



Micro Plan

Bio-Diversity Sub Committee **KOMIC VILLAGE**

Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihoods

Gram Panchayat ----- Langcha
B M C.....Langcha
BMC Sub Committee ----- Komic
Forest Beat.....Kibber
Forest Block.....Kibber
Forest Range ----- Wild Life Range, Kaza
Forest Division ----- Wild Life Division Spiti
Forest Circle.....Kaza

HIMACHAL PRADESH FOREST DEPARTMENT

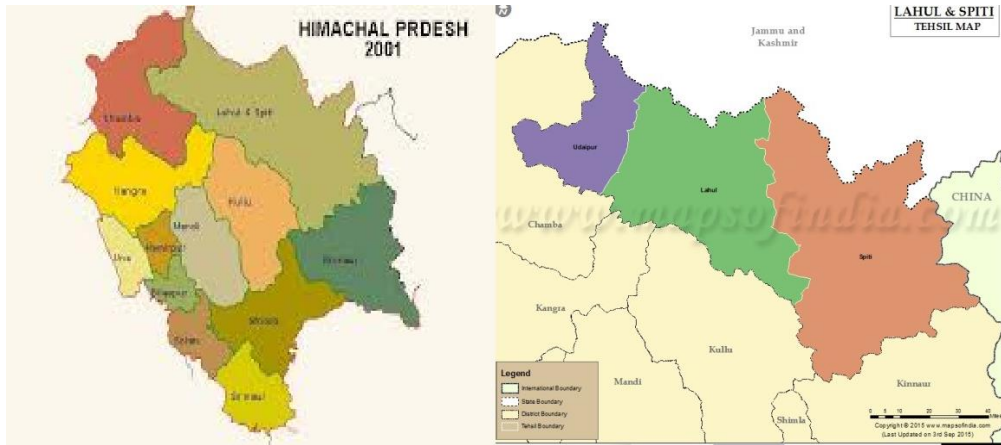


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Abbreviations & Acronyms	
ADMU	Assistant Divisional Management Unit
ANR	Assisted Natural Regeneration
BO	Block Officer
CBMP	Community Based Biodiversity Management Plan
EC	Executive Committee
CD&LIP	Community Development & Livelihood Improvement Plan
CIG	Common Interest Group
DMU	Divisional Management Unit
SMS	Subject Matter Specialist
FCCU	Forest Circle Coordination unit
Fgd	Forest Guard
FTU	Field Technical Unit
GIS	Geographic Information System
FD	Forest Department
GOHP	Government of Himachal Pradesh
GP	Gram Panchayat
Ha.	Hectare
HHs	Households
HP	Himachal Pradesh
HPFD	Himachal Pradesh Forest Department
IFMS	Integrated Forest Management System
IGA	Income Generation Activities
INR	Indian Rupees
JICA	Japan International Cooperation Agency
MIS	Management Information System
MM	MahilaMandal
NR	Natural Regeneration
NTFP	Non-Timber Forest Produce
O&M	Operation and Maintenance
PFM	Participatory Forest Management
PIHPFEM&L	Project for Improvement of Himachal Pradesh Forest

	Ecosystems Management & Livelihoods
PMC	Project Management Consultant
PMU	Project Management Unit
PRA	Participatory Rural Appraisal
RRA	Rapid Rural Appraisal
RO	Range Officer
SHG	Self Help Group
SWC	Soil Water Conservation
TOT	Training of Trainers
BMC	Biodiversity Management Committee
YM	YuvakMandal
WHS	Water Harvesting Structure

1. Introduction

1.1 Project Objectives

The objective of the “Himachal Pradesh Forest Ecosystems Management and Livelihoods Improvement Project”(HPFESMLIP) is to manage and enhance forest area ecosystem in the project area, by sustainable forest ecosystem management, biodiversity conservation, livelihoods improvement support and strengthening institutional capacity, thereby contributing to environment conservation and sustainable, socio-economic development in the project area in the state of Himachal Pradesh.

1.2 Project Approach and Strategies

The project aims to sustainably manage and enhance the ecosystems of the forests in the project area by project interventions under four components in correspondence with the project outputs as below. Each component has the preparatory phase, implementation and phase out phases.

Output 1: Sustainable Forest Ecosystem Management,

Output 2: Biodiversity Conservation and

Output 3: Livelihoods Improvement Support are supported by

Output 4: Institutional Capacity Strengthening

The basic approaches to be followed under the project to achieve the project objectives include;

Empowering forest-fringe communities, particularly women, through sustainable livelihoods and ensuring positive involvement of rural people in managing their own environment.

Strengthening community institutions such as Village Forest Development Society (VFDS) and Biodiversity Management Committees (BMCs)/subcommittees.

Alleviating poverty of the rural poor through income generating interventions.

Planning and implementing site specific technical and scientific forestry interventions, including soil and moisture conservation, restocking of degradation areas through appropriate Silvi-cultural operations utilization of the inherent potential of available root stock, under planting with suitable species, block plantations in blank patches.

Promoting inter- sectoral convergence (ISC).

Interventions to be planned and implemented by VFDS/JFMCs and Biodiversity Management Committee/subcommittees (Micro planning).

Capacity Development of Himachal Pradesh Forest Department and VFDS/JFMCs.

Promoting forest-based and non-forest-based enterprises (such as the value addition and marketing of medicinal & aromatic plants, etc.) to generate sustainable employment, develop industries and enhance the value of forests.

Caring for the socially disadvantaged groups in the society, such as scheduled castes, Scheduled Tribes, forest dwellers, women and other vulnerable people through proper safeguard measures as per the JICA guidelines and applicable Indian laws and regulations.

Institution capacity strengthening of Forest department and its personnel.

1.3 Mode of Operation

The identified areas shall be divided into Participatory Forest Management (PFM) Mode and Departmental Mode. In case identified potential interventions areas are away from communities but interventions are required for the purpose of the Project and the PFM institutes (VFDS/BMC sub-committee) showing their unwillingness to work in these areas, such interventions are to be conducted in the departmental mode. However, PFM mode shall be selected where applicable from the viewpoint of sustainability. The major activities to be implemented under different modes include as below.

PFM Mode

Drainage Line Treatment including ex-situ Soil & Water Conservation (SWC) work
Densification of moderately dense forests by Plantation of multi-purpose trees in degraded forests so as to convert open forests into moderately dense forests and moderately dense forests to dense forests; gap plantations should be preferred to be more effective on larger areas.

Afforestation/ Improvement of Open/ Scrub Forest

Rehabilitation of Forest Areas Infested with Invasive Species

Improvement of Pastures/ Grasslands (including in-situ SWC works)

Forest Fire Protection

Forestry Intervention at Outside of Forest Areas

Departmental Mode

Improvement of Forest Boundary Management at Project Intervention Areas

Improvement of Nurseries

Seedling Production

Non-PFM Drainage Line Treatment (ex-situ SWC work: including treatable Surface erosion Control)

Secondary Silvi-cultural Operations for Improvement of Existing Forests

Improvement/ Densification of Moderately Dense Forest

Afforestation/ Improvement of Open/ Scrub Forest

Improvement of Pastures/ Grasslands (including in-situ SWC work)

Forest Fire Management

In addition, the Community Development & Livelihood Improvement Plan (CD & LIP) will be executed by PFM institutions including Common Interest Groups (CIG), User Groups, Self-help Groups (SHGs) and Executive Committee of the VFDS.

1.4 Need for Sub-Committee Level Micro Plan

All the Project activities at the BMC sub-committee level shall be undertaken after preparation of a long-term (5-7 Years) development/ perspective micro plan.

Micro planning shall be considered as an empowering process that helps BMC sub-committee to learn more about themselves, their resources, issues and challenges, strengths and weaknesses, and further to plan for their own development and sustainable resource management.

The implementation of PIHPFEM&L activities at the BMC sub-committee level shall be guided by an approved Micro Plan prepared by the respective VFDS/BMC sub-committee. Micro plan preparation shall be the first step of implementation of the field activities.

Micro Plan shall be a comprehensive development plan with a special focus on forest and livelihood development. The micro plan shall cover both forest and non-forest areas managed by the BMC sub-committee. Micro plan shall integrate the needs of BMC sub-committee into comprehensive plan through analysis of current conditions, social assessment and interaction with the members, and with reference to the prescriptions of the Working Plan of the Forest Division.

Micro Plan will not only focus on forestry activities and it should be comprehensive so as to include all development activities that may be taken up by other Government Departments and Agencies through convergence. During the preparation of micro plan the BMC sub-committee shall interact with officials of other departments and after preparation of Micro Plan, it should be shared with other Government Departments and Agencies for dovetailing their activities in BMC sub-committee.

A Micro Plan shall consist of two types of sub plans; i) Forest Ecosystem Management Plan (FEMP) and, ii) Community Development and Livelihood Improvement Plan (CD&LIP) and shall be aggregated by FTU for each range.

Under the Micro Plan composed by FEMP and CD&LIP, broad action plan is to be prepared for 5 years based on the 10 year's vision. During the exercise, the achievements of the previous year shall be assessed and identify issues and corrective measures to further increase the efficiencies and effectiveness of the project implementation.

In the annual planning undertaken during 4th year, a broad action plan shall be prepared for the fourth coming 5 years. The process of the 2.5 year action plan shall follow the same step as discussed in the above section.

A copy of Micro Plan, when prepared, shall be shared with the Gram Panchayat, Block Development Office (BDO) and other Line Departments for dovetailing their activities in BMC sub-committee.

Although Micro Plan shall be prepared for a period of 5-7 years it would be revisited on annual basis.

2. Basic Information

2.1 Basic Information sheet on Micro plan

Name of the BMC Sub-Committee	Komic
Name of the Ward	Komic
Registration No.	HPCD- 3990
Name of Gram Panchayat/BMC	Langcha
Name of the FTU/ Range	Kaza
Name of the DMU/Forest Division	Kaza
Name of the District	Lahul&Spiti
Period of Micro Plan	2022-23 to -2027-28
Date of approval of Micro Plan by Executive Committee of BMC Sub-Committee	(BMC Sub-Committee resolution for approval of Micro Plan attached)
Date of approval of Micro Plan by Head of DMU	21/11/2022
Key team members engaged in Preparation of Micro Plan	Dr Pawan Kumar Attri Mr. Aman Kumar Ms. Diksha Kumari Miss. FTU Kaza Meenakshi Ms.FTU Tabo Chhodon Zangmo
Date of General house conducted & resolution passed	16/11/2022
Number of participants	Male: 5 Female:5 Total: 10
Voting Pattern followed for formation of BMC Sub-Committee EC	Nominated: Elected:
Number of members in EC	Male: 5Female:5 Total: 10

2.2 General Profile of BMC Sub Committee selected.

S. No	Description	Current Status
1	Date & Registration No. of BMC Sub-Committee	HPCD-3990 03/06/2022
2.	No. of Revenue Villages/ Ward/ Forest Villages covered	Ward- (Revenue Village Komic)
3.	Total number of households (HHs) in Ward	15
4.	Total No of household representing BMC Sub-Committee General House	10
5.	Total Population in Komic Ward	130
6.	Total General Categories HHs in Ward Komic	Nil
6	Total OBC HHs in Ward Komic	Nil
7	Total IRDP/BPL HHs	4 HHs
8	Total Livestock in KomicWard	127
9	Bank account details	Saving Account
10	Name of the Bank	SBI KAZA
11	Date of account opened	15/06/2022
12	Account number/IFSC	409451781708 IFSC-SBIN0003337

2.3 Details of EC Members of BMC Sub-Committee

S. No	Name	M/Fe	Designation	Category	Village
1	Tanpa	M	President	ST	Komic
2	Tanzin Angmo	F	Vice-President	ST	Komic
3	Padma Lama	F	Secretary	ST	Komic
4	Chhering Funchok	M	Member	ST	Komic
5	Yonten Dolma	F	Joint Secretary	ST	Komic
6	Tanzin Norzang	M	Member	ST	Komic
7	Sonam Chhodan	F	Member	ST	Komic
8	Chhering paldon	F	Member	ST	Komic
9	Surya Bhagat	M	Member	ST	Komic
10	Suresh Kumar	M	Cashier	ST	Komic

3.

Micro Planning Process

Before starting the micro-planning process FTU-Team Conducted the Gram Panchyat Awareness Meeting in Komic village, In this Meeting Panchyat representative, other villagers of Panchyat area participated. FTU team discussed about Jica Project and its objective with Participants in detail. After this meeting, FTU Team conducted the ward level awareness meeting in Komic ward with the help of Ward members and other sources. Then resident of Komic ward agreed for jica project implementation.

Sub-committee level Micro Plan consists of Community Based Management Plan (CBMP) and Community Development & Livelihood Improvement Plan (CD&LIP). For activities to be implemented through line department/agencies detail of Convergence activities also added to the Micro Plan. The detailed process followed in preparation of micro plan focuses on information collection primary, secondary sources, ward level meetings and other meetings held with primary and secondary stakeholders. The information also collected from different sections of the community using Participatory Rural Appraisal (PRA) and RRA techniques. During PRA focus group discussions (FGD) with the specific groups i.e. vulnerable families OBC/Women was held. The information collected was triangulated with different groups and finalized in a plenary session.

The information collected was analysed jointly with the active members of Sub-Committee and other community participants. A meeting was conducted to share the primary information collected. The changes were incorporated based on the participants' consensus.

The participants were divided into different sub-groups such as farmers, women, youth, poor, labour, etc. to identify their problems, perceived needs and priorities. The sub-groups suggested the possible solutions to deal with their needs & priorities which emerged during the group exercises. A detailed set of perceived problems and solutions was developed jointly by micro planning team of the project and the Sub-committee members. During PRA exercise women and men were given maximum opportunities to bring forward forest related and livelihood related issues.

The perceived problems, solutions and information collected through primary and secondary sources were discussed with General house of Sub-Committee. A refined set of

problems and solutions emerged to take it forward for inputs from the technical staff and the experts to finalize the Micro Plan especially the CBMP. Executive Committee of ward was also formed in the General house according to the HP Forestry Project guidelines. For Forestry interventions User Group were also formed.

Technical staff of HPFD and Community focused on quantification and decided a tentative target for different interventions and prepared cost estimates based on the Project norms and locally prevailing rates. The micro plan is finalized in consultation with Field Technical Unit (FTU), Divisional Management Unit (DMU) and Executive Committee of Sub-Committee and inputs from other experts.

The details presented in the following table indicate the critical steps followed in micro planning process.

S. No	Sequential Steps Followed Addition can be made as per locally followed process	date
	Community awareness building meetings/workshops organised at GP & ward Level	10.10.2021
	GP Consent to work with project and BMC Sub-Committee formed/Executive committee constituted /sub-committee Registered.	
	Action plan prepared with Sub-Committee for Micro Plan Preparation	
	Micro planning process started /PRA exercise conducted (From- To)	
	Participatory information analysis carried out (From-To)	
	Negotiation/planning process held (From- To)	
	Participants involved in negotiation/planning process (Male & Female)	35-40 (more than 50% were female)
	Presentation of the draft plan in village/ward assembly for approval	

	Documenting the micro plan (From- To)	
	MOU signed between DMU and EC of Sub-Committee for undertaking micro planning and implementation	
	Problems/challenges experienced	1.Sub-Committee is far away situated and village women were available after 12 pm to 2.30 pm (after completing daily daily agriculture /animal husbandry related works.

4.

Socio-Economic Status of Komic

4.1 General Description of the BMC Sub- Committee

4.1.1 History of Area selected: -

Komic, literally meaning “eye of a snow cock” (Ko - snow-cock, mic - eye), is a remote village in Spiti valley. Having its fame as the Highest village in the world connected with a motorable road, Komic is quite a destination for most people traveling to Spiti. It is at an elevation of meters 4724(15,500 ft) and about 19 kilometers from the town of Kaza. Known to be the highest village in the world also highest motorable roads There are many important and noteworthy spots near the village, including Langza village (Fossil Village of India) and Hikkim village (the highest village with a post office). One of the highlights of Komic Village is the well-known 14th century LundupTsemo Gompa Buddhist Monastery. The monastery is famous for Maitreya Buddha or 'the future Buddha,' that takes care of the well-being of the locals. It is the highest motorable Buddhist monastery in the world where avid bikers and travellers have visited. The monastery has a strong castle made of slanted mud walls, showcasing the murals, scriptures and arts of the olden days. Komic hosts dozens of festivals all through the year-one of the specialties being the Lamas doing Chham dance or mask dance. Komic gets cut off from the world during the snowfall season. The residents of this village store a good stock of grains to last them throughout the biting cold winters, and engage themselves in weaving carpets, shawls as well as making jackets, caps, paintings etc. homestays and hotels with basic facilities for the tourists are available in Komic. However, the warm hospitality offered by the people compensates for the lack of luxury in the accommodations.

4.1.2 Location of BMC Sub-Committee Area: -

Komic Sub-Committee fall under LangchaBMC/Gram Panchayat in Spiti block of Lahul&SpitiDistrict. The selected BMC Sub-Committee area falls under Kibber beat of WL Kibber Range in WL Kaza Forest Division Management Unit (DMU). KomicSub- Committee Situated near KibberWild Life Sanctuary and Sub-Committee Komic falls near Kibber Beat of Territorial Range of Kaza. Location Map is attached on **Page No. 3**

Boundary: - The boundary of selected BMC Sub-Committee area is as under: -

East = DemulVillage

West = Kaza

North = Langcha Village

South = Forest land

Distance from Forest and other offices: -

Komic BMC Sub-Committee area is located at a distance of 16 km from WL Range office; Revenue block office, DMU office and the 200 km district headquarterkeylong.

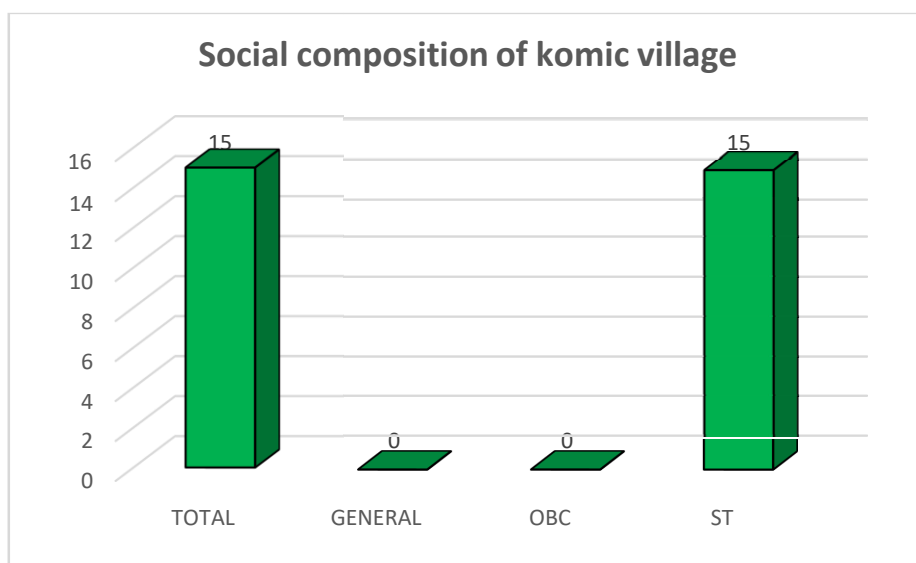
Important features of BMC Sub-Committee: -

“World Highest moterable road in Komic”and “Fossil”found in this areaunder this Sub - Committee area. Tourist comes fromall over India to visit this famous site during summer season to enjoy the scenic beauty and climate.

