block Name

Tshagphu

5. estimated parameter

**: Average Number
of Trees per Ha**

N Trees t

(report all values to 2 decimals)

Dbh class (cm)

[illegible]

STAND & STOCK TABLE SHEET 3 - VOLUME

1. Name of CF	Tshagphu													
2. Species Group	Mix Conifer													
3. No of plots	80													
3. Name of Block	Tshagphu													
4. estimated parameter	<div> <div> : Average Volume per Ha (m3/ha)</div> <div>T trees</div> <div>(report all values to 2 decimals)</div> </div>													
	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	110-119	120+	total	%
Blue pine	6.67	21.72	26.88	15.43	0.97	5.12	1.48						78.27	48.85%
Spruce	1.02	2.44	3.94	5.38	8.95	14.75	13.65	8.34	5.54	10.72			74.73	46.64%
Hemlock	0.02	0.06	0.52	0.95	0.38	2.30	0.81	2.19					7.23	4.51%
total conifer	7.71	24.22	31.34	21.76	10.30	22.17	15.94	10.53	5.54	10.72			160.23	100.00%
total all species	7.71	24.22	31.34	21.76	10.30	22.17	15.94	10.53	5.54	10.72			160.23	100.00%
%	0.05	0.15	0.20	0.14	0.06	0.14	0.10	0.07	0.03	0.07			100.00%	

STAND & STOCK TABLE SHEET 3 - VOLUME

1. Name of CF	Tshagp hu													
2. Species	Mix													
Group	Conifer													
3. No of plots	80													
3. Name of Block	Tshagp hu													
4. estimated parameter	: Average Volume per Ha (m3/ha) N trees (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	110-119	120+	total	%
Blue pine	0.74	4.36	3.72	2.77	0.66	1.03	1.48						14.76	19.45%
Spruce	0.16	0.37	0.87	1.66	0.69		1.52						5.27	6.95%
Hemlock			0.52	0.48	0.38	0.57	0.81						2.76	3.64%
total conifer	0.90	4.73	5.11	4.91	1.73	1.60	3.81	0.00	0.00	0.00	0.00	0.00	22.79	30.04%
Oak (Jeshing)	4.72	7.72	3.93	3.19	4.73	4.19	1.52	4.24					34.24	45.13%
Oak (Sisi)	0.07	0.08	1.44	0.39		1.05	1.53						4.56	6.01%
Populus	0.36	1.53	3.67	2.38	3.43	1.48	1.06						13.91	18.33%
Acer	0.08	0.07											0.15	0.20%
Rodo	0.08	0.14											0.22	0.29%
total broadleaf	5.31	9.54	9.04	5.96	8.16	6.72	4.11	4.24	0.00	0.00	0.00	0.00	53.08	69.96%
total all species	6.21	14.27	14.15	10.87	9.89	8.32	7.92	4.24	0.00	0.00	0.00	0.00	75.87	100.00%
%	0.08	0.19	0.19	0.14	0.13	0.11	0.10	0.06	0.00	0.00	0.00	0.00	100.00 %	

(report all values to 2 decimals)

STAND & STOCK TABLE SHEET 2 - BASAL AREA

1. Name of CF	Tshagphu													
2. Species Group	Mix Conifer													
3. No of plots	80													
3. Name of Block	Tshagphu													
4. estimated parameter	: Average Basal Area per Ha T (m2/ha) Trees													
(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	110-119	120+	total	%
Blue pine	1.19	2.92	3.02	1.52	0.87	0.41	0.11						10.04	43.46%
Spruce	0.16	0.31	0.42	0.51	0.76	1.14	0.98	0.56	0.35	0.64			5.83	25.24%
Hemlock	0.02	0.06	0.52	0.95	0.38	2.30	0.81	2.19					7.23	31.30%
total conifer	1.37	3.29	3.96	2.98	2.01	3.85	1.90	2.75	0.35	0.64	0.00	0.00	23.10	100.00%
total broadleaf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
total all species	1.37	3.29	3.96	2.98	2.01	3.85	1.90	2.75	0.35	0.64	0.00	0.00	23.10	100.00%
%	0.06	0.14	0.17	0.13	0.09	0.17	0.08	0.12	0.02	0.03	0.00	0.00	100.00%	

(report all values to 2 decimals)

STAND & STOCK TABLE SHEET 2 - BASAL AREA

1. Name of CF	Tshagphu													
2. Species Group	Mix Conifer													
3. No of plots	80													
3. Name of Block	Tshagphu													
4. estimated parameter	: Average Basal Area per Ha (m2/ha)													
	N Trees													
	<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	110-119	120+	total	%
Blue pine	0.13	0.59	0.42	0.27	0.06	0.08	0.11						1.66	19.12%
Spruce	0.03	0.05	0.09	0.16	0.06		0.11						0.50	5.76%
Hemlock			0.09	0.08	0.06	0.08	0.11						0.42	4.84%
total conifer	0.16	0.64	0.60	0.51	0.18	0.16	0.33	0.00	0.00	0.00	0.00	0.00	2.58	29.72%
Oak (Jeshing)	0.84	1.05	0.44	0.31	0.41	0.32	0.11	0.28					3.76	43.32%
Oak (Sisi)	0.01	0.01	0.16	0.04		0.08	0.11						0.41	4.72%
Populus	0.08	0.26	0.53	0.31	0.41	0.16	0.11						1.86	21.43%
Acer	0.02	0.01											0.03	0.35%
Rodo	0.02	0.02											0.04	0.46%
total broadleaf	0.97	1.35	1.13	0.66	0.82	0.56	0.33	0.28	0.00	0.00	0.00	0.00	6.10	70.28%
total all species	1.13	1.99	1.73	1.17	1.00	0.72	0.66	0.28	0.00	0.00	0.00	0.00	8.68	100.00%
%	0.13	0.23	0.20	0.13	0.12	0.08	0.08	0.03	0.00	0.00	0.00	0.00	100.00 %	

(report all values to 2 decimals)