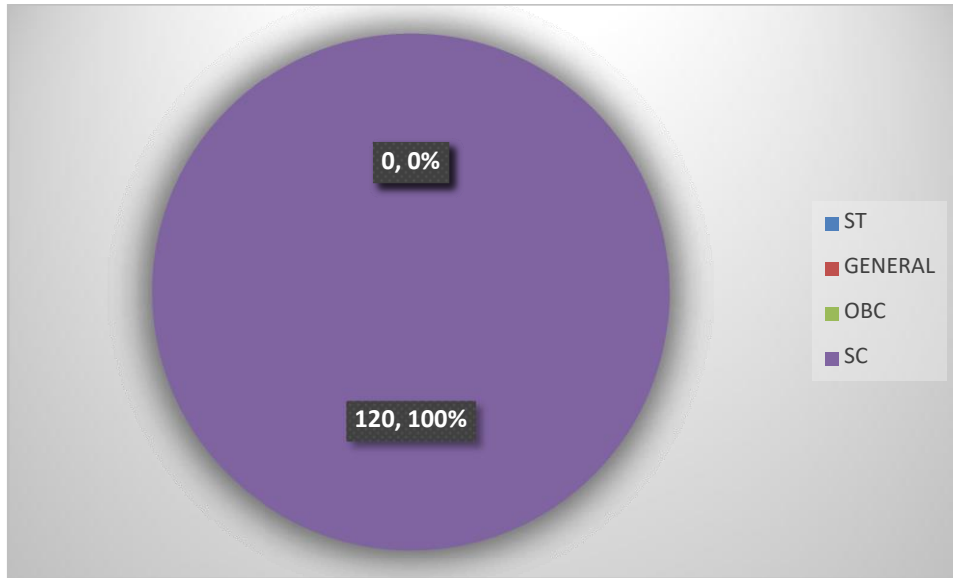
4.2. Social composition

Households (HHs)	ST	OBC	General	Total
No of HHs	15	0	0	15
% Of HHs	100	0	0	100%

- In Komic Sub-Committee 15 HHs belong to ST category, no one of belongto OBCand Gen.Category.



- 100% HHs are belong to ST category.



4.3 Population

Social category	Population (Number)					
	Male Adults	Female Adults	Total Adults	Male Childre n	Female Childre n	Total Children
OBC	00	00	00	00	00	00
ST	90	40	130	7	3	10
Total	90	40	130	7	3	10

Total population of Komic Sub-Committee is 130. Out of these 90 are male and 40 are female. Male children are 7 and female children are 3.

Out of total population 130 all of them belongs to ST category, none of which belong to OBC category.

4.4 Educational Status

4.4.1 Educational Status (Adults)

Level	Number		
	Male	Female	Total
Illiterates	17	11	28

Percentage (Illiterates)	18.88%	27.5%	21.5%
Primary education	8	2	10
Middle education (10 th)	13	15	28
Higher Secondary (12 th)	42	7	49
Graduates and above	10	5	15
Professional courses	0	0	0
Total literates	73	29	102
Percentage(literates)	81.11%	72.5%	78.46%

78.46% people are literate. Out of these 81.11% males are educated while 72.5% females are educated. Where as 21.5% population is illiterate out of which 18.88% male and 27.5% female are illiterates. 17% are middle level educated, 49 are higher secondary level and only 15 are graduates and above.

4.5 Economic Categories

4.5.1 Wealth ranking as per PRA exercise

Category	Criteria/Indicator	No of HHs	Category code**	Category Wise	
				Gen	ST
Better off	Govt. Job, work charge, part time	8	A	00	8
Manageable	Agriculture	3	B	00	3
Poor (BPL)	Small Farmers, Labour	4	C	00	4
Total		15		00	15

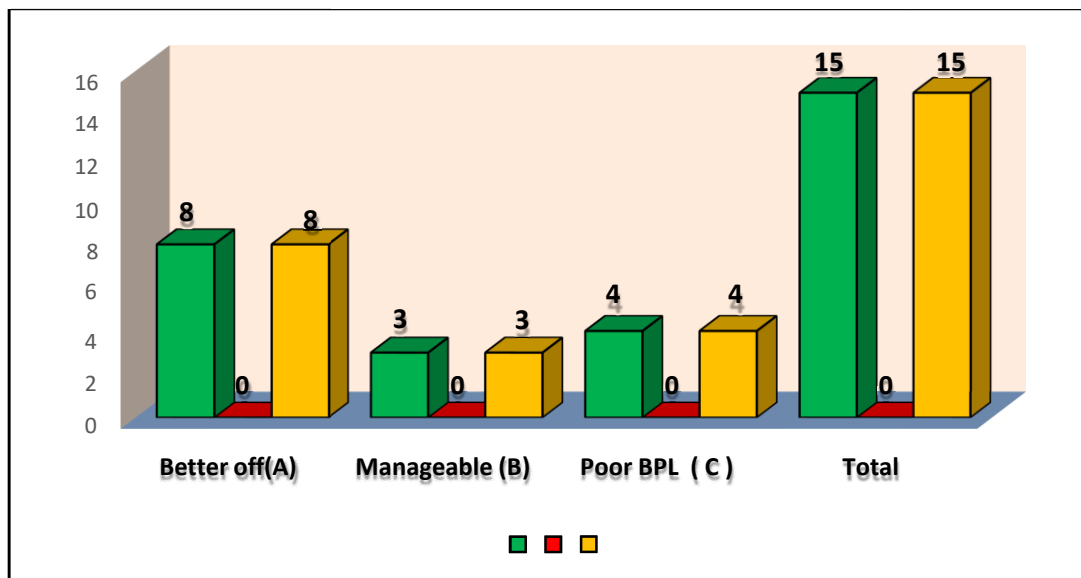
Vulnerable HHs are those which do labour work, and are supported by relatives financially.

Poor category is of small farmers who have less land and also do labour work.

Manageable category includes people involved in agriculture having land between 03 to 06 Bigha do exclusive agriculture

Better off do Govt. jobs, and are having agriculture land more than 6-11 bigha and some short of job like part time worker, work charge etc

In BMC Sub-committee people belong to B category 20%, and poor (BPL) with small holding doing labour work for other peoples are 27%.



HHs Above and Below Poverty Line (As per Government Criteria)

Households	Total	APL	BPL
No of HHs	15	11	4
% of HHs	100%	73%	27%

During livelihood analysis B category HHs showed 50 % dependence on Agriculture, 50% on govt job work for their livelihoods.

Where as category B (Manageable) HHs showed 60% dependence on Agriculture and Animal husbandry and Labour 40% deficiency in meeting their livelihood requirement.

There is no category A class found in this area

4.6 Access to Basic Facilities/Services

Facilities/Services	Availability (% HHs)	Distance (Km)	Current status
Toilets	100%	-	98% of the Toilets are in good condition and are being used. Most of the Toilets are without flushing tank. However, there is erratic supply of water during

			winter & in summer.
Toilets with flush water	-	-	-
LPG	100%	19 Km.	Use of LPG is not regular as per average only 6 LPG Cylinder are used per year/Per HH
Improved stove/Tandoor	100%	-	100 % HH have Tandoor for Heating and cooking also
Electricity	100%		100% HH have electricity connection In winter, snow fall time electricity fails
Drinking water	100%	05 -1Km	100 % HH have Drinking water connections
Health services	100%	19 KM HQ	There is no Health service is BMC Komicvillagers go to Kazafor Treatment
Veterinary services	100%	19 KM.	Veterinary Service is Available in Kaza.
Banks	100%	19KM.	villagers go to Kazafor avail Bank Services
Markets	100%	19 KM.	Villagers go to Kaza,for Purchasing. Shops are not available in village for Daily Needs Product
Anganwadi	100%	100 to 1000 Mtr.	Aganwari available in village with good service
Primary schools	100%	100 to 1000 Mtr.	Primary Schoolavailable within the village with good Service
Secondary schools	100%	19 Km	Sr. Secondary School available in Kaza.
PDS	100%	0.5-02 KM.	PDS available with in KomicVillage with better Service
Transport	100%	04-05	Govt. Bus service and Pvt service (Taxi)

		KM.	available in Langcha Village
Telecommu nication	100%	10 km	All HH have Mobile Phones with poor networks

5.

Resource Analysis**5.1 Land Resources****5.1.1 Land Use Pattern**

Land use	Total land	Land under cultivation	Forest land/area	Orchard	Wasteland area	Water body area	Area under Non-agriculture use
Area (ha)	129	19.35	0.79	0	14.02	-	3.39
% Area (ha)	100%	15%	0.61%	0	10.86%	-	2.62%

5.1.2. Land Ownership Pattern

Land Ownership	Private land	Community land	Panchayat land	Forest land	Waste Land	Total
Area (ha)	104.3	-	-	0	3.73	104.3
% Area (ha)	100%				3.58%	100%

Livestock Population Komic Village

No.	Cow	Sheep/goat	Yak	Horses/Mules	Total
	60	27	20	20	127

5.2 Forest Resources**5.2.1 Forest Area****5.2.1.1 Site Selection and Location**

This site has been short listed by the DMU and his field staff. Bio-diversity Management Committee Langcha had formed by Himachal Pradesh State Biodiversity Board under

Biodiversity act 2002. As per guidelines of JICA, three sub-committees had to be formed under BMC. The selected BMC/Gram Panchayat Langcha has three wards.

The Sub-Committee Komic area falls under Forests falling under One Forest beat of Langcha range. The site Sub-Committee Komic is situated near Kibber Wildlife Sanctuary. The site is approximately 16 Kms from WL Range office Kaza. Location *Map is attached*
Page No. 03

5.2.1.2 Data from Wildlife Forest Division for Community Based Bio-Diversity Management Plan (CBMP)

Kibber Wildlife Sanctuary

Notified on 1.11.1999 comprising area of 1400.00 sq km. And on dated 28 July 2010 it includes an area of 867 sq. Km to the existing 1400 sq km whereas 46.88 sq km area of excluded along with village Kibbri from existing 1400 sq km of Kibber wildlife Sanctuary. The total area of 2220.12 sq km shall now constitute the Kibber Wildlife Sanctuary after rationalization. The sanctuary has three beats Kibber, Langcha and Lalung. The area of Kibber beat is 1124.50 sq km.

Being a high altitude sanctuary KWS is home to a variety of rare animals like Ibex, blue sheep, red fox, Tibetan woolly hare, Himalayan Wolf Lynx, Pika elusive snow leopard. Birds that are found here include the Himalayan snow cock, Himalayan billed chough, the bearded eagle and griffons, and the sanctuary also offers a great view of the region's peak Chau-chau Khanam & Chau-chau Khang Nilda.

Despite being a high altitude cold desert, Spiti boasts of more than 450 species of medicinal and aromatic plants. These include Seabuckthorn, Hatagirea, Aconitum, Ratanjot, Ephedra, Artemisia and other condiments. The alpine pasture on the high plateaus is home to a variety of small bushes and grasses includes Rosa sericea, Hippophae and Lonicera among others. Threatened plants species are *Arnebia euchroma*, *Berginia stracheyi*, *Physochlaena praealta*, *Rhodiola heterodonta*.

This area is situated within the Geo-coordinates. North Latitude 32°13'54" N and Longitude 78°06'53" E. This area falls on survey of India topo sheet No. 52 L & 52 H of scale 1" = 4 miles. Area of Wildlife Sanctuary is 2220.12 sq.km. North boundary of the Sanctuary starts from a point on Lunghe Nalla follows downstream upto its confluence with Maung Nalla then crossing Malung Nalla boundary meets interstate boundary of Himachal Pradesh and Jammu & Kashmir state where it forms V shape and then moves around the

same interstate boundary of Himachal Pradesh and Jammu & Kashmir upto turning point near Nurbula. East: From turning point inter state the again moves along the inter state boundary of Himachal Pradesh and Jammu & Kashmir upto the point where that boundary ends and meet with international boundary i.e., Gya Peak which is highest peak height 22290 feet then moves along international boundary of India and Tibet upto top of Lingti River then again moves along international boundary upto the point where it forms again V shape. South: South boundary start from V shape on the international boundary and moves along a ridge entering into Spiti Wildlife Division separating the water shed of Lingti river in the north and watershed of Spiti river in the south upto the top of Kibbri nalla. West: west boundary starts from top of Kibbri nalla and then follows a ridge between Kibbri nalla and Shiji Bhang nalla upto its confluence with Lingti river down stream upto village Sanglung and then across Lingti river boundary goes to Khukhe nalla leaving aside Sanglung village and then follows a small ridge upto the top of the nalla near Langcha village in the opposite side the follows the same nalla down stream upto its confluence with Shila nalla and then across Shila nalla boundary follows a small nalla in opposite to side upto its top height Dhunbhschen 16900 feet and then follows a small nalla in the opposite side and moves along the same nalla down stream upto its confluence with Puri Lungbhi and then follows Puri Lungbhi up stream upto its top Prangla height 18300 feet then boundary moves along a ridge separating the water shed of talking river, Tanmu river and Kibji river in the south and Lungher river and Malung river in the North and meet in Lungher nalla at starting point of Northern boundary.

5.2 Description of the forests (Sanctuary area)

The entire Spiti region is classified under the 'Trans-Himalayan Cold Desert' biogeographic zone. The vegetation in Spiti is classed as 'Alpine scrub' or 'dry alpine steppe' vegetation. Such areas are characterised by scattered and open bush-land mainly with herbaceous and shrub species such as *Artemisia spp.*, *Lonicera spp.* and *Caragana spp.* The graminoids such as *Festuca spp.*, *Poa spp.* and *Stipa spp.* are found in the area, but by and large their biomass seems to be depleted (Mishra 2001). Today, the two important vegetation formations in the region include open or desert steppe dominated by grasses and sedges (e.g. *Stipa spp.*, *Leymus spp.*, *Festuca spp.*, *Carex spp.*) at altitudes up to 4,600 m, and dwarf shrub steppes between 4,000 and 5,000 m dominated by shrubs such as *Caragana spp.*, *Artemisia spp.*, *Lonicera spp.* and *Eurotia spp.* Mesic sites such as river valleys and areas along springs and glaciers are often covered by sedge meadows

(*Carex* spp., *Kobresia* spp.). Vegetation occurs up to 5,200 m, but becomes sparse above 4,800 m, and is limited to forbs such as *Saussurea* spp. and *cushionoid* plants such as *Thylacospermum* spp. The important plant families include *Graminae*, *Cyperaceae*, *Brassicaceae*, *Fabaceae*, *Ranunculaceae*, and *Leguminosae*. The Villagers from Komic and Komic and Langcha Sub-Committee have their rights in this Forest area. The Villagers of these areas depend on this Forest area for Fodder, Fuel wood and Timber. The requirement of Fodder and Fuel wood of Villagers does not fulfill from this Forest area so they also go to Sanctuary area for fulfill their requirements.

Geology, Rock and Soil:

The area is characterised by sharp changes in a combination of quartzite, shales, limestones and conglomerates. Most of the area is rich in fossils, mainly brachiopods, trilobites, ammonites, bivalves and also certain corals and algae, indicating its Tethyan past. The high-altitude desert soils are predominantly sandy and shallow, derived mainly by disintegration due to marked diurnal and seasonal fluctuations of temperature. The soils are mostly silty loam to silty-clay loam in texture with a slightly alkaline pH, poor organic matter and water holding capacity. The soils are low in available nitrogen, phosphorous, potassium and carbon, however are better supplied in calcium.

Terrain:

All of Spiti occurs above an elevation of 3,000m. The lowest point is where the river flows into the Kinnaur district near Hurling. The river cuts a deep gorge in the lower areas and opens up further upstream near Tabo where the river meanders over a vast valley, at times close to a kilometre wide. The slopes on the right bank of Spiti are more rugged and have longer streams, while the left bank is less rugged. In fact there is a 40km plateau from Kibber to Demul on the left bank, which also extends into much of the mid Lingti valley, covering over 500km². Of the c. 7,600 km² covered by Spiti. There are Shilla (6,132m) which are popular climbing destinations. Apart from the access along the main Spiti River, the important passes are Pir Panjal range, the Parang la (5578m) and Takling la (5575m) with the Pare Chu Valley, on the Zaskar range, and the Kunzam la (4590m) with the Chandra Valley.

Climate:

Spiti occurs on the leeward side of the Pir Panjal branch of the Himalaya that cut off the Monsoonal effect from the plains rendering the area dry and cold. Westerly disturbances in the winter bring some precipitation in the form of snow. The temperatures can range

from - 40 in peak winter, to 30degree Celsius in peak summer, with the minimum temperature remaining sub zero from September to April in most places. Severe winds occur almost every day and are further reason for the desiccated atmosphere and lack of trees. Te overall climate is thus dry and cold with a long winter extending from mid-November to March.

Precipitation, Temperature, Wind Speed and Humidity:

Recent local reports and metrological data suggest a marked change in whether patterns in Spiti such as an increase in summer precipitation and a decline in winter snows. Winter snows are important for both providing irrigation water through snowmelt streams in summer as well as soil moisture for rangelands during the crucial spring and early summer period. Late summer rains in (July-August) are seen as threats to standing crop.

Water sources:

The Sanctuary area is well drained; the Sanctuary falls under water shed of LingtiRiver in the north and watershed of Spiti River in the south upto the top of Kibbri nalla. There are numerous seasonal nala are Lungher nalla, Maung nalla, Kibbri nalla, Kibbri nalla and Shiji Bhang nalla, Shila nalla. These streams and nalas are uniformaly distributed over the sanctuary whole area are well drained and it falls in catchment of of talking river, Tanmu river and Kibji river in the south and Lungher river and Malung river inthe North.

Range of wild life, status distribution and habitat:

Te mammalian diversity of Spiti is not exceptionally large, but range-restricted species occur here. Te primary large mammals reported from the landscape are the snow leopard, Asiatic ibex, bharal or blue sheep, Tibetan wolf and red fox. All of which are nationally threatened, and many are also internationally threatened. based on existing literature, prominently represented in the avifaunal composition are Considering the good representation of high altitude habitats and their potential to hold good populations of representative avifauna, Kibber WLS Snow Partridge (*Lerwalerwa*), Hume's Short-toed Lark (*Calandrellaacutirostris*), Rosy Pipit (*Anthusroseatus*), Robin Accentor (*Prunella rubeculoides*), Brown Accentor (*Prunella fulvescens*) White-winged Redstart (*Phoenicuruserythrogaster*), Himalayan Grifon (*Gyps himalayensis*), Himalayan Snowcock (*Tetraogallushimalayensis*), Snow Pigeon (*Columba leuconota*) etc.

Alpine Pastures:

The entire Spiti region is classified under the 'Trans-Himalayan Cold Desert' (Zone 1) biogeographic zone with the province 'Ladakh mountains' (1B) covering most of the

southern bank and the 'Tibetan plateau' (1A) covering the northern bank as per the Wildlife Institute of India's biogeographic classification.

The vegetation in Spiti is classed as 'Alpine scrub' or 'dry alpine steppe' vegetation. Such areas are characterised by scattered and open bush-land mainly with herbaceous and shrub species such as *Artemisia* spp., *Lonicera* spp. and *Caragana* spp. The graminoids such as *Festuca* spp., *Poa* spp. and *Stipa* spp. are found in the area, but by and large their biomass seems to be depleted. Today, the two important vegetation formations in the region include open or desert steppe dominated by grasses and sedges (e.g. *Stipa* spp., *Leymus* spp., *Festuca* spp., *Carex* spp.) at altitudes up to 4,600 m, and dwarf shrub steppes between 4,000 and 5,000 m dominated by shrubs such as *Caragana* spp., *Artemisia* spp., *Lonicera* spp. and *Eurotia* spp... Mesic sites such as river valleys and areas along springs and glaciers are often covered by sedge meadows (*Carex* spp., *Kobresia* spp.). Vegetation occurs up to 5,200 m, but becomes sparse above 4,800 m, and is limited to forbs such as *Saussurea* spp. and cushionoid plants such as *Thylacospermum* spp... The important plant families include Graminae, Cyperaceae, Brassicaceae, Fabaceae, Ranunculaceae, and Leguminosae.

These pastures are found above the tree line up to limits of PA. A variety of medicinal herbs are found in these pastures.

Food, water and shelter are the primary requirements of any living being. Sufficient quantity of food and water both for animals and birds is available in the sanctuary. Some parts of the sanctuary are disturbed due to grazing of domestic and stray cattle. For wild life this factor is very important as hiding places, shelter, nesting, resting, play, food availability all get disturbed and wild life avoid these areas. The food source in shape of grass and other biomass is present in insufficient quantity. Different herbivores prefer diverse food under different circumstances so nothing can be said about quality of food availability. Even sufficient food present may not be available for the wildlife species due to various factors that attract or repel wild life. Disturbance becomes a limiting factor.

Available boasts of more than 450 species of medicinal and aromatic plants. These include Seabuckthorn, *Hatagirea*, *Aconitum*, *Ratanjot*, *Ephedra*, *Artemisia* and other condiments. The alpine pasture on the high plateaus is home to a variety of small bushes and grasses includes *Rosa sericea*, *Hippophae* and *Lonicera* among others. Threatened plant species are *Arnebiaeuchroma*, *Berginistracheyi*, *Physochlaenapraealta*, *Rhodiolaheterodonta*.

Animals

Vertebrates, their status, distribution and habitats. Habitat quality, quantity and key areas

The mammalian diversity of Spiti is not exceptionally large, but range-restricted species occur here. The primary large mammals reported from the landscape are the snow leopard, Asiatic ibex, bharal or blue sheep, Tibetan wolf and red fox, all of which are nationally threatened, and many are also internationally threatened. Among the herbivores, ibex occupies much of the right bank and bharal, the left bank of Spiti River. Ibex also occurs on the left bank from the Lossar till near Kioto for potential distribution. Bharal extends into the Pare Chu valley also. During the field survey over 200 blue sheep were sighted along with road extended to dumel village over 300 blue sheep in the Lingti valley and about 25 in the Pare-Chu catchments. Ibex is mainly distributed in the narrow valleys of the tributaries of the Spiti River along its right bank. Although snow leopard occurs throughout the upper Spiti valley their signs were more frequent in the Lingti river catchments and the gorges formed by the Ula, Ratang and Guindi nala. Other animals are Asiatic ibex, Bharal or Blue sheep, Tibetan wolf, Red fox, Himalayan weasel etc

It is important to analyze the resources available in the sanctuary in terms of habitat, which ultimately control and regulate the wildlife. Habitat can be analyzed in terms of space, food, cover, presence of other animals and climatic factors. Space multidimensional factor is a primary prerequisite for wildlife. The length and width gives the quantity of area available, thickness indicative of number of layers available for different species. The quality and quantity of each of these dimensions gives the idea of nourishment of wild animals, which is in abundance in this PA.

5.2.1.3 Selection of Intervention areas, planning and treatment: -

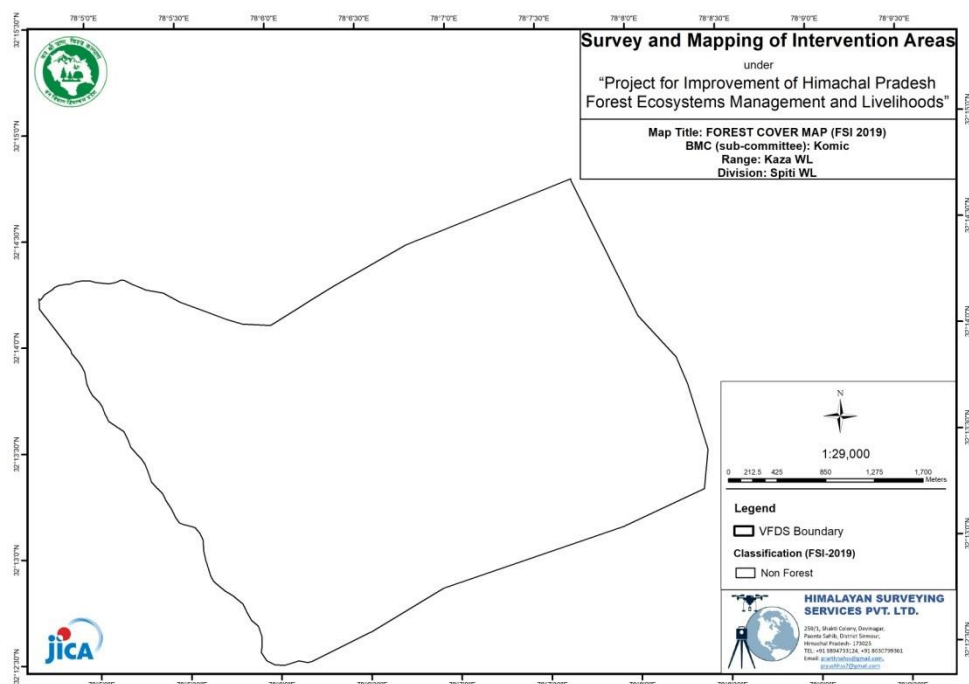
The entire ward has been selected as site by DMU Kaza and his field staff following project guidelines which included forest being in a state of degradation to various degrees, deficient to meet with the demand and supply chain to the local right holders around the forest.

The Potential intervention areas /treatment plots have been identified during Micro planning exercises by technical staff (Fgd, Block Officer and Range officer/ACF Kaza.) The activities to be carried out stands discussed with villagers in detail during PRA exercises. The selected plots, community land /patches are either open areas or are

blank, which would be planted with multipurpose species varying from 500-1000 per hectare.

5.2.1.4 Map of potential Sites Selected (FOREST)

Social Map, Resource Map, Potential/intervention area Map, proposed intervention Maps are attached as Annexure-III, V, VI, the Google earth pro map of Sub-Committee area is annexed as Annex-III. Technical maps would be prepared by technical team to be hired by JICA Forestry Project. (Land use map, Forest cover map/ Forest Density map, GP and Ward boundary maps, Treatment area map)



5.2.1.6 Data and maps on grazing, fire, other risks

Livestock grazing

Cows	15	4	60
yak	15	1	20
Goats/Sheep	15	2	27
Horse/Mule	15	1	20

As many as 60 Desi cows 27 sheep/goats ,20 yak and 20 mule/horse are reported in this village. The local right holders had been allowed to graze their cattle, sheep and goats in the past as per their rights recorded in the Settlement Report. Grazing cause problems to wildlife such as:

Competition for food.

Disturbance.

Transmission of diseases

Soil Erosion.

Increase in the quantity of unpalatable grasses and weeds.

Illegal grazing is occasionally a problem in the area as stray cattle from in and around the protected area graze inside the sanctuary mixed with the cattle of right holders, thus, disturbing the wildlife. This problem is being eradicated with the enforcement of guidelines received from the MoEF& CC regarding suspension of rights.

No grazing permits are issued for grazing of cattle in the area. Generally, the people of the villages situated outside the sanctuary send their redundant cattle to the forests at night especially during rainy season. The villagers also take their livestock to high altitude pastures for grazing during summer season. They remain unattended and forest staff is forced to remove them out of the sanctuary and some cattle also become prey to the wild animals.

Wildfires

Area falls in -alpine zone. There are no trees. long winter area covered with snow and glacier. So, no incidence of fire in this area

5.2.1.7 Human Wildlife Conflict

Human -Wildlife conflicts often hamper the well -being of people and information on the issue was facilitated during the PRA exercise. Information about wild animal causing damage to crop and livestock in the project site was gathered and is given in Table:1.13 (there were 19 cases of livestock predation by snow leopards or wolves in 2015, and 28 cases of livestock predation in 2016 in upper spiti area, Source: Snow leopard Trust, Nature Conservation Foundation, Mysore).

Prescriptions:

Awareness programme/ workshops should be organized for local people to make them aware about dos and don'ts in case of encounter with wild animals.

The local people should be made aware about various departmental welfare programmes, especially about the procedure to file compensation claim.

A rapid response team consisting of trained officials along with equipment's should be stationed either at Range or Division HQs to deal with any exigencies.

Fodder tree plantations shall be developed on the periphery of the villages and stall feeding may be promoted.

5.2.1.8 Data and map on intervention Areas/Treatment plots

Cost norms applied for calculation are as per Forest Department approved norms. Plants, pit sizes are accordingly to models prescribed and approved by Forest Department and Project guidelines. The forests have been visited by team again and again and as per the site conditions treatment plots have been prescribed. The nallatreatment, soil conservation works are applicable in this Sub Committee area. Local ghazis are quite well maintained one plot with patch sowing has also been prescribed. Fencing part has been critically analysed keeping in view local conditions as well as biotic pressure and accordingly prescribed. Total 6 Hac community land have been identified.

Table 5.2 .1: Plot wise details of Sub-Committee

S. No	Plot name	Plot No	Area	Latitude longitude	PFM mode	FD mode
1	Komic ward	1	6	32° 13'54" 78 °06' 53"	Yes	---

5.2.2 Trend in Community Dependency on Forests (as per PRA exercises)

Criteria	Availability & Access in the Past	Current Availability & Access
Major species available	<i>Trigonella emodi</i> , <i>Cicerarietinum</i> , <i>Festucarubra</i> , <i>Geranium</i> , <i>Cousiniathomsonii</i>	<i>Aconogonum</i> , <i>Trigonellaemodi</i> , <i>Cicer arietinum</i> , <i>Festuca rubra</i> ,
Major NTFPs available	<i>Aconitum</i> , <i>Arnebiaeuchroma</i> , <i>Codonopsisclematidea</i> , <i>Gentiana</i> , <i>Pedicularis</i> , <i>Dactylorhizahatagirea</i>	<i>Arnebiaeuchroma</i> , <i>Hippophaetibetana</i> , <i>Dactylorhizahatagirea</i>
Fodder availability	<i>Trigonella emodi</i> , <i>Cicerarietinum</i> , <i>Festuca rubra</i> , <i>Geranium</i>	<i>Trigonella emodi</i> , <i>Cicerarietinum</i> , <i>Festuca rubra</i> , <i>Geranium</i>
Fuel wood availability	<i>Astragalus candolleanus</i> , <i>Krascheninnikovia</i> <i>Ceratoides</i> , <i>Ephedragardiana</i> , <i>Caragana brevifolia</i> , <i>Lonicera spinosa</i> , <i>Salix</i> , <i>Hippophaetibetana</i>	<i>Lonicera spinosa</i> , <i>Salix</i> , <i>Hippophaetibetana</i> , <i>Caragana brevifolia</i> ,
Timber availability	<i>Caragana brevifolia</i> , <i>Lonicera spinosa</i> , <i>Salix</i> , <i>Hippophaetibetana</i>	<i>Caragana brevifolia</i> , <i>Lonicera spinosa</i> , <i>Salix</i> , <i>Hippophaetibetana</i>
Access to open grazing	Easy access	Only sheep & Goat
Access to fuel wood	Easy access forests land being nearer	Have to move far off
Access to fodder	Easy access forests landbeing nearer,	Have to move far off, some fodder species have been grown on agriculture field bunds/slops
Access to timber	Easy access forest land being nearer	There is no tree forest, resulted they depends upon shrub woody

		species
Access to NTFP	Easy access	Forest land being nearer, but only some people or amchi collect for their personal uses .no commerisialzation of NTFP

5.2.3 Households Depending on Forest (as per PRA exercises)

Category	% HHs depending on forest				
	NTFP	Fuel wood	Fodder	Grass	Other
Primary forest users	20%	100%	70%	50%	-
Secondary forest users	10%	30%	15%	10%	-

Primary forest users for fuelwood are 100%, for fodder 70% and for grass collection 50%. Secondary forest users for fuelwood is 30%. People from adjoining villages also visit this forest area.

5.2.4 Forest resources of the selected area (as per PRA exercises)

S. No	Species	Main uses	Relative Availability (%)	Perceived value of plant (scale of 1-10, 1 being lowest)	
				Men	Women
1	<i>Trigonella emodi</i>	Fodder	8	6	8
2	<i>Cicer arietinum</i>	Fodder	6	6	6
3	<i>Festuca rubra</i>	Fodder	3	5	7
5	<i>Arnebiaeuchroma</i>	Medicinal	50	10	10
6	<i>Gentiana</i>	Medicinal	9	9	9
7	<i>Caragana brevifolia</i>	Fuel, Construction	27	10	10
8	<i>Lonicera spinosa</i>	Fuel, Construction	37	10	10
9	<i>Salix</i>	Fuel, Construction	18	10	10
10	<i>Hippophaetibetana</i>	Fuel, Construction	11	8	8

		Medicinal			
--	--	-----------	--	--	--

Relative abundance of *Arnebiaeuchroma* is high, it is one of the most favoured species. Whereas relative abundance of *Lonicera sp.*, *Caragana sp.* and *Salix* are 37%, 27% and 18 % respectively.

5.2.5 Biodiversity

Major Habitat	Initiative Taken
Snow Leopard	Developing snow leopard & prey species monitoring protocols <ul style="list-style-type: none"> • Understanding and managing people-wildlife conflicts • Developing models for maintaining socially fenced areas for conservation • Awareness programmes directed at school children, teachers and youth • Helping in conservation planning and implementation
Bharal	Pasture Development, Ban on Hunting, Improvement of wildlife habitat by constructing water pond, water harvesting structure, repair of path bunkers, saltlicks etc
Ibex	Pasture Development, Ban on Hunting, Improvement of wildlife habitat by constructing water pond, water harvesting structure, repair of path bunkers, saltlicks etc.
Blue sheep	Pasture Development, Ban on Hunting

Habitat Management:

Habitat management is one of the most important activities of wildlife management. More ideal the habitat is, better it is in terms of availability of food, cover and water to wild animals. It is imperative to analyse the resources that are available in the habitat as

this is the main factor which ultimately controls the wild life. Type of habitats available in the sanctuary needs to be thoroughly studied. As this will ensure the future management and all management practices shall be guided by the type of habitat and available resources.

Objectives: -

To study the habitat with respect to availability of resources and constraints.

To assess the suitability of habitat for various kind of wildlife.

To carryout various activities for habitat enrichment with minimum disturbance.

To propagate the local species of fruit bearing plant to ensure of availability of food to the wildlife of the area.

Management Prescriptions: -

- For better management of the habitat following activities needs to be carried out.
- Improvement of Pastures.
- Maintenance of water sources.
- Augmentation of Salt Licks.
- Protection and maintenance of Physical Features.
- Understanding and managing people-wildlife conflicts
- Helping in conservation planning and implementation

Improvement of Pastures:

Under pasture improvement not only the quality of bushes is to be improved but in vast extensive thaches/ pastures, planting of bushes like cragana, Goylson, salix, sebuckthorn, Ribes sp, Rosa babiyna, Junipis carpus and other species needs to be carried out. This along with increasing variety of forage shall also provide shelter to wild life. The local nutritious grasses need to be encouraged. Every year 10 hectare of area should be tackled under this scheme.

Maintenance of water sources:

The ward is deficient in water. To improve the water availability in the sanctuary, it is necessary to construct some water harvesting structures. These structures should be spread over the entire area. Every year five-six earthen water ponds will be constructed

in the sanctuary. The site of proposed water ponds should be identified carefully after visiting/inspecting the area by DFO/ACF with clear objectives. The design will be according to the site available on the spot. The cost of each structure will be as per the estimate and shall vary from site to site.

Augmentation of Salt Licks:

The wild animals mostly ungulates living in the forest area are always devoid of mineral salts. To fulfil this deficiency, they search the place where natural salts ooze out from the rocks. These mineral salts are licked by them.

Provision of artificial salt lick affect the behaviour and movement of wild animal and sometimes it also help poachers to locate the presence of the animals. Therefore, it is necessary to provide due care and protection where artificial salt licks have been provided. It is suggested that all the existing artificial salt lick locations should be mapped and based on the information decision to provide new salt licks should be taken carefully. These salt lick sites should be identified carefully after visiting/inspecting the area by DFO/ACF. During the group patrolling exercises such sites have to be identified and which needs to be augmented and supplemented by providing blocks of rock salts in these places. Monolith salt blocks may also be used for this purpose which contains mixture of many mineral salts.

Protection and maintenance of Physical Features:

All the physical features like caves, dens, cliffs; dead and dry bushes would be protected and kept as such, as these features are used by wild animals. They are used by many birds, insects and small mammals as resting, nesting, roosting and perching purpose.

Understanding and managing people-wildlife conflicts

It will focus on the effective conservation models, especially using local support as well as spreading awareness about wildlife and environmental conservation.

Helping in conservation planning and implementation By creating awareness programmes directed at school ,children and youth and also local capacity ,planning and implementation of conservation works .

5.2.6 NTFP Collection (*as per PRA exercises*)

S. No	Name of NTFP (Local)	Collection time (Months)	No. of HHs engaged - approx.	Average collection/ Season/HH /year	Quantum collected in a season/ year	Quantum sold in a season/ year (Rs)	Sale value in Rs./kg	From Sub-Committee Area - yes/no	Major problems
1	Arnebia or ratanjot (50%),								Species becoming Extinct, wild animal attacks
2	Codonopsis sp. (18%),								Wild animals attack
3	Gentiana sp. (9%)								Availability reducing
4	Dactylorhiza sp. or salaam panja (5%)								Abundance Reducing
5	Pedicularis(4%)								Abundance Reducing
6	Leontopodium (6%)								

- No Collection of NTFP by primary users .
- Rattan Jot JangliPyazused for self-consumption only.

5.2.7 Fuels Collection/Consumption (as per PRA exercises)

S. No	Type of fuel used	No of HHs involved	Unit	Average HH Consumption /Year	Annual Consumption /year	Sources	Cost involved, if any	Major Problems
1	LPG	15	No.	6	90	Govt.	940.00/per cylinder	Carriage of kazatoKomic (19Km.)
2	Fuel wood	15	Cubic Kg.	6 months	625 kg /HH/M	Forest &Pvt. Land	680/-per 1000kg	Carriage of kaza toKomic (19Km.)

5.2.8 Fuels/Fuel wood Deficiency (as per PRA exercises)

Fuels deficiency	% HHs with fuels deficiency	Duration (Months)	Coping strategies
Low	--	---	--
Medium	---	--	---
High	15	Nov- March	Depend upon Forest corporation for fuel wood. Planting of Fodder plants in forest & Own Land, if possible.

- LPG is partially used for cooking only in 15HHs. Further Forest Department provides fuel wood at subsidized rates (Rs.680/-per quintal) to all households upto maximum 1000kg per household. Apart from it villager collect woody plants fuel wood of different plant species i.e. Carganasp, Lonicera sp. Salix sp. Constitute over half of the collections from the pastures for fuel wood. apart from wood, people also collect considerable quantities of cattle, yak and equid dung for fuel.
- During summer, rainy and autumn season fuelwood consumption is less compared to winter. Before winter fuelwood is stored by each household for use during winter.
- Average fuelwood consumption is 625 Kg per HH per month per family in winter season from Oct to March.

5.2.9 Fodder Collection/Consumption (as per PRA exercises)

S. No	Type of fodder used	No of HHs involved	Unit	Average HH Consumption /Year	Annual Consumption /year	Sources	Cost involved, if any	Major Problems
1	Green Fodder, Green Grass, Dry Grass from pasture land	15	Kg.	8 quintal /800kg	18 quintal	Forest, Pvt. Land	No	Fodder brought from far off forests Quality fodder not available Reducing land holdings due to family division Less veterinary facilities ITK of rearing animals not suitable for hybrid animals.
						Forest, Pvt. Land	No	
						Forest, Pvt. Land	No	
2	Agriculture residues from Agricultural field		Kg.	10 quintal /1000kg		Pvt. Land	No	

5.2.10 Fodder Deficiency (as per PRA exercises)

Fodder deficiency	% HHs with fodder deficiency	Duration (Months)	Coping strategies
Low			
Medium	15	Oct- March	Fodder (tuddi) purchued from markat the rate Rs. 600 per 50kg from Kaza market. Planting of Fodder plants in forest & Own Land,
High	-	-	-

Major Problems with the fodder collection/Consumption is that fodder is brought from residues of their crops such as peas .

After September sheep and Yaks are sent to open pastures for free grazing till the snow occurs. In winters they take their domestic cattle back to the houses. Average animal holding is 8 animals (4 cows, 1 donkey, 1 yak 2 goat/sheep). They too have fewer veterinary facilities.

Fodder species used are agricultural residues include barley, peas are given as fodder.

- People prefer High value cash crops and are not growing traditional crops which are resulting in less fodder availability.
- Green and dried grass are obtained from Pastures in Summer. Pastures are closed by the possessor from 15 June to the end of October, in October grass cutting is done and thereafter area is opened for all villagers for grazing in winter.

While extraction of species for fodder depending upon the rangeland feature and livestock composition. on an average twenty three species were listed as important for fodder excluding the cultivated ones, and among these *Trigonella sp.* *Cicer sp.* , *Aconogonum sp.* , *Festuca sp.* , *Geranium* , *Cousiniathomsonii* , *Lindelofia stylosa* , *Leymus secalinus* , *Rumex* , ect. Constituted the bulk collected from pastures.

5.2.11 Timber Collection/ Consumption (as per PRA exercises)

Use of Timber	House use	No of HHs demand /year	Unit	Average HH consumption /Year	Annual Consumption /year	Current source of collection/ purchase	Cost involved, if any	Major Problem
Structural maintenance, construction/repair, furniture	House	4-5	KG/quital	700kg /7 quital	700kg	Timber distribution, purchase from imported wood depots, sale depots		There is they have carriage wood the from depo

5.2.12 Timber Deficiency (as per PRA exercises)

Timber deficiency	% HHS with Timber deficiency	Duration (Months)	Coping strategies
Low			
Medium	100%	Throughout the year	Illegal purchase, illegal felling, purchase from HPSFCLTD.
High			

Many woody species of plants are used for construction of traditional mud brick houses. The larger boles for the roof are usually obtained from outside or local poplar and willow plantations. The multi-layered roof is lined with bushes and other plants, especially along the edges. Many of these serve as protection against erosion and seepage due to water flow and snow melt, but also serve as emergency fodder and fuel on occasions. *Potentilla*, *Hippophaetibetana* etc. In some areas such as *Astragalus candolleanus*, *Caragana brevifolia*, *Lonicera spinosa*, *Salix*, *Potentilla sp.* and *Hyppophae sp.* are also extracted in significant quantities for construction of houses.

5.2.13 Forest Management Practice (As Per PRA Exercise)

Key activities	Traditional practices	Current practices
Nursery development	Natural regeneration was assisted by protecting trees.	No nursery raising practice of forestry spp.
Plantation Management	Naturally growing spp are protected Singling if saplings growing naturally Shrub removal Plants grown in Devta Van	Naturally growing spp. are protected. Singling if seedlings Shrub removal Plants grown in Devta Van
Forest protection	Some forests protected as Devta Van, plant best seedlings in these Forests. People were directly linked with forests for fuelwood, fodder, timber.	Some forests protected as Devta Van, plant best seedlings in these Forests. Introduction of chil,

		monoculture spp.
Development activities	Gram Sudhar Sabha Jawar system was prevalent Mandir committee actively participate	Gram Sudhar Sabha Jawar system not prevalent Mandir committee actively participate.
Livelihood activities	NA	NA
Illegal Activities	Encroachment	Reduced due to FD actions. Action is taken against defaulters

Sub-Committee will be involved in Forestry plantations, soil conservation works, maintenance, and fire protection works.

Training for maintaining accounts and records would be given by project.

5.2.14 Forest Protection Practices (As Per PRA Practice)

Forest disturbances	Traditional practices	Current practices
Forest fire	No forest fire	
Land slide	No land slide	
Flood	No flood	
Hunting	Hunting/poaching was prevalent prior to WLPA 1972	Completely banned/controlled
Illegal activities	Hunting	No such activity noticed
Bio-diversity conservation	Extto a few amchi or local Tibetan medicine practitioner families in each	However the extraction from some area continues theseday , much of which appears to be commericial for serving outside markets. Arnbia or

	<p>village. This practice is decline in this area with the advent of modern medicine.</p>	<p>rattanjot is the most important collection (50%) followed by codonopsis sp. (18%) Gentiana sp. (9%) and Dactylorhiza sp. Or salaam panja (5%). Outsider People extract medicinal plants at early stage, resulting into extinction of many spp. due to lack of Knowledge.</p>
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- Sub-Committee will participate in dry stone check dam construction, brush wood check dams and bioengineering works.
- Take part in NTFP conservation works.

5.3 Water Resources Detail

Water resources	No.	Availability of water (Months)	Different uses	Current status	Maintained by whom	Problems	Opportunities
Sila peak	01	6	Drinking Water	Water Available	By Villagers	Open Source	After new construction availability of Drinking Water will be Increased and Approximately 15HH will be Benefited.
Glacier peak	01	6	Wild Animal	Soil Erosion	By Forest Department	Soil Erosion	Cons. Of Brush wood, Dry & Create wire Check Dam and side walls
Glacier water	01	6	Livestock, WildAnimal	Soil Erosion	Villagers & IPH Deptt.	Roof of water tank needs	Check Dams

Water availability from natural springs is throughout the year. The natural Sources are maximum Open sources. After new construction and Maint.of these sources these sources will be maintained for Villagers, Livestock and Wildlife also.

5.4 Agriculture Resources

5.4.1 Cultivable Land Use Pattern

	Cultivable land	Irrigated land	Rain fed land	Cultivable wasteland	Total
Area (ha)	19.35	0	19.35	14.02	129
% Area (ha)	15%	0	15%	10.86%	100%

As per the secondary records an area of 20.24 hac.is under cultivation. There is no irrigated land in the ward. Therefore, whole cultivable land is under rain fed& cultivable wasteland.

5.4.2 Land Holding Pattern

Category	Number of HHs	% HHs
Landless HHs	-	-
Absentee farmer	-	-
Small & Marginal farmers (1-5 bigha)	4	27%
Medium/ large Farmer (6- 15 Bigha)	11	73%

No landless

27 % of the farmers belong to small & marginal category 73 % of farmers are medium farmers.

There are no Landless and absentee farmers.

5.4.3 Cropping Pattern

Major Crops	NoOf Farmers engaged	Irrigated/Rainfed	Unit of Yield	Average Crop Yield	District/State average Yield	% Deficit Yield	Reasons, if low Yield	Perceived Solutions to improve crop yield
Barley	15	Rainfed	Qtl/hac	14.45	16.72qtl/ha	2.75	Lack of irrigation No use of HYV Less use of FYM Poor crop management	Provision of irrigation Provide good quality seeds Soil Testing Nutrient addition accordingly
Green Peas	15	Rainfed	Qtl/hac	65	76.6qtl/ha	11.6	Unbalanced use of fertilisers Shortage of labour Low use of FYM Powdery mildew disease High seed rate Low germination	Same as above

Potato	15	Rainfed	Qtl/hac	75	86.88 qtl/ha	11.88	Unbalanced use of fertilizers Untimely application of inputs Lack of plant protection measures Differences in fertility of soil Low use of FYM Local seed	High yielding varieties
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- 15HHs in the Sub-Committee are involved in Cash crops cultivation (Barley, pea, potato,).
- All crops grown under rain fed conditions.
- Average yield of crops is as per primary stakeholder's information.
- State average yield of crops is as per secondary source (CSKKV Palampur) website.
- The average yield of crops grown is less compared to the district average because the cultivation practices are totally dependent on rains.
- Village level average production is as per villager's view point.

5.4.4 Challenges of Cultivable Land

Major challenges	Current strategies to deal with challenges	Usefulness of the current strategies
Poor soil fertility	Application of FYM Application of chemical fertilizers	Moderately useful
Soil erosion (low)	C/o RR stone masonry structures	Moderately useful
Soil erosion (medium)	C/o RR stone masonry structures	Moderately useful
Soil erosion (severe)	No severe soil erosion noticed	
Low land productivity	Application of FYM Application of chemical Fertilizers Use of Hybrid seeds	Moderately useful
Low moisture retention	Grass mulching, FYM application, Drip irrigation practices	

Lack of irrigation	Irrigation through PVC pipes from water tanks	Less useful
Other-specify		

5.5 Livestock Resource

5.5.1 Livestock Holding Pattern

Type	Number of HHs involved	Average HH holding	No. of animals	Problems	Opportunities
Cows	15	4	60	The lack of cultivated fodder, use of low efficiency tools and harsh cold winter make the tasks even more difficult. Less milk	Potential area available for fodder plantation Awareness camps by vet. Department Exposure visit to successful areas.
yak	15	1	20		
Goats/Sheep	15	2	27		
Horse/Mule	15	1	20		

				production Lack of scientific knowledge of animal rearing	
Total	15	8	127	-	-

5.5.2 Production of Main Livestock

Type	Product	Unit of production	Average yield/production	District average	% deficit yield	Reasons for low yield/production	
Cows	Milk	Kg	4.0 kg	3.9	0.1	Lack of Awareness Deficiency of Nutrition Stall Feeding	Livestock development through breed improvement, training, management and veterinary services
Crossbreed	Milk	0	3.4	2.4	1.0		
Goats/Sheep			3.0	1.5	1.5	Quality of Fodder & Grasses	

6. Livelihood Strategies

6.1 Existing Livelihood Strategies

Source of livelihood	Number of HH dependent as		Major constraints/ challenges
	Primary source	Secondary source	
Agriculture	15	0	<p>Problem of erosion due to serious Topographical and climatic factors and all a biotic Pressure</p> <p>Maximum area is rain fed; therefore the adoption rate of improved technologies and inputs by the farmers is less as compared to irrigated land.</p> <p>Small and scattered Land Holding of farmers</p> <p>Occurrence of natural calamities like drought, Cloud bursts, hailstorm, heavy snowfall, storms, unusual rise in temperature are quite frequent causing losses to crops.</p> <p>Squeezing of agriculture Lands because of ancestral property division.</p> <p>Low risk bearing capacity and poor purchasing power of the farmers.</p> <p>Low productivity of crops.</p> <p>Increasing Population of stray animals and wild animals.</p>
Forestry	15		<p>0.79% forest</p> <p>Open grazing</p>

			Big pressure on pasture land, new seedling for fodder and Fuel wood Encroachment
Livestock/Animal Husbandry	15	0	Shortage of feeds and Fodder during dry season. Traditional method of feeding. Scattered and low land holding. Poor animal productivity i.e., low milk Production, large number of non- descript type animal, lack of breeding bull, Poor extension service. Wildlife attacks. Lack of interest of new generation
Wage labour	15		Work is not easily available
Service/Job		3	Shortage of Jobs, lack of quality education or skilled
Carpenters	4	-	Its wage work depends upon people requirement.

6.2 Livelihoods-Activity Calendar

Seasonal Activities & Climatic events	Months											
	J	F	M	A	M	J	J	A	S	O	N	D
Wage Labour												
Agri/Horticulture												
Grass/Fodder												
Rains												
Snow/winter												
Frost												
Irrigation												
Fuel wood												
Legends												
	Fully Occupied (full month)											
	Partially Occupied											

Livelihood Activity Calendar shows that villagers are busy throughout the year. However, the work pressure during Snow fall /winter is less compared to other seasons. So, the villagers are available during November to February months for Micro planning / meeting.

6.3 Food Deficiency (*relates to nutrition*)

Food deficiency	% HHs with food deficiency	Duration (Months)	Coping strategies
Low	N A		
Medium	N A	-	-
High	NA	-	-

As such there is no food deficiency.

6.4 Income Deficiency

Income deficiency	% HHs with income deficiency	Duration (Months)	Coping strategies
Low	NA		
Medium	NA		
High	NA		

Over all there are no income deficiencies. Drudgery load is high; man and women are busy in working in Agriculture, Animal husbandry in summer seson where as in winter season they are involved in handloom, handicraftpracticesfor sustenance livelihood.

6.5 Potential Livelihood Strategies

Source of livelihood	Major constraints/ challenges	Key strategies
Green house-vegetable cultivation/nursery raising	Purchase saplings from open market, Non availability of irrigation water in summer	Vegetable nursery raising by interest group. Drip irrigation, glacier water harvesting
Handloom	Old looms, Marketing	Switch from Traditional old looms to Morden hand loom
Weaving	Marketing problem	Training with tools & exposure
Cutting & tailoring	No exposure and training to women	Training with tools & exposure
Collection of NTFP	Lack of knowledge of more NTFP and their protection	If Project gives Training about it then it will be fruitful for women. They can increase their income.

7. Institutional Analysis

7.1 Existing Community Based Organisation

CBOs	Age of CBO (Year)	Formal/ Informal	Registered (Yes/No)	Objectives	Membership	Key activities	Credibility of CBO	External linkages	Useful for the project
Sub-Committee BMC	14/10/2021	Formal	Yes	Project/Forest Objective		Participation in JICA Project	Newly Formed	Yet to be established	Yes
Mahila Mandal/SHG	NA								
KishamMnadal	NA								
Yuvak Mandal	NA								

All above mentioned committees/ groups would be of immense help to Project and their involvement would be helpful in implementation of project activities. Representatives of these committees will be included in BMC Sub-Committees as nominated members

7.2 Preferences for External Linkages (Government institution working under sub-committee area)

Name of External Intuition (EI)	Importance of the Els	Relationship with Els	Preference to associate with Els
Gram Panchayat	Government schemes for families Roads connectivity through PMGSY General house meeting	Very helpful in introducing new schemes Village development	2
Forest Department	Creating awareness for protecting forests/ natural resources.	Cordial relations. Forest guard, Bo keeps on visiting villages	1
Veterinary	Health benefits for animals	Not very good relationship	4
Health	Basic health facilities Health campaigns	Health/Asha workers are very interactive	5
Education	Basic knowledge on Climate change and importance of forests	Very helpful	5
Agriculture	Provision of new varieties, Awareness campaigns	Formal relationship with the department	4
Horticulture	Awareness Camps Provision of new varieties of Fruit Plants Awareness campaigns	Formal relationship with the department	4
Jal Shakti	Very important for water supply and irrigation	Relation with fitter only, needs improvement	3

8. Problem Analysis and Solutions

8.1 Analysed Problems and Scientific Solutions

S. No	Problems identified	Justification of problems identified	Root cause analysis	Recommended solutions
1	High community pressure on nearby forestland	100% of the HHs depends upon forestland for fuelwood and 75% for fodder. Timber is a basic need of all households.	Depleting supply of fodder and fuelwood from the forestland.	Planting fodder & grass species Planting fuelwood trees Planting timber species
2	Increasing soil erosion & moisture loss	Soil erosion is along contour line Soil Erosion is of medium grade	Medium level soil erosion due to glaciers	Contour trenching Dry Stone check dam Masonry check dams Check walls
3	Lack of irrigation coverage	100% percent cultivable land but scarcity of water	Water resources include glacial water used for drinking, domestic and wildlife use	Construction of water harvesting structures at shila peak
4	Low crop yield	Average yield of Pea and vegetables is less	Poor soil fertility Lack of information on crop production technology	Organizing farmers' camps IPM, INM at BMC Sub-committee level Linkages for increased information, knowledge & technology
6	Low income	Around 27%(4HH) offall in poor BPL category	All HHs are small & marginal farmers Low income from agriculture	Promoting entrepreneurship Skill development Promoting income

			&livestock Lack of employment opportunities Lack of feasible & viable business opportunities Low level of entrepreneurship	generation activities through SHGs/CIGs Facilitating cluster based micro enterprises development and marketing Upgrading handloom and cash crop cultivation
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Community Development Need & Priorities

7	Wastage of overflow of drinking water near resources	Water flow at the contour line of glacier water	In absence of proper maintenance by the community institutions and line department	Construction/repair of water harvesting structure/Tanks
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8.2 Perceived Problems and Solutions

S N o	Key Stakeholders	Key problems identified by stakeholders	No of HHs and/or area affected	Critical causes of the problems	Perceived solutions	Prioritization of problems
1	Women	No Mahila Mandal , fuel and fodder availability at	15	Lack of Awareness	Formation of MM Capacity building	Formanation of MM and its registration, IGA activities,

		far off places , lack of Income Generation activities(IGA).			programm es, planting fuel, fodder species if possible .	Handloom, cash crops promotion Planting fuel, fodder, timber spp., If possible.
2	Wage- labour	Lack of wage throughout the year	15	Less land holdings Lack of training	May be given wage work in project activities training for IGA with tools	Wage in plantation work, Training in rope weaving etc. carpentry, with tools provision.
3	Farmer	1.Rain fed agriculture 2. Lack of awareness of agricultural schemes	15	1 Lack of irrigation facility and less land holdings 2Agricultur e staff less visit	Glacier water harvesting, awareness camps by Agriculture deptt.	1.Excess using water harvesting by constructing water harvesting structure 2. Awareness camps on Integrated nutrient management, Integrated pest managementan

						d Agriculture deptt. Scheme etc.
4	Landless	NA				

8.3 Implementation Activities / Interventions

Important issues	Priority Rank	Specific activities as per the agreed solutions	Benefitting HHs
Participatory forest management			
Fuelwood and fodder collection from far off areas.	1	Rosa macrophylla (wild rose), species of Hippophae, Myricaria, Salix flabellaris, S. hastate, S. lindeleyana, Juniperus recurva, Ribes orientale, R. alpestre, Lonicera spinosa (Thapp), L. obovata, L. rupicola, Capparis spinosa, Caragana brevifolia (Trama). Rhododendron lepidotum, Coluteanepalensis, Ephedra gerardiana, Clematis vernayii, Cotoneaster microphylla etc. The scrub and spiny cushions are formed by the species of Caragana, Astragalus, Artemisia, Cousinia, Saussurea, Lonicera and Arnebia. Herbaceous element is dominated by the species of Astragalus, Chesneya, Oxtropis, Cicer, Lindelophia, Allium, Rumex, Nepeta, Heracleum, Chenopodium, Artemisia, Lactuca, Gentiana, Gentianella, Hyssopus,	Whole community

		Pedicularis, Rheum, Aquilaria, Caltha, Taraxacum, Plantagos, Aconitum, Thymus, Delphinium, Lepidium, Crepis, Mentha, Geranium, Bergenia, Senecio and Mertensia	
Less fodder, fuel trees in village near by private area.	1	Willows, Poplars, Chharma, Bhojpatra, Trama, Thapp, Sia (Wild rose) Umboo (Myricaria), Junipers, Ribes etc.	Whole community
Soil & water conservation			
Soil erosion and landslide near Contour line	5	Check walls, Check dams Gabion wire structures Bio engineering works.	Whole community
Water pond construction, Bouri repair	2	Renovation of existing water bodies, Construction of pond, WHS etc.	Whole community
Community Development			
Mahila Mandal Bhawan	6	Construction of Mahila Mandal Bhawan	Whole community
Livelihood improvement			
Lack of IGA (Income generation activities) for women and other young generation at sub-committee level	3	As individual activities Cutting and Tailoring training needed. As Group activity Handloom/ Rope weaving, and herbs training needed.	39 beneficiaries
Miscellaneous activities for convergence			
Foot path construction to hamlets	7	Better accessibility to communities.	Whole community
Fuelwood, Fodder Plants and Medicinal plants	1	Will supplement in day-to-day local requirements.	Whole community

Farming Camp	4	Will educate villagers in latest scientific knowledge and exchange ideas.	Whole community
Foot path construction to hamlets	7	Better accessibility to communities.	Whole community

8.4 SWOT Analysis Sub-committee

<p>Strength</p> <p>Young & energetic groups</p> <p>Clear vision to environment & climate change</p> <p>Equal partition of all groups</p> <p>Gender equality</p> <p>Positive response</p> <p>Water available for Irrigation</p> <p>Cash Crop</p> <p>Fertilise Land</p>	<p>Weakness</p> <p>No SHG is formed</p> <p>Limited knowledge of the project</p> <p>Lack of Awareness (Agriculture, Horticulture & Livestock)</p> <p>Cold Desert area</p> <p>Deficiency of Fodder</p> <p>Lack of coordinate with line department</p> <p>Lack of Awareness regarding Hygiene</p> <p>Short span for work</p>
<p>Opportunity</p> <p>Willingness to learn and execute</p> <p>Highly qualified team connected with advanced communication technology</p> <p>Wider networking with different agencies & government departments. Cash Crop</p> <p>Organize Farming Camps</p> <p>Well connected to road</p> <p>Highly scope for eco tourism</p>	<p>Threats</p> <p>Community inference in decision making process</p> <p>Time constraints during summer</p> <p>Short time span due to cold desert region</p> <p>Grazing</p>

8.5 Setting the objectives for Development for the project duration

Objectives for Forestry Development

- Protection and conservation of forest Land
- Propagation forest shrub species
- Enhanced vegetative growth
- Enhanced forest cover
- Overall watershed development by introduction of moisture retention works, soil protection works

Objectives for village/community Development

- Sustainable livelihood
- Reduction of pressure on forest resources
- Asset generation
- Convergence of various departments for overall development of the area
- Women empowerment

9. Community Based Biodiversity Management Plan

9.1 What is Biodiversity?

Biodiversity is the foundation of ecosystem services to which human well-being is intimately linked. No feature of Earth is more complex, dynamic, and varied than the layer of living organisms that occupy its surfaces and its seas, and no feature is experiencing more dramatic change at the hands of humans than this extraordinary, singularly unique feature of Earth. This layer of living organisms—the biosphere—through the collective metabolic activities of its innumerable plants, animals, and microbes physically and chemically unites the atmosphere, geosphere, and hydrosphere into one environmental system within which millions of species, including humans, have thrived. Breathable air, potable water, fertile soils, productive lands, bountiful seas, the equitable climate of Earth's recent history, and other ecosystem services are manifestations of the workings of life. It follows those large-scale human influences over this biota have tremendous impacts on human well-being. It also follows that the nature of these impacts, good or bad, is within the power of humans to influence.

Forest biological diversity is a broad term that refers to all life forms found within forested areas and the ecological roles they perform. In biologically diverse forests, this complexity allows organisms to adapt to continually changing environmental conditions and to maintain ecosystem functions.

Forests are critical habitats for biodiversity and they are also essential for the provision of a wide range of ecosystem services that are important to human well-being. There is increasing evidence that biodiversity contributes to forest ecosystem functioning and the provision of ecosystem services.

What is Community Based Biodiversity Management (CBM)?

Community-based biodiversity management (CBM) is a participatory approach to empower local stakeholders as well as the local institutions for managing biodiversity for social, economic, and environmental benefits to communities as well as to the general public. This approach, usually developed by the in-situ conservation approaches and it is focused on community level issues, enhancing the capacity of communities to analyze livelihood assets, problems, and to seek and implement solutions with respect to use and conservation of genetic resources of local biodiversity. It recognizes and supports local institutions and communities as legitimate and crucial actors in the national plant genetic resource system, and its role in the wider context of biodiversity and development. Communities are empowered to exercise their rights and secure access and control over their genetic resources. The approach is community-centered, strengthens local decision making process and emphasizes local governance in the conservation and utilization of community biodiversity resources.

Documenting spatial patterns in biodiversity is difficult because taxonomic, functional, trophic, genetic, and other dimensions of biodiversity have been relatively poorly quantified. Even knowledge of taxonomic diversity, the best known dimension of biodiversity, is incomplete and strongly biased toward the species level, mega-fauna, temperate systems, and components used by people. This results in significant gaps in knowledge, especially regarding the status of tropical/temperate systems, marine and freshwater biota, plants, invertebrates, microorganisms, and subterranean biota. For these reasons, estimates of the total number of species on Earth range from 5 million to 30 million. Irrespective of actual global species richness, however, it is clear that the 1.7-2 million species that have been formally identified represent only a small portion of total species richness. More-complete biotic inventories are badly needed to correct for this deficiency.

9.2 Community based Biodiversity Management Plan (CBMP)

Community based Biodiversity Management Plan is a decentralised process where the local community is in the centre stage that monitors the resources around it, its use and plans for its sustainability for long term benefits for all succeeding generations.

Thus community based biodiversity management plan has two facets as mentioned below:

- Community based biodiversity monitoring
- Community based biodiversity management planning

9.2.1 Community based Biodiversity Monitoring

Qualitative biodiversity monitoring:

Community based biodiversity monitoring can be undertaken through both qualitative and quantitative approaches. Qualitative monitoring simply depicts the community perceptions on the availability of resources and its use over a said time period. It is cost-effective and should be used for substantiating more affirmative approaches of biodiversity monitoring.

So far, under the PIHPFEM&L project intervening geographies, Himachal Pradesh State Biodiversity Board has undertaken the application of Peoples Biodiversity Register Exercises in selected 120 Gram Panchayats¹. The People's Biodiversity Register (PBR) is a designed tool for the formal maintenance of the local knowledge with proper validation. PBR is a record of knowledge, perception and attitude of people about natural resources, plants and animals, their utilization and conservation in a village or a Panchayat. PBR is also proposed as a mechanism to create awareness among the people about the condition of plants and animals and their conservation and sustainable utilization. This mechanism can bring the people to participate in development planning which would be ecologically sustainable and socially justifiable.

¹Preparatory Survey on Himachal Pradesh Forest Ecosystems Management and Livelihood Project in India, Draft Final Report, February, 2018.

People's Biodiversity Register is a tool for collecting and documenting biodiversity data. Local communities need to be encouraged and trained to be the principal participants in this process. When communities maintain their registers, it will foster greater conservation of this natural resource base. Despite the provisions within the Biological Diversity Act, 2002, which grants due rights to communities, it has not been fully translated into practice.

Further analysis of PBRs prepared in Himachal Pradesh has following deficiencies:

- Most of the PBRs are not completed for the project areas of PIHPFEM&L
- Whatsoever prepared are still in draft stage and it would take at least more than 6 months to get completed.
- In most of the PBRs, the species recorded are found with “No threats” to greater extents
- Some formats are unfilled either fully or partially
- Some formats are vaguely or broadly filled up and does not satisfy the specific need of the formats it is meant for
- Though many species are occurring in the targeted Gram Panchayats, many more species are left and not included in the PBRs
- No participatory processes are adopted during preparation of PBRs and it is found to be the response record of some individuals, not community *per se*
- Some species are recorded as “rare” or “declining”. But field level dialogues on the biodiversity reveals otherwise.

Thus it is equally pertinent to quantify the local forest biodiversity through a simple, scientific and participatory manner to substantiate the qualitative indicators on local forest biodiversity. This is done through the Participatory Vegetation Monitoring where the villagers collect simple quantifiable figures for better decision making in forest biodiversity management.

Quantitative biodiversity monitoring: Participatory Forest Monitoring

Participatory forest monitoring (PFM) is an ongoing process where local forest users systematically record information about their forest, reflect on it and take management action in response to what they learn. Participatory Forest Monitoring (PFM) for community-based Forest Management supports the Village Forest Development Committees (VFDCs) in Himachal Pradesh for planning and managing their forests. The PFM was planned to develop participatory monitoring of forest resources at local community level which envisages involving local institutions (VFDCs) and other stakeholder groups such as HPFD² staffs, Project staffs³, NGO⁴s if any, youth clubs, Eco Clubs etc in identification of resources, planning for utilization and regeneration of resources, and adaptive management of forests. The basic objectives of PFM is to develop people centric monitoring system, in which local people should have better understanding of resources around, followed by assessing the status and planning for sustainable use of them.

Process of Participatory Forest Monitoring:

Preparation of Resource Map:

Since Biodiversity monitoring is a segment of Microplan prepared through participatory rural appraisal which also integrated the social and resource mapping. The resource mapping also included the forest mapping with nomenclatures of different zones within community forests. These forest patches act as different strata for sampling. Sampling of forest vegetation was done through sample plots of different types of plant forms.

Sampling of forest vegetation:

²Himachal Pradesh Forest Department

³ Project for Improvement of Himachal Pradesh Forest Ecosystems Management & Livelihoods (JICA supported)

⁴Non Government Organisations

Ecological data collection of PFM is basically to understand the change in vegetation status due to protection and management of the forests by the community. The various parameters that can be addressed are standing biomass, biomass growth rates, harvestable timber volume, species diversity, species density, regeneration status of herb, shrub and tree species, and level of disturbance by way of illegal felling, pest and diseases and survival rates.

Shrubs: Shrub plots include perennial shrub species but with height above 1.5 m. Shrub plots are normally smaller in size than tree plots, but the number could be at least double that of tree plots to account for the likely heterogeneity of shrubs and younger trees. Shrub plots are located inside the tree plots, at the rate of two per tree plot. Shrub plot number can be two per tree quadrat and the size can be 5 m X 5 m.

Herbs and grass: Annual herbs especially of medicinal property and grass biomass production can be estimated by laying quadrats. Normally, herb layer plots will be of size 1 X 1 m and the number is at least double that of shrub plots. Parameters to be recorded include; species name, number of plants and number of herbs / grasses destroyed or disturbed due to natural and anthropogenic reasons.

9.2.2 Data on qualitative and quantitative data on Community based Biodiversity Monitoring within Komic BMC Sub-Committee zone

Qualitative data

Based on the PBR information following status on flora and fauna could be traced. These statuses of flora and fauna are mentioned in following table - XXX below:

Table -9.2.2 Issues identified based on Peoples Biodiversity Register⁵

Sl No	Major item	Sub-items	Name of the item with scientific names	Issues
	Agro-biodiversity	Agriculture (Crop diversity)	Barley (<i>Herdeum vulgare</i>)	Present
			Pea (<i>Pisum sativum</i>)	Present
			Potato (<i>Solanum tuberosum</i>)	Present
	Wild biodiversity	Trees, shrubs, herbs, climbers, tubers, grasses etc		
			<i>Abelia triflora</i>	Present
			<i>Lonicera angustifolia</i>	Present
			<i>Andrachne cordifolia</i>	Present
			<i>Lonicera asperifolia</i>	Present
			<i>Astragalus candollianus</i>	Present
			<i>Lonicera bracteata</i>	Present
			<i>Astragalus rhizanthus</i>	Present
			<i>Lonicera discolor</i> <i>Berberis aristata</i>	Present
			<i>Lonicera govaniana</i>	Present
			<i>Berberis ceratophylla</i>	Present

⁵ SUB- STATE SITE BIODIVERSITY STRATEGY AND ACTION PLAN (LAHAUL & SPITI AND KINNAUR) TRIBAL DEVELOPMENT DEPARTMENT, H.P. SECRETARIAT, SHIMLA-2 & STATE COUNCIL FOR SCIENCE TECHNOLOGY AND ENVIRONMENT, 34 SDA COMPLEX, KASUMPTI, SHIMLA -9

			<i>Lonicera heterophylla</i>	Present
			<i>Berberis chitria</i>	Present
			<i>Lonicera hispida</i>	Present
			<i>Berberis concinna</i>	Present
			<i>Lonicera hypoleuca</i>	Present
			<i>Berberis jaeschkeana</i>	Present
			<i>Lonicera myrtillus</i>	Present
			<i>Berberis kunawurensis</i>	Present
			<i>Lonicera obovata</i>	Present
			<i>Berberis lycium</i>	Present
			<i>Liniceraparvifolia</i>	Present
			<i>Berberis pachyacantha</i>	Present
			<i>Lonicieraquinquelocularis</i>	Present
			<i>Berberis petiolaris</i>	Present
			<i>Loniciera spinosa</i>	Present
			<i>Berberis umbellata</i>	Present
			<i>Lonicierawebbiana</i>	Present
			<i>Bosiaamherstiana</i>	Present
			<i>Myricariaelegana</i>	Present
			<i>Buddleia paniculata</i>	Present
			<i>Myricaria germanica</i>	Present
			<i>Capparis himalyensis</i>	Present
			<i>Myrsineafricana</i>	Present
			<i>Capparis spinosa</i>	Present
			<i>Osbeckia stellata</i>	Present
			<i>Caragana brevispina</i>	Present
			<i>Periploca calophylla</i>	Present
			<i>Caragana gerardiana</i>	Present
			<i>Plectranthusrugosus</i>	Present
			<i>Caragana versicolor</i>	Present

			<i>Potentilla fruticosa</i>	Present
				Present
			<i>Colutea multiflora</i>	Present
			<i>Prinsepia utilis</i>	Present
			<i>Coluteanepalensis</i>	Present
			<i>Prunus jacquemontii</i>	Present
			<i>Cotneaster acuminata</i>	Present
			<i>Rhamnuaprostrata</i>	Present
			<i>Cotneaster rosea</i>	Present
			<i>Rhamnus purpurens</i>	Present
			<i>Cotneasterthamsoni</i>	Present
			<i>Rhamnus triqueter</i>	Present
			<i>Cotoneaster bacillaris</i>	Present
			<i>Rhamnus virgatus</i>	Present
			<i>Cotoneaster duthieanus</i>	Present
			<i>Rhododendron anthopogon</i>	Present
			<i>Cotoneaster falconeri</i>	Present
			<i>Rhododendron campanulatum</i>	Present
			<i>Cotoneaster gilgitensis</i>	Present
			<i>Rhododendron lepidotum</i>	Present
			<i>Cotoneaster microphylla</i>	Present
			<i>Rhus cotinus</i>	Present
			<i>Cotoneaster nummularia</i>	Present
			<i>Rhus punjabensis</i>	Present
			<i>Cotoneaster obovatus</i>	Present
			<i>Ribes glaciale</i>	Present
			<i>otoneasterobtusus</i>	Present
			<i>Ribes grassularia</i>	Present
			<i>Cotoneaster pruinosis</i>	Present
			<i>Ribes nigrum</i>	Present

			<i>Crataegus sonarica</i>	Present
			<i>Ribes orientale</i>	Present
			<i>Daphne mucronata</i>	Present
			<i>Ribes ribrum</i>	Present
			<i>Desmodiumconcinum</i>	Present
			<i>Rosa brunonii</i>	Present
			<i>Desmodiumfloribundum</i>	Present
			<i>Rosa eglantheria</i>	Present
			<i>Desmodiumnatans</i>	Present
			<i>Rosa macrophlla</i>	Present
			<i>Desmodiumoxphyllum</i>	Present
			<i>Rosa minor</i>	Present
			<i>Desmodiumpodocarpum</i>	Present
			<i>Rosa webbiana</i>	Present
			<i>Desmodium pseudo - triquestrum</i>	Present
			<i>Rubus biflorus</i>	Present
			<i>Desmodiumtilaefolium</i>	Present
			<i>Rubus biflorus</i>	Present
			<i>Deutzia corymbosa</i>	Present
			<i>Rubus ellipticus</i>	Present
			<i>Deutzia staminea</i>	Present
			<i>Rubus lasiocarpus</i>	Present
			<i>Elaeagnus pariflora</i>	Present
			<i>Rubus purpureus</i>	Present
			<i>Elaeagnus umbellata</i>	Present
			<i>Sabia campanula</i>	Present
			<i>Elsholziapolystachya</i>	Present
			<i>Salix hastata</i>	Present
			<i>Ephedra gerardiana</i>	Present
			<i>Salix lindleyana</i>	Present

			<i>Euonymus echinatus</i>	Present
			<i>Salix oxycarpa</i>	Present
			<i>Euonymus fimbriatus</i>	Present
			<i>Salix pycnostachya</i>	Present
			<i>Euonymus monbeigii</i>	Present
			<i>Skimmialaureola</i>	Present
			<i>Euonymus tingens</i>	Present
			<i>Sorbariatomentosa</i>	Present
			<i>Ficus foveolata</i>	Present
			<i>Sorbus accupania</i>	Present
			<i>Gaultheria trichophylla</i>	Present
			<i>Sorbus lanata</i>	Present
			<i>Hamiltoniasuaveolens</i>	Present
			<i>Sorbus ursina</i>	Present
			<i>Hippophaerhamnoides</i>	Present
			<i>Spirea canescens</i>	Present
			<i>Hippophaesalicifolia</i>	Present
			<i>Spirea sorbifolia</i>	Present
			<i>Hippophaetibetana</i>	Present
			<i>Staphyleaemodi</i>	Present
			<i>Hydroangeaanomala</i>	Present
			<i>Strobilanthesalatus</i>	Present
			<i>Hypericum cernuum</i>	Present
			<i>Strobilanthesatropurpurens</i>	Present
			<i>Hypericum patulum</i>	Present
			<i>Strobilanthesdalthousianus</i>	Present
			<i>Incarvillea arguta</i>	Present
			<i>Strobilanthesglutinosu s</i>	Present
			<i>Indigofera gerardiana</i>	Present
			<i>Strobilantheswallichii</i>	Present

			<i>Indigofera heterantha</i>	Present
			<i>Symplocoscrataegoides</i>	Present
			<i>Inula cappa</i>	Present
			<i>Syringa emodi</i>	Present
			<i>Inula cuspidata</i>	Present
			<i>Tamaricaria elegans</i>	Present
			<i>Jasminum humile</i>	Present
			<i>Verbascum traipses</i>	Present
			<i>Jasminum officinale</i>	Present
			<i>Viburnum cotinifolium</i>	Present
			<i>Juniperus pseudo -sabina</i>	Present
			<i>Viburnum nervosum</i>	Present
			<i>Juniperus recurva</i>	Present
			<i>Viburnum stellulatum</i>	Present
			<i>.Leptodermis lanceolata</i>	Present
			<i>Viscum album (Epiphyte on trees)</i>	Present
			<i>Lespedeza eriocarpa</i>	Present
			<i>Wickstromiacanescen s</i>	Present
			<i>Lonicera alpigen</i>	Present
	Medicinal	Medicinal Plants		
			<i>Allium carolinianum</i>	Present
			<i>A. jaquemontii</i>	Present
			<i>Arnebiaeuchroma</i>	Present
			<i>Achillea millefolium</i>	Present
			<i>Artemisia brevifolia</i>	Present
			<i>Bergenia stracheyi</i>	Present
			<i>Betula jaquemontii</i>	Present
			<i>Carum carvi</i>	Present
			<i>Corydalis govaniiana</i>	Present

			<i>Dactylorrhizahatagirea</i>	Present
			<i>Ephedra gerardiana</i>	Present
			<i>Gentiana Kurroo</i>	Present
			<i>Gentanellamoorcroftiana</i>	Present
			<i>Colchicumluteum</i>	Present
			<i>Hyoscyamusniger</i>	Present
			<i>Heracleum condicans</i>	Present
			<i>Hyssopus officinalis</i>	Present
			<i>Juniperus communis</i>	Present
			<i>Juniperus macropoda</i>	Present
			<i>Malva rotundifolia</i>	Present
			<i>Onomahipidum</i>	Present
			<i>Taraxacum officinale</i>	Present
	Wild animals	Mammals, birds, reptiles, amphibian, insects, others)		
			<i>Ibex (Capra ibex siberica)</i>	Present
			<i>Snow Leopard (Panthera unica)</i>	Present
			<i>Himalayan Blue Sheep(Pseudois nahyaur)</i>	Present
			<i>Tibetan Wolf (Cannislapus)</i>	Present
			<i>Red Fox (Vulpus valpus)</i>	Present

			<i>Woolly Hare</i>	Present
			<i>Himalayan Chough (Phyrhocoraxgracumus)</i>	Present
	Birds		<i>Snow Pigeon (Columbia rupestris)</i>	Present
			<i>Snow cock (Tetragalushimalyensis)</i>	Present
			<i>Vulture (Nephron persnopterus)</i>	Present
			<i>Ducks (Avthva ferina)</i>	Present
			<i>Murgabi (Anas crecca)</i>	Present
			<i>Himalayan crow (Corvus tibeteana)</i>	Present
			<i>Picca (Ochotona rovlei)</i>	Present
			<i>Raven (Corvus corax)</i>	Present
			<i>Golden Eagle (Aquila chrysaetos)</i>	Present
			<i>Griffan (Gyps himalayansis)</i>	Present
			<i>Red Start (Phoenicurusorchruros)</i>	Present
			<i>HoopeChakor (Alpalectoris chakor)</i>	Present
			<i>Dove Himalayan Finches (Carduelis</i>	Present

			<i>cardduelis)</i>	
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Qualitative data

Analysis of the PBR and corresponding above table reveals that there are 3 major Agriculture crop types namely Pea, Barley, and Potato of plants needs conservation attention. Other than it, 149 wild plants biodiversity include the Shrubs, herbs, climber, tuber, and grasses are recorded similarly, there are 7 species of wild animal and 13 species of birds are present within BMC Sub-Committee areas.

These management scopes on these plants and animals discussed with the villagers including BMC sub-committee members, women members (who are the prime forest users) and public in general for their perception and options on their improvement of the populations. The identified scopes of population increase have been described in table - 9.2.2 below.

Quantitative data

- The patches are very less in species diversity.
- Trees are absent
- The density of shrubs is dominant, but found in scattered way.
- Anthropogenic pressures on shrubs are quite much. This could be a fact as a result of dependency of the community on the forests and better vigil of Himachal Pradesh Forest Department.
- The shrub and herb species are represented well due to open canopy.
- The canopy of the vegetation represents predominantly open category.
- Naturally species are deficient of successful establishments and hence need external support.

9.2.4 Planning on Community based Biodiversity Management within KomicBMC Sub-Committee zone

Gap Plantation with reference to Participatory Vegetation Monitoring:

Plantation of degraded patches with appropriate multiple tree species:

- Plantation of multiple species is a need
- Afforestation/Enrichment plantation under different schemes needs to be executed on priority basis. It would advisable to plant at least 1100 saplings / ha model with reference to different land related casualties.
- Plantation and maintenance of the planted species is absolutely essential since natural regeneration is inadequate.
- Shrub species within the tree spacing may be planted with economically important shrub species.

Data and map on intervention Areas/Treatment plots

Cost norms applied for calculation are as per Forest Department approved norms. Plants, pit sizes are accordingly to models prescribed and approved by Forest Department and Project guidelines. The forests have been visited by team again and again and as per the site conditions treatment plots have been prescribed. The nalla treatment, soil conservation works are applicable in this Sub Committee area. Local ghazis are quite well maintained one plot with patch sowing has also been prescribed. Fencing part has been critically analysed keeping in view local conditions as well as biotic pressure and accordingly prescribed. Total 6 Hac community land have been identified.

Table 2: Plot wise details of Sub-Committee

S. No	Plot name	Plot No	Area	Latitude longitude	PFM mode	FD mode
1	Komic ward	1	6	32° 13' 54" 78 °06' 53"	Yes	---

Biodiversity Management with reference to Peoples' Biodiversity Register (PBR):

The vulnerable species as identified under the PBR Exercises were discussed with the BMC Sub-Committee members and possible management strategies were explored. (Reference: *SUB- STATE SITE BIODIVERSITY STRATEGY AND ACTION PLAN (LAHAUL &*

SPITI AND KINNAUR) TRIBAL DEVELOPMENT DEPARTMENT, H.P. SECRETARIAT, SHIMLA-2 & STATE COUNCIL FOR SCIENCE TECHNOLOGY AND ENVIRONMENT, 34 SDA COMPLEX, KASUMPTI, SHIMLA -9)

S. No.	Categories	Name of the item with scientific names	Status as per PBR	Management prescribed by the BMC Sub-Committee members
	Agriculture (Crop diversity)	Pea	Present	Provisioning of seeds from government sources
		Barley	Present	Provisioning of seeds from government sources
		Potato	Present	Provisioning of seeds from government sources
	Horticulture	NA	NA	
	Medicinal Plants			
		<i>Allium carolinianum</i> /Laot, Jangli, Lahasum/ Konche, Pharna	Past - More Now - Less	Protection of forest patches through community participation

				Protection of forests from forest fires Prohibition of forests from grazing pressures
		<i>A. jaquemontii</i> /Khamet, Ratan jot	Past - More Now - Less	Protection of forest patches through community participation Protection of forests from forest fires Prohibition of forests from grazing pressures
		<i>Arnebiaeuchroma</i> /Khamet, Ratan jot	Past - More Now - Less	Protection of forest patches through community participation Protection of forests from forest fires Prohibition of forests from

				grazing pressures
		<i>Achillea millefolium</i> /Gandana, Millfoil/	Past - More Now - Less	Protection of forest patches through community participation
		<i>Artemisia brevifolia</i> /Nurcha, Seinki	Past - More Now - Less	Protection of forests from forest fires
		<i>Bergenia stracheyi</i> /Gatikpa, Pashandbhed	Past - More Now - Less	Prohibition of forests from grazing pressures
		<i>Juniperus communis</i> /Hauber, Dhuppi	Past - More Now - Less	Protection of forest patches through community participation Protection of forests from forest fires Prohibition of forests from grazing pressures
		<i>Taraxacum</i> /Khurmang Dandelion	Past - More	No declining is seen in this

			Now - normal	forest area
	Trees, shrubs, herbs, climbers, tubers, grasses etc			
		<i>Rosa macrophylla</i> (wild rose),	Past - More Now - normal	Provisioning of nurseries <i>In-situ</i> cultivation Provisioning of water sources for its propagation
		<i>Hippophae</i>	Past - More Now - normal	Provisioning of nurseries
		<i>Myricaria</i>	Past - More Now - Less	<i>In-situ</i> cultivation
		<i>Salix flabellaris</i>	Past - More Now - Less	Provisioning of nurseries
		<i>Juniperus recurva</i>	Past - More	Provisioning of water sources

			Now - Less	for its propagation
		<i>Ribes orientale</i>	Past - More Now - Less	Provisioning of water sources for its propagation
		<i>Coluteanepalensis</i>	Past - More Now - Less	Provisioning of nurseries <i>In-situ</i> cultivation
		<i>Ephedra gerardiana</i>	Past - More Now - Less	Provisioning of nurseries <i>In-situ</i> cultivation
		<i>Cotoneaster microphylla</i>	Past - More Now - Less	Provisioning of nurseries <i>In-situ</i> cultivation Provisioning of water sources for its propagation
		<i>Caragana brevifolia (Trama).</i>	Past - More Now - Less	Provisioning of nurseries <i>In-situ</i> cultivation Provisioning of water sources

				for its propagation
		<i>Caragana</i>	Past - More Now - Less	Provisioning of nurseries <i>In-situ</i> cultivation Provisioning of water sources for its propagation
		<i>Astragalus,</i>	Past - More Now - Less	Provisioning of nurseries <i>In-situ</i> cultivation
		<i>Artemisia</i>	Past - More Now - Less	Provisioning of nurseries <i>In-situ</i> cultivation Provisioning of water sources for its propagation
		<i>Cousinia</i>	Past - More Now - Less	Provisioning of nurseries <i>In-situ</i> cultivation
		<i>Hyoscyamus niger</i>	Past - More	Provisioning of nurseries

			Now - Less	<i>In-situ</i> cultivation Provisioning of water sources for its propagation
	Mammals, birds, reptiles, amphibian, insects, others)			
		<i>Ibex (Capra ibex siberica)</i>	Past - Plenty Now - Rare	Prevention of hunting Strong community participation in protection
		<i>Snow Leopard (Panthera unica)</i>	Past - Plenty Now- Plenty	Prevention of hunting
		<i>Himalayan Blue Sheep(Pseudois nahyaur)</i>	Past - Plenty Now- Plenty	Strong protection required in the wild
		<i>Tibetan Wolf (Cannislapus)</i>	Past - Plenty	Strong community

			Now - Rare	participation in protection
		<i>Red Fox (Vulpus valpus)</i>	<i>Past - Plenty Now - Rare</i>	Prevention of hunting
		<i>Wooly Hare</i>	<i>Past - Plenty Now - Rare</i>	Strong protection required in the wild
		<i>Himalayan Chough (Phyrhocoraxgracumus)</i>	<i>Past - Plenty Now - Rare</i>	Strong community participation in protection
	Birds	<i>Snow Pigeon (Columbia rupestris)</i>	<i>Past - Plenty Now- Plenty</i>	Protection in the wild is required
		<i>Snow cock (Tetragallushimalyensis)</i>	<i>Past - Plenty Now- Plenty</i>	Protection in the wild is required
		<i>Vulture (Nephron persnopterus)</i>	<i>Past - Plenty</i>	Protection in the wild is required
		<i>Ducks (Avthva ferina)</i>	<i>Now - Rare</i>	Protection in the wild is required
		<i>Murgabi (Anas</i>	<i>Past -</i>	Protection in

		<i>crecca)</i>	<i>Plenty</i>	the wild is required
		<i>Himalayan crow (Corvus tibetana)</i>	<i>Past - Plenty</i> <i>Now- Plenty</i>	Protection in the wild is required
		<i>Picca (Ochotona roblei)</i>	<i>Past - Plenty</i> <i>Now- Plenty</i>	Protection in the wild is required
		<i>Raven (Corvus corax)</i>	<i>Past - Plenty</i> <i>Now- Plenty</i>	Protection in the wild is required
		<i>Golden Eagle (Aquila chrysaetos)</i>	<i>Past - Plenty</i>	Protection in the wild is required
		<i>Griffan (Gyps himalayensis)</i>	<i>Now - Rare</i>	Protection in the wild is required
		<i>Red Start (Phoenicurusochruros)</i>	<i>Past - Plenty</i>	Protection in the wild is required
		<i>Chakor (Alpalectoris chakor)</i>	<i>Past - Plenty</i>	Protection in the wild is required
		<i>Himalayan Finches (Carduelis carduelis)</i>	<i>Past - Plenty</i>	Protection in the wild is required

Management strategies matrix:

Gap plantation through AR/ANR (data collected through participatory forest monitoring)	Flora management with reference to PBR	Faunal management with reference to PBR
Plantation of degraded lands through AR/ANR ⁶ <i>Minimum:</i> 4 ha @ 200 saplings/ha in	<i>Agriculture:</i> Supply of agriculture seeds by Government of Himachal Pradesh on: <ul style="list-style-type: none"> • Barley (<i>Hordeum vulgare</i>) -total of 125kg per/Ha • Pea (<i>Pisum Sativum</i>) total of 100.58kg/ha • Potato (<i>Solanum tuberosum</i>) 20kg/Ha 	<i>Wild life protection:</i> Though species wise management practices could not be gained from the community members, broad and holistic protection modalities were prescribed as below: <ul style="list-style-type: none"> • Prevention of hunting • Strong protection required in the wild • Strong community participation in protection This can be achieved through community mobilisation and their participation in safeguarding the wildlife.
<i>Desirable:</i>	Provisioning of: <ul style="list-style-type: none"> • Cultivation of Rattan Jot and JugliPyaz 	

9. 3 Approval of CBMP and other activities by General House: -

Sanction / Approval of CBMP by the Bio-diversity Sub-Committee:

General house meeting of Sub-Committee Komic were organized in Komic on 10th October, 2021 and 12th October, 2021. The meeting was attended by Sub-Committee members. (List attached in proceeding register). Following issues were discussed and decision taken:

Micro planning team RFO WL Range Kaza, BO and Forest Guard discussed in detail the various interventions as incorporated in the draft CBMP of Sub-Committee Komic Forests. Members from hamlets (Komic, Langcha, Komic) expressed that area near habitations as well as areas which fall within the grazing zone of migratory graziers needs fencing. The members were assured that the vulnerable points will be taken care of and barbed wire fencing will be recommended so that there will be least grazing incidences in the plantation areas. The members assured that they will not leave their domestic cattle for grazing in open without attendant which may cause damage to the seedlings in the closed areas. Plots identified were discussed in detail and assigned to two user groups. In addition, the participants suggested itemised conservation measures to be taken for each species.

Work to be executed in PFM mode and in FD mode was discussed and finalized. All Plantations planted by Sub-Committee will be protected by Sub-Committee. Technical works, Masonry/Gabion check dams, water harvesting structures, will be built by FD. Bioengineering structures, Dry stone Check Dams on small streams, Masonry ponds etc. will be done by Villagers.



Micro Plan (BMC Sub-Committee Komic)

Beat kibber&Range WL Spiti

Wild Life Division, Spiti

Pic - 6: Meeting of the General House on the consensus building

9. 4 Memorandum of Understanding (MoU):

Memorandum of understanding (English version) translated in Hindi / local language was read and explained to all present. The issue of community contribution was discussed in detail and the community members suggested their contribution in following forms:



Pic -: Meeting of the General House on the consensus building

- All the user group members agreed that they will contribute their Sub-Committee membership beneficiary share into the Sub-Committee account.
- All members agreed for their contribution in project activities, and decided to contribute membership fee of Rs. 200. This has to be paid only once. The amount will be kept in Sub-Committee account and can be used as community share for doing any other development work with other departments or with project, if Sub-Committee members desire so, otherwise they can use it after project completion. This is important because villagers should feel sense of ownership in works and further, they have to maintain and protect forest area / assets for several years even after completion of project.

- The Micro Plan was finally approved by the General House of BMC Sub-Committee on dated 10th. October, 2021 (Details written in proceeding register) and amended further on 12stOctober 2021.
- The MoU was also signed by the president of Sub Committee and DFO WL Kaza on dated 12.11.2021 (Signed MoU annexed as Annexure-X)

9. 5 Project Support to the beneficiary (Sub Committee) for Implementation of Micro plan

The village level organization will be beneficiary of PIHPFEM&L project for:

- **Financial support**
- **Implementation of the approved micro-plan**
- **Labour wages** for Fencing, pit digging, carriages, planting, weeding, mulching of plants excluding the community contribution.
- **Other works** as per approved micro plan (*ALL WAGES ARE TO BE PAID BY THE Sub-Committee by CHEQUE OR BY BANK TRANSFER. NO CASH TRANSACTIONS PERMITTED*).
- **CDAs:** The Community Development Activities as identified by the Sub-Committee and in conformity with the Project guidelines will be decided and implemented by the Sub-Committee through a consultative process.
- **Maintenance:**

Beating up operations, weeding mulching in MP plantations for years. Maintenance of fence for 5 years.

- **Stock and material:**

Stock: quality nursery raised plants

Material e.g. B. wire, U. nails, fence posts, Tar/ black Japan etc.

- **Stationary of Sub Committee**

Stationary to Sub-Committee, including stamps, stamp pad, two registers, receipt book, carbon papers, paper pin, resolution pads, pen, pencil, Darrie, chairs, table, Almirah etc. to run the office effectively.

9.6 Plantation Activities Identified:

Sr.NO	Activity	Benefiting HHs	Area to be covered (Ha)						
				2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
1	Afforestation (Fuel and Fodder Plantation @1100 Normal Plants Normally Introduction of suitable grasses and legumes in Command Areas for improving soil fertility <i>Trigonella emodi, Cicerarietinum, Festucarubra, Arnebiaeuchroma, Gentiana Caragana brevisfolia, Loniceraspinosa, Salix, Hippophaetibetanain</i> project command areas and private lands.	15		6 (Ha)					
2	Enrichment Planting @800 Plant/Ha. Introduction of suitable grasses and legumes in Command Areas for improving soil fertility, <i>Trigonella emodi, Cicerarietinum, Festucarubra, Arnebiaeuchroma, Gentiana Caragana brevisfolia, Loniceraspinosa, Salix, Hippophaetibetanain</i> project command areas and private lands.	15		4 (Ha)					
TOTAL				10 (Ha)					

9.6.1 Requirement of Planting Materials

Year	Number of Sampling Required (New Plantation)										Source of Planting Material
	Trigonella sp.	Cicer Sp.	Aconogonum sp.	Caragana sp.	Lonicera Sp.	Salix Sp.	Hippophae Sp.	Gentiana Sp.	Arnebia Sp.	Dactylorhiza sp.	
2022-23	2600	1300	900	880	1400	1180	760	780	760	780	nursery
Total	2600	1300	900	880	1400	1180	760	780	760	780	

Year	Number of Sampling Required (Maintenance)										Source of Planting Material
2023-24	0	0	0	0	0	0	0	0	0	0	nursery
2024-25	780	390	270	264	420	354	228	234	228	234	
2025-26	520	260	180	176	280	236	152	156	152	156	
2026-27	390	195	135	132	210	177	114	117	114	117	
2027-28	260	130	90	88	140	118	76	78	76	78	
Total	2210	1105	765	748	1190	1003	646	663	646	663	

9.6.2 Forest Protection /Silviculture/Maintenance operation for the Plantation

Years	Activities to be taken up Site/Model Wise		Responsibility	
	Komic		Project	Sub-Committee
2022-23	Enrichment Planting @800 Plants/Ha.	Afforestation Planting Fuel,Fodder and Wild Fruit Plantation @1100 Normal Plants	Yes	Yes
2024-25	Maint.	Maint.	Yes	Yes
2025-26	Maint.	Maint.	Yes	Yes
2026-27	Maint.	Maint.	Yes	Yes
2027-28	Maint.	Maint.	Yes	Yes

9.6.3 Plantation Activity under PFM Mode

Years	Activities to be taken up Site/Model Wise		Responsibility	
	Komic		Project	Sub-Committee
2022-23	Enrichment Planting @800 Plants/Ha.	Afforestation Planting Fuel, Fodder and medicinal plants Plantation @1100 Normal Plants	Yes	Yes
2023-24	Maint.	Maint.	Yes	Yes
2024-25	Maint.	Maint.	Yes	Yes
2025-26	Maint.	Maint.	Yes	Yes
2026-27	Maint.	Maint.	Yes	Yes
2027-28	Maint.	Maint.	Yes	Yes

9.7 Soil and Water Conservation

9.7.1 Soil and Water Conservation Works(Proposed)

S No	Land	Type of SWC work	Name of the site	Unit of work	Quantum of work	HHs beneficiaries	Responsibility		
							Project	Sub-Committee	Convergence
1	Komic ward community Land /forest land	Dry Stone C/dams	Shilla peak contour	No.	8	15	Yes	Yes	
			Glacial peak contour	No.	9	15	Yes	Yes	
			Komic village contour	No.	8	15	Yes	Yes	

9.7.2 (B) Soil and Water Conservation works (Year wise Physical Target)

S No.	Land	Type of SWC work	Name of the site	Unit of work	Quantum of work	HHs beneficiaries	Physical target for SWC activities						
							2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
1	Sanctuary Area	Dry Stone C/dams	Shilla peak contour	No	8	7	0	4	4	0	0	0	0
			Glacial peak contour	No	9	4	0	5	4	0	0	0	0
			Komic village contour	No	8	---	0	4	4	0	0	0	0

9.8 Physical and Financial Plan (CBMP)

9.8.1 Proposed Physical and Financial Plan

S. No	Proposed activities	Unit	Total		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1																
a)	Afforestation @ 1100 normal plants	Ha	6	289800	6	289800	0	0	0	0	0	0	0	0	0	0
b)	Enrichment 200 plants /Ha)	Ha	4	163200	4	163200	0	0	0	0	0	0	0	0	0	0
A	Total (New Plantation)		10	453000	0	453000	0	0	0	0	0	0	0	0	0	0
2																
a)	Afforestation @ 1100 normal plants															
i)	1st. Year Maint. (6250/Ha.)	Ha	6	37500	0	0	6	37500	0	0	0	0	0	0	0	0
ii)	2nd. Year Maint. (4250/Ha.)	Ha	6	25500	0	0	0	0	6	25500	0	0	0	0	0	0
iii)	3rd. Year Maint. (3200/Ha.)	Ha	6	19200	0	0	0	0	0	0	6	19200	0	0	0	0
iv)	4th. Year Maint.	Ha	6	13200	0	0	0	0	0	0	0	0	6	13200	0	0

	(2200/Ha.)															
v)	5th. Year Maint. (2200/Ha.)	Ha	6	13200	0	0	0	0	0	0	0	0	0	0	6	13200
	Sub Total			108600	0	0	0	37500	0	25500	0	19200	0	13200	0	13200
S. No	Proposed activities	Unit	Total		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
c)	Enrichment with 800 plants /Ha)															
i)	1st. Year Maint. (4600/Ha.)	Ha	4	18400	0	0	4	18400	0	0	0	0	0	0	0	0
ii)	2nd. Year Maint. (3100/Ha.)	Ha	4	12400	0	0	0	0	4	12400	0	0	0	0	0	0
iii)	3rd. Year Maint. (2400/Ha.)	Ha	4	9600	0	0	0	0	0	0	4	9600	0	0	0	0
iv)	4th. Year Maint. (1650/Ha.)	Ha	4	6600	0	0	0	0	0	0	0	0	4	6600	0	0
v)	5th. Year Maint. (1650/Ha.)	Ha	4	6600	0	0	0	0	0	0	0	0	0	0	4	6600
	Sub Total			53600	0	0	0	18400	0	12400	0	9600	0	6600	0	6600
B	Total (Maintenance)			162200		0		55900		37900		28800		19800		19800
S. No	Proposed activities	Unit	Total		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28	

			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
4	SMC Trenching															
a)	SMC works(Preparation of staggered Gradonial Trenches1mx0.3mx0.3m) 500 trenches/Ha @ 12375 /Ha	Ha	6	74250	6	74250	0	0	0	0	0	0	0	0	0	0
D	Total SMC			74250		74250		0		0		0		0		0
	Total (A+B+C+D)			744650		541050		69700		51700		42600		19800		19800
S. No	Proposed activities	Unit	Total		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
5																
a)	Dry stone check dams	No.	5	100000	0	0	5	100000	0	0	0	0	0	0	0	0
E	Total(S&WC)			100000		0		100000		0		0		0		0
6	WildLife Habitat Improvement															
a)	Cons. Of Water Pond	No.	6	180000	2	60000	2	60000	2	60000	0	0	0	0	0	0
b)	Maint.Of Water Pond	No.	4	40000	0	0	2	20000	2	20000	0	0	0	0	0	0
F	Total(Wildlife Habitat Improvement)			220000		60000		80000		80000		0		0		0
	Grand Total(A+B+C+D+E+F)			1064650		601050		249700		131700		42600		19800		19800

9.8.2 Annual WorkPlan CBMP For The2020-21 year wise

Proposed Activity	Benefitting HH	Unit of Work	Quantum Of Work	Unit cost (Rs)	Proposed Budget	Financial Source		
						Project	Convergence	Comm. Contribution
Afforestation Planting @1100 normal Plants	39	Ha	6	48300	289800	Project		Management
Enrichment Planting @800 Plants	39	Ha	4	40800	163200	Project		Management
Sub-Total					453000			
Soil & Water Conservation								
Dry Stone Check wall	12	No	1	15000	15000			
Sub-Total					15000			
Habitat Improvement								
Construction Of Water Ponds		No	2	30000	60000			
Sub-Total					60000			
Total					541800			

10. Community Development and Livelihood Improvement Plan (CD&LIP)

10.1 Table - Community Development Activities

S. No	Activity	Purpose of the activity	HHs to be benefitted	Community contribution (%)
1	Glacial water harvesting structure	Only rely on this water source	Whole community	10%
2	Glacial Pond for agriculture	Due to climate change, scarcity like situation in summer season	Whole community	10%
3	Solar installation	Lack of proper supply of electricity	Whole community	10%
4	Solid fencing along with solar fencing	Animal like yak, cow use to enter the crop field and results in destruction of crop, while solar fencing is needed to prevent influx of animalsuch as blue sheep,hare, goat and sheep.	Whole Community	10 %
5	Ground water hand pump	Must be installed, mostly they get glacial water in particular season, water crisis can be overcome by hand pump in summer season	Whole Community	10 %

Table 10.2 -Livelihood Improvement Activities & Plan

S. No	Activity	Purpose of the activity	HHs to be benefited	Community contribution (%)
1	Three months early variety seed e.g., Pea	Often, they face climate fluctuation; most of the crop gets spared leads to huge economic loss.	15	10%
2	Carpet Making, yak wool rope making	In winter outdoor activities are about null, they want sustained winter season in making such items helping in boosting livelihood	15	10%
3	Introduce Koda(<i>Fagopyrum esculentum</i>)	Lack water, to avoid soil degeneration due to monoculture, with nutrition value	15	10 %
4	Conservation of Ratan Jot, JangliPyaz,	Illegal trading done by outsider	15	10 %
5	Modified poly house	For off season vegetable, old structure poly houses are not durable	15	10%

Under Community Development works

Activities

- 1. Glacial water harvesting structure:** As the whole population of this particular planning site/ ward have only one source of water i.e glacial water, which they use for domestic purposes, drinking, irrigation, cattle use etc. And most importantly this source do not stay for every season.Often, they face water crisis and they lack other sources as well in Komic village. So glacial water harvesting structure would definitely help in eradication of this primary issue.

Table -10.3 Showing estimated amount for water tank

S.no.	Particulars of work	Length	Breadth	Depth	Volume	Rate Rs.	Amount Rs.
	Tank	10	10	10	1000 ft ³ 28000/lit	8Rs /Lit	224000/-
	Number of tank 2						224000x2= 448000/-
	20% hike in total amount for carriage of raw material in cold desert area						
	This construction work can be done under the MGNREGA						

- 2. Glacial Pond for Agriculture:** The climate change has definitely made the fast melting of glaciers, in summers they get sufficient water for their agricultural activities along with their domestic activities but later in other season it gets worst to have water .So the particular pond for agriculture use in this ward is needed.

Table -10.4 Summary of estimate to construct pond.

S.no.	Particulars of work	No.	Length	Breadth	Depth	Volume	Rate Rs.	Amount Rs.
	Pond	1	20m	20m	1m	400m ³ 4 lac lit	8Rs/lit	32 Lac
	20% hike in total amount for carriage of raw material in cold desert area							
	The construction of pond can also be done under the MGNEGA and with help of Agriculture Department under irrigation scheme with subsidy							

Solar Installation: As we know the present ward is situated on the height of 4700m The ward do not have proper supply of electricity ,which makes the barrier for the working habits of people including their outdoor activities, children education , people working in fields etc. Solar installation can be the immediate solution of the irregular power supply. People opting for grid connected rooftop solar panels/power plant are being given 70 per cent subsidy, and surplus power would be further sold to HPSEBL at the rate of rupees five per unit, which would also add to the income of the individual, besides using free solar power.

Solid fencing along with solar fencing: The farmers of this village claimed that mostly the yak and cows use to enter the fields and results in destruction of crops while solar fencing is needed to prevent influx of animal such as blue sheep, hare, goat and sheep.

Table-10.6 Showing estimate for installing fencing

S.No.	Particulars of work/ Models	Protected Area/ acre	Perimeter for fencing/ meter	Unit Cost/Rs	Cost per Running meter/Rs
	Model1	1	300	161907/-	540
	Model2	2.5	500	210793/-	422
	Model3	5	700	259679/-	371

	Model4	10	1000	407716/-	408
	Model5	20	1400	505489/-	361

The average cost per running meter of 7 rows fence comes to be Rs.396/Meter. This practice will be implemented by the Deputy Director through Project Implementing Agency (PIA) in the development block i.e Subject Matter Specialist .In Tribal district, the District Agriculture Officer, Keylong& Assistant Project Officer,Kaza of Lahaul&Spiti District will act as Project Sanctioning Authority as well as Project Implementation Agencies (PIA's).The PIAs shall be responsible for identification and selection of the potential beneficiaries.

As Project assistance @80% is available for individual farmers and 85% for a group of three or more farmers for installation & Commissioning of Solar Electric Powered Fencing Systems in the Farmer's Fields on the actual work done by the Firm/Company .Project assistance shall be released to the beneficiaries directly or through bank ,in case the farmer avail loan .The assistance for the installation of Solar Electric Powered Fencing can be released to the company after obtaining satisfactory report from core team and farmers/ a group of farmers. The payments shall be worked out on actual work done and its measurement basis in view of prevailing site need and requirement duly verified by the Core Team concerned.

Ground water hand pump: As it has already mentioned that the present village mostly face the water crisis and glacial water seepage is for sure present there. So installation of ground water hand pumps can overcome the water scarcity even in winters as well as in other seasons too.

Hand pumps to individual beneficiaries shall be installed on 75% costs. The 75% cost shall be paid by the beneficiary and balance 25% percent shall be paid the department. The 75 % costs shall be paid by the beneficiary in advance in the prescribed mode of the concern Executive Engineer (IPH) division.

The estimate for installation of hand pump shall be got prepared through the department ,75% of the total estimated cost for installation of hand pump shall be borne by the beneficiary and balance 25% shall be borne by the department. Priority should be given to the places where there is no potable water source/ tail

end of schemes and there is scarcity of water due to topographical constraints and erratic water supply.

Livelihood Improvement Activities & Plan

- **Three months early variety seed e.g Pea:** As they have monoculture for agriculture productivity followed by few months i.e from April to the September month .The farmers told if they get early snowfall which makes transportation blocked their crops get spared and they get huge loss .So if they have early varieties of seeds such as of Peas they can make it harvest as soon as to get snowfall .And somehow monoculture can be avoided. The required seeds they can get from Agriculture department of Himachal Pradesh. Where it can be subsidized for farmers.
- **Carpet Making, yak wool rope making:** The community traditionally makes the carpet of Yak wool and also the ropes .If the people make it on large scale and get it to be commercialized Its surely going to make the people benefitted.As they donot require any raw material for this activity ,it would fit better with livelihood uplift component without much money.
- As the most of households rears the Yak so the availability of raw material i.e yak wool is there for practices of carpet and yak wool rope making.

Introduce Koda (*Fagopyrum esculentum*): The village grows only the Barley, Peas, Potato. As per the geographical and climatic conditions Introduction of Koda(*Fagopyrum esculentum*) can be experimented as this is served as staple food and being rich in amino acids. This can be also commercialized as other food crops.

The requirement of the koda crop seeds can be fulfilled by the agriculture department as the seeds can be provide at suitable subsidy or prices for the farmers.

- **Conservation of Ratan Jot, JangliPyaz:** At Komic village the local people said that outsiders use to do illegal trading of Ratan jot and jangalipyaz which is also unfair to the BMC. The BMC and local people must be aware of this. The concerned departments for such activity which includes the conservation of medicinal plants can be the Forest Department as well as Bio-Diversity Management Committee.

Modified Poly house: For off season vegetable growth the modified poly houses can be durable and effective. As few farmers have tried growing squashes, carrots, tomatoes, cucumber, cabbage and coriander etc. The only issue with the old poly houses infrastructure is that these dome shaped don't go with heavy snowfall for long duration .While the roof topped like poly houses are more compatible than dome shaped one. The roof topped one must be with the Covering of Poly ethylene sheet for long duration.



Himachal Govt 80-85% subsidy. State Government gets approximately 50% subsidy from Central Govt. in return. Guidelines for implementing the Mukhya Mantri Greenhouse Renovation Scheme (MMGRS) through Deptt. of Horticulture, H.P. 1. Under this scheme, 70% assistance for the replacement of poly sheet subject maximum to Rs. 44.80/- per sq. mtr. as back-ended subsidy would be available to the individual beneficiaries (i.e. Farmers) who are engaged in greenhouse cultivation of high value flowers and vegetable crops. cost Rs 900-1200/- per square meter.

Summary of Human Capacity Building

Apart from the ecosystem services, the site also boosts of strong women groups who try to microfinance their agriculture needs for example seeds for sowing with the help of Self-Help Groups (SHGs). However more capacity building is needed within the project as well as additional support from BDO, Rural development, Tourism Department, NABARD agencies etc. SHG meetings also provide a gender specific platform to discuss other issues

related to resources as mostly women are prime users of fodder and water for their households.

Table - 10.7 SHG Livelihood Improvement: Training Budget (two workshops a year)

S. No.	Particulars	No. Of Group	No of Person	Rate Rs.	Amt. Rs.
1	Refreshment/lunch	10	12	160	19200
	Stationary	10	12	30	3600
	Resource person (Honorarium & Travel)	2	4	2500	20000
	Banner & Photography	2	2	250	1000
	Total for one workshop				43800/-
	Grand Total for 4 Workshops				1,75,000/-

Monitoring and Evaluation (M& E) Framework

A participatory framework is established to monitor the efforts made by the stakeholders, the flow of Ecosystem services and related forest management goal. The participatory framework will be segregated in two sections as given below:

- Monitoring and Evaluation by the Forest Department (in-house/outsourced infrastructure support): This system will timely evaluate vegetation and other related ecosystem service flow through GIS -based map of JFM areas, with village boundaries.
- Participatory Unit: This will be instrumental in providing ground truthing of vegetation growth and related improvement of the ecosystem service flow appropriate protection measures in a frequency of every two years. This will also assess the commensurate improvement in livelihood through socio- economic

survey. The participatory unit will do the monitoring and evaluation based on clearly agreed protocol on rights and responsibilities of all stakeholders' parties.

Monitoring and Evaluation Plan with Indicators are provided in Table 1.35

Table -10.8 Monitoring and Evaluation Plan

S.N o.	FES	Measures to be Monitored	Baseline value	Target Value	Indicator	Means of Verification	responsibility
	Water increases of water supply	Availability of water flow and seasonality especially during Summer	ND	Sufficient water availability during summer	Crops don't dry due to lack irrigation water during Summer	Record keeping by Monitoring team	Monitoring Team of Village Committee
	Fuel & Fodder supply	All the blanks are fully stocked with plantation	No plantation	At least 10% increase in fodder & fuel	Continued availability of fuel & fodder	Record keeping of the number of headloads of fuel & fodder	

Proposed Physical & Financial details of Community Development Works

Table-10.9 Annual WorkPlan CBMP For The2022-23 year wise

Proposed Activity	Bene fittin g HH	Unit of Work	Unit cost (Rs)	Proposed Budget	Financial Source Project Convergence Comm. Contribution
Glacial water harvesting tank	15	2	224000+ 20% carriage 44800	2,68800/-	Under MGNREGA
Glacial Pond for Agriculture	15	1	32 lac+ 6,40000 /-	38,40000/-	Under MGNREGA
Solar installation	15	1		98000/-	From HimUrja 70 % Subsidy
Solid fencing & Solar fencing	15	1	396/me ter	1400x396 554400/-	80% subsidy on solar fencing
Ground water hand pump	15	1			25% subsidy

10.10 proposed physical & financial Income Generation Activities (IGA)

Sr.No.	Proposed Activities	Total	Finance Contribution	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
1.	SHG Livelihood Improvement: Training Budget (Carpet Making , yak wool rope making)	192000/-	JICA with help of RD Dept & Tourism	96000/-	96000/-	0	0	0	0
2.	Three months early variety seed e.g. Pea Introduce Koda	1500/- max. x 39	Agriculture Deptt.60% subsidy	58500/-	58500/-	0	0	0	0
3.	Conservation of Ratan Jot, JangliPyaz,		Forest Deptt.& HPS Biodiversity Board	0	0	0	0	0	0
4.	Modified poly house , Minimum	900-1200 /-	From Agriculture	300000 /-20%	300000 /	300000 /	0	0	0

	25 square meter	per square meter 15 HH	Deptt. 70 % subsidy 10% beneficiaries , 20% JICA	JICA (60000/-)					
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Table 11.11-Annual WorkPlan CBMP For The2021-22 year wise

Proposed Activity	Bene fittin g HH	Unit of Work	Unit cost (Rs)	Proposed Budget	Financial Source Project Convergence Comm. Contribution
Glacial water harvesting tank	15	2	224000+ 20% carriage 44800	2,68800/-	Under MGNREGA
Glacial Pond for Agriculture	15	1	32 lac+ 6,40000 /-	38,40000/-	Under MGNREGA
Solar installation	15	1		98000/-	From HimUrja 70 % Subsidy
Solid fencing & Solar fencing	15	1	396/me ter	1400x396 554400/-	80% subsidy on solar fencing
Ground water hand pump	15	1			25% subsidy
SHG Livelihood Improvement: Training Budget	15		192000/ -	192000/-	JICA with help of RD Dept & Tourism

Three months early variety seed e.g. Pea Introduce Koda	15		1500/- max. x 15	22,500/-	Agriculture Deptt.60% subsidy
Conservation of Ratan Jot, JangliPyaz,	15				Forest Deptt.& HPS Biodiversity Board,JICA
Modified poly house , Minimum 25 square meter	15		900-1200 /- per square meter 15 HH	30,0000	From Agriculture Deptt. 70 % subsidy 10% beneficiaries , 20% JICA
Total					

11. Convergences with External Agencies

Activities to be carried out with the Support of Other Departments/Projects/Schemes
Community Infrastructure development, basic human needs, agriculture and horticulture
(through Convergence)

11.1 Activities identified for Convergence

S.No	Activities	HHs to be benefitted	Department/Agency for convergence
1	Repair of Mahila Mandal	15	Panchayat/Block
2	Foot Path	15	Panchayat/Block
3	Drain	15	Panchayat/Block
4	Training /Farming Camp	15	Agri/Horti/Animal Husbandry
5	Silage (Demonstrations basis)	15	A/H exposure Visit
6	Medicinal plants	6	Forest /Horticulture Department
7	Training on Eco-Tourism Activities	3	Forest /Tourism Departments

11.2 Physical and Financial Plan for Convergence Activities

S. No	Activities identified for convergence	Unit	Total		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Dry Stone Check Dam	No.	40	80000	0	0	21	42000	0	0	19	38000	0	0	0	0
2	Dry Stone C/ Wall	No.	1	15000	0	0	1	15000	0	0	0	0	0	0	0	0
Total Convergence Activity				81500	0	0		43500		0		38000		0		0

Micro Plan (PWC Sub-Committee Form)

Beat k
to be changed w.r. Spiti

Water Life Division, Spiti

12 Implementation Strategies

12.1 implementation guidelines on components and sub-components

Participatory forest management

Soil & water conservation/landslide control measures

Community development and livelihood improvement with gender mainstreaming

12.2 Training and capacity building of community institutions (*Sub-Committee, CIG, SHG*)

Institution	Areas of training/ capacity building	Resource person/group	Locations for exposure visits
Sub-Committee		Consultant	
Executive Committee	Proceeding writing Account maintains Assets created Role & responsibility of EC	JICA Staff/ Forest Department staff/ Consultant	Dehradun, Shimla, Kulu, Kangra

CIG	Proceeding Account maintaining Value addition training	Consultants	Local /Program manager rural financing
SHG	Group formation, Account maintaining, Proceeding writing, Bank linkages etc.	NABARD/Master trainer	

12.3 Year wise detail of training and capacity building plan

S. No	Year & Month	Community institution	Subject of training	No of Participants	Duration	Resource person/group
1	2022-2023	EC training Exposure visit CIG SHG	Proceeding writing Account maintaining Role & responsibility of EC Gender	7-15 EC Representative	2 days 5 days	1. Master trainer, FD accountants 2. Successful projects inside and outside state.

2	2022-2023	1. EC Training 2. CIG 3. SHG	M&E / Social audit	3-5	2 days	FTU- coordinators
3	2023-2024	1. EC Training 2. CIG 3. SHG	Assets created	3-5	1 day	FTU coordinators

Sr. No	Proposed Activities	Unit	Total		2022-23		2023-24		2024-25		2025-26		2026-27	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Training and Capacity Building of Community Institutions														
I	Sub-Committee(EC) Training													
a)	Proceeding account Maintain	No	2	0	1	0	0	0	1	0	0	0	0	0
b)	RoleResponsibility, Gender, Assets created	No	3	0	1	0	1	0	1	0	0	0	0	0
c)	M&E and Social Audit	No	4	0	0	0	1	0	1	0	1	0	1	0
	Sub-Total		9	0	2	0	2	0	3	0	1	0	1	0
II	CIG Training													
a)	Proceeding Writing, Account Maintaing	No	2	0	1	0	1	0	0	0	0	0	0	0
b)	Value addition	No	4	0	1	0	1	0	1	0	1	0	0	0
	Sub-Total		6	0	2	0	2	0	1	0	1	0	0	0

12.4 Proposed Year Wise Training

III	SHG													
a)	Group Formation, Proceeding Writing	No	2	0	1	0	1	0	0	0	0	0	0	0
b)	Account Maintaing,Bank Linkages etc.	No	2	0	1	0	1	0	0	0	0	0	0	0
	Sub-Total	No	4		2	0	2	0	0	0	0	0	0	0

12.5 Records to be maintained by the community institutions

S. No	Name of the record/register to be maintained	To be maintained by whom	To be verified by whom
1	Membership register, bye laws, & OTHER RECORDS	President / Member Secretary VFDS	FTU Officer/FTU Co-ordinator
2	Proceeding register	Member Secretary VFDS/ Joint Secretary	FTU Co-ordinator
3	Cash account register & related books	Treasurer, Secretary, joint Secretary,	FTU Officer FTU Co-ordinator
4.	Asset created register	President, Secretary	FTU/Project representatives.

ANNEXUREs

Registration No :



HPCD-3990

Certificate of Registration of Societies



Himachal Pradesh Societies Registration Act 2006 (Act No. 25 of 2006)

This is certified that the **BMC SUB COMMITTEE KOMIC** located at **VILLAGE KOMIC POST OFFICE HIKKAM TEHSIL SPITI DISTRICT L& S HIMACHAL PRADESH** has been registered under the provisions of the Himachal Pradesh Societies Registration Act, 2006 (Act No. 25 of 2006) on the **3rd** day of **June 2022** (03/06/2022).

Given under my hand and seal at **SDM Office, Kaza, Himachal Pradesh.**



[Signature]
Deputy Registrar,
SDM -cum- Deputy Registrar of Societies
District Lahaul & Spiti (H.P.)
Himachal Pradesh

Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihoods

Memorandum of Understanding

Between

The Komic BMC Sub Committee

And

The Forest Department (represented by DFO Wildlife SPITI) for Participatory Forest Management.

Whereas

- The Komic BMC Sub-Committee (hereinafter called "Society") has been constituted as per procedure described in the HP PFM Regulations notified by Govt. of HP vide No. FFE-C (9) 1/2001 dated 23.8.2001 and vide No.FFE-B-F (5) 5/2016- Part III dated 19.11.2018, by the Villagers of Komic BMC Sub-Committee in district Lahoul & Spiti and Forest Division Wildlife Spiti of Himachal Pradesh and has an elected Executive Committee (hereinafter called "EC");
- as part of the Japan International cooperation Agency (JICA) supported "Project For Improvement of Himachal Pradesh Forest Ecosystems Management and livelihoods" (hereinafter called "Project") the Micro plan (Forest Ecosystems Management Plan & Community Development & Livelihood Improvement Plan) for Forest Management and Community Development (hereinafter called "Plan") for Forest protection, rehabilitation and management of the specified forest areas has been jointly prepared by the Society and the Forest Division;
- the Plan contains details of program for conservation, management and development of forest areas, Biodiversity conservation, Livelihood improvement works and also the description of equitable distribution of usufructs obtained from allocated forest areas and public resources of the ward/village;
- the Plan has been approved by the Officer in Charge of the wildlife Forest Division (here- in after called "Forest Officer") on behalf of Government of Himachal Pradesh;

Now herewith

The Wild Life Forest Division and the Society have mutually agreed on this MoU, and consequently, this MoU is executed with the following articles:

1. Purpose of the Memorandum of Understanding

This Memorandum of Understanding (hereinafter called "MoU") details the responsibilities of the Society regarding management and protection of forest area(s) and village(s) resource development, in the manner specified in the Plan and for equitable distribution of benefits amongst its members. It further details payments and support to be provided by the project and the associated conditions.

2. Responsibilities of the Society

- 2.1. With regard to its Constitution, working, powers, duties and benefits, the Society agrees to act in accordance with the HP Government Notification No. FFE-B-F (9) 1/2001 dated 23.8.2001 and vide No.FFE-B-F (5) 5/2016- Part- III dated 19.11.2018, and other relevant Government orders and instructions.
- 2.2. The Society agrees to provide all necessary assistance to the Forest Officer in selection of forest area(s) to be allotted to it for forest management and development so that there is no dispute regarding areas of common use of nearby villages.
- 2.3. The Society agrees to prepare and submit general house approved, quarterly physical & financial plans with budget requirements to FTU concerned for releasing funds after Plan's approval from PMU.
- 2.4. The Society agrees to identify Community Development Activities (CDAs) in conformity with the CDA guidelines, decide on these through a consultative process and implement them according to the relevant standards as applicable.
- 2.5. The Society agrees to carry out works laid out in the Plan for the forest area (such as planting, fencing, maintenance and protection) and in doing so, follow the principles of management of forest and wildlife specified therein, also taking into account the guidelines of the Government, prevalent legal provisions and technical principles. The Society will ensure that no existing acts/rules of forest/wildlife management are being violated.
- 2.6. The Society agrees to contribute membership fee through its members/user groups. The amount with interest will be available to VFDS/BMC (Sub-Committee) after project closure and can be used by VFDS/BMC (Sub-Committee) consensus. The amount deposition to be done within six months.
- 2.7. The Society agrees, after completion of the related works, to protect the forest area from fire, illicit grazing, illicit felling, illicit transport, illicit mining, encroachments and poaching and shall help the forest department in this regard.
- 2.8. The Society agrees to pass the information regarding person(s) engaged in harming the wild animals and forests or those engaged in illegal activities on to the Forest Department. The Society agrees to help forest employees in apprehending such person(s) and provide all possible assistance in protecting any seized produce etc.
- 2.9. The Society agrees to rectify any shortcomings found during review of its works by the Forest Officer/monitoring agency.
- 2.10. The Society agrees to keep accounts of income and expenditure of the funds from various sources and also to get regular annual audits done by the agency assigned by the Forest Officer.
- 2.11. The Society agrees to maintain the records specified by the project regularly and in prescribed formats.
- 2.12. The Society agrees that the distribution of products and services generated as a result of implementation of the Plan among its members/User Groups is done in an equitable manner. If the Forest Officer points out any mismanagement or irregularity in the equitable distribution of such products and services, then the Society agrees to implement the necessary corrections/improvements suggested by the Forest Officer.
- 2.13. Society agrees to ensure that there will be no mis utilization of funds provided by Forest Department for implementing project activities.
- 2.14. Society will open two accounts of VFDS/BMC (Sub-Committee), One for FEMP

implementation (FE Account) and second one as; revolving fund under Livelihood activities (CD&LI Account).

- 2.15. The funds and maintenance of account would be in accordance with Para-36 to 43 of the Bye-laws notified by Govt. on dated 19-11-2018 for Sub-committee under the Project.

3. Responsibilities of the Forest Department

- 3.1. The Forest Department will provide to the Society the related input materials required to carry out the works specified in the Plan, such as saplings, fencing materials, etc. in a timely manner.
- 3.2. The Forest Department will provide the payments specified in the Plan to the Society for implementation of works carried out in the forest area on the basis of the Plan in a timely manner. The Society to prepare and submit general house approved, six monthly physical & financial plans with budget requirements to DMU through FTU concerned for release of funds. DMU to release the fund to the VFDS/BMC (Sub-Committee)
- 3.3. Funds from other department's schemes as the Panchayat may be able to garner/ converge, may also be used for activities that help meet the project's objectives.
- 3.4. The Forest Department shall provide the necessary advice and guidance to the Society for implementation of works carried out in the forest area on the basis of the Plan.
- 3.5. The Forest Department shall NOT be responsible for any loss in any of the works related to implementation of the Plan and no claim of any sort can be presented against Forest Department.
- 3.6. Forest Department will take legal action against any mis appropriation of fund by VFDS/BMC (Sub-Committee).

4. Support by the Project

- 4.1. The Project will provide funds for Community Development & Livelihood activities (CDAs) identified by the Society and in conformity with the CD&LIP guidelines, which will be implemented by the Society.
- 4.2. The Project will provide to the Society if required the related input/materials required to carry out the works specified in the Plan, such as saplings, fencing materials, etc. in the required qualities and quantities.
- 4.3. The Project will provide to the Society the payments specified in the Plan for implementation of works carried out in the PFM area on the basis of the Plan.
- 4.4. The Project will provide to the Society members training and other capacity building measures, as well as support for income generating activities as specified in the Plan.
- 4.5. The funds earmarked for Plantations, soil and water conservation, Biodiversity conservation etc., will be credited into the VFDS/BMC (Sub-Committee) bank account according to six-month plan requirement (prepared from Micro plan) of VFDS/BMC (Sub-Committee). In addition, VFDS/BMC (Sub-Committee) to open an account for Livelihood activities.
- 4.6. Payment and receipt of project funds will be strictly by means of cheques online payment/RTGS etc. or bank transfers to the account of the Society. Society will further distribute fund similarly.

5. Rights and Benefit Sharing

- 5.1. The **Rights** of right holders as admitted in the Forest Settlement will remain unaffected

due to constitution of the Society and will continue to be exercised as heretofore.

- 5.2. The **Benefits** which Society members and their user groups will be entitled to after closure of plots / patches in the forest for various project interventions are as follows:
- i) to collect the yield such as fallen twigs, branches, loppings, grass, bamboos, fruits, flowers, seeds, leaf fodder and non-timber forest products free of cost through individual or collective arrangements as decided by the Society;
 - ii) to the sale proceeds of all intermediate harvest, subject to protection of forest and plantations for at least 3 years from the date of agreement;
 - iii) to organize and promote vocational activities related to forest produce and land; and other activities such as promotion of self-help groups which may provide direct benefits, including micro-lending to women. None of the activities so promoted shall affect the legal status of the forest land;
 - iv) recorded rights over the forest shall not be affected by these benefits;
 - v) after 5 years, the Society may expand the area, on the basis of a fresh agreement deed, by inclusion of adjoining or nearby areas;
 - vi) To utilize at least 40 percent of the sale proceeds on forest regeneration activities including soil and water conservation.

Provided that for the purpose of usufruct, the usufruct sharing family shall be one unit.

- 5.3 The Society will be entitled to their share of payments from intermediate and final felling, Whenever they take place in this forest, as laid out in the PFM Regulations of HP, 2001,

6. Monitoring & Evaluation

- 6.1. Monitoring and Evaluation of project activities will be done at different levels, including by the EC, a participatory monitoring committee and an independent third party apart from Project authorities.
- 6.2. The EC of VFDS/BMC (Sub-Committee) or any of its members will monitor progress and quality of work during execution of various works. The Member Secretary will record the date, places and names of EC members who checked the work(s) and whether works were satisfactory and any instructions given.
- 6.3. A participatory monitoring committee made up of members of the Society, a member from the Panchayat as well as a representative from the Forest Department (e.g. Deputy RO) will on quarterly basis review objectives, inputs and work progress and report to the whole Society. Their reports will then be sent to the Forest Officer for further action.
- 6.4. Where Society groups have carried out or are responsible for activities like social fencing, fire prevention, plantations or maintenance of plantations, annual monitoring will be carried out by Project-approved monitors (Third Party) and the results of this monitoring linked to release of payments, a) for social fencing in lieu of barbed wire fencing, b) for fire prevention as specified in the Plan and c) for survival in forest plantations as given in the agreed to norms for that activity.
- 6.5. Settlement of Disputes: Settlement of disputes and conflict resolution will be governed as laid out under para 47, 48 and 49 of the Bye Laws notified by GoHP.

Memorandum of Understanding

We are aware that the benefits mentioned in this agreement shall be available to the Society only

when it discharges its duties, responsibilities and works in a satisfactory manner and this is certified by the Forest Officer every year. However, if the Forest Officer fails to fulfil conditions mentioned in para 3 and 4 of this agreement and this is a cause for the Committee not able to discharge its responsibilities and works, and then it will be kept in mind while evaluating the works of the Committee every year.

I विकास धरंग, President, Komic Joint VFDS/BMC (Sub-Committee), declare on behalf of the Society, that I am committed to follow all the conditions mentioned in this MoU and am signing this memo after reading/understanding all conditions mentioned herein, literally and in their original meaning.

विकास धरंग

(Name and Signature of the President)

On behalf of VFDS/BMC (Sub-Committee)

विकास

OC
Divisional Forest Officer
Forest Division
(on behalf of HPPD)

HPFD

Witnesses: Village Forest Development Society/BMC (Sub-Committee) and
The Forest Department for Participatory Forest Management.

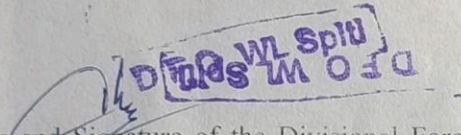
1. Padma Lama

2. Tenzin

3.

4.

I, _____ [position] undertake, on behalf of
_____ Forest Department, to implement all duties/responsibilities of
the Forest Department mentioned in this memorandum.

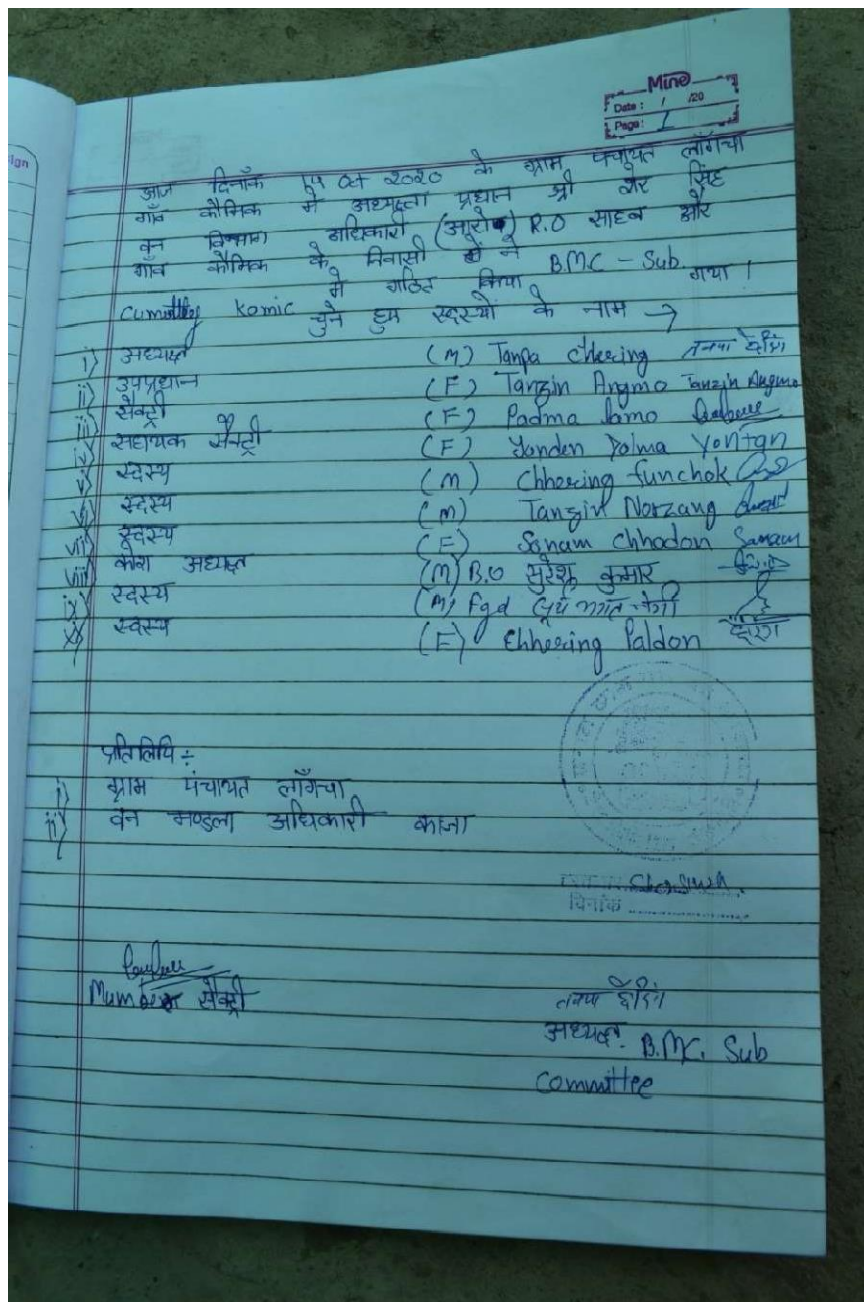

(Name and Signature of the Divisional Forest Officer or other officer authorized by
him) On behalf of _____ Forest Department

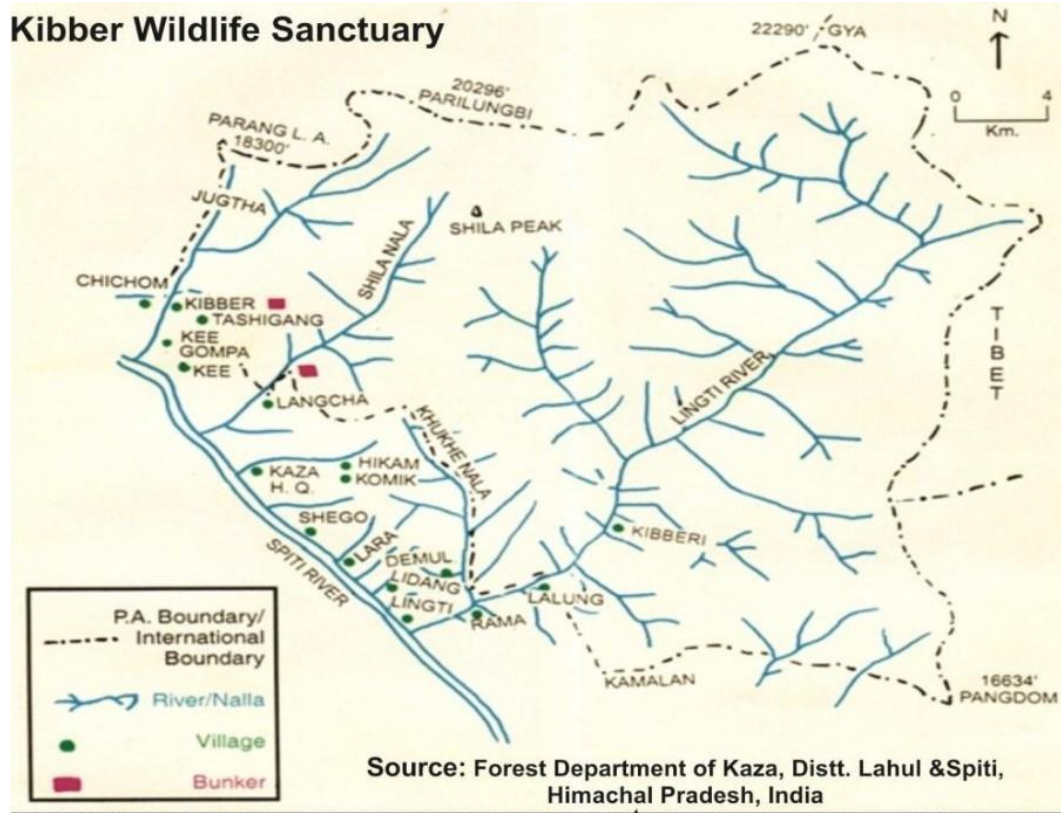
KAZA FTU

Social map
Komic BMC Sub. Committee



मन्दिर -
 स्कूल -
 ग.प.स. कजा
 कजा कमीक
 मम कजा
 घर -
 नदी





HIMACHAL PRADESH (INDIA)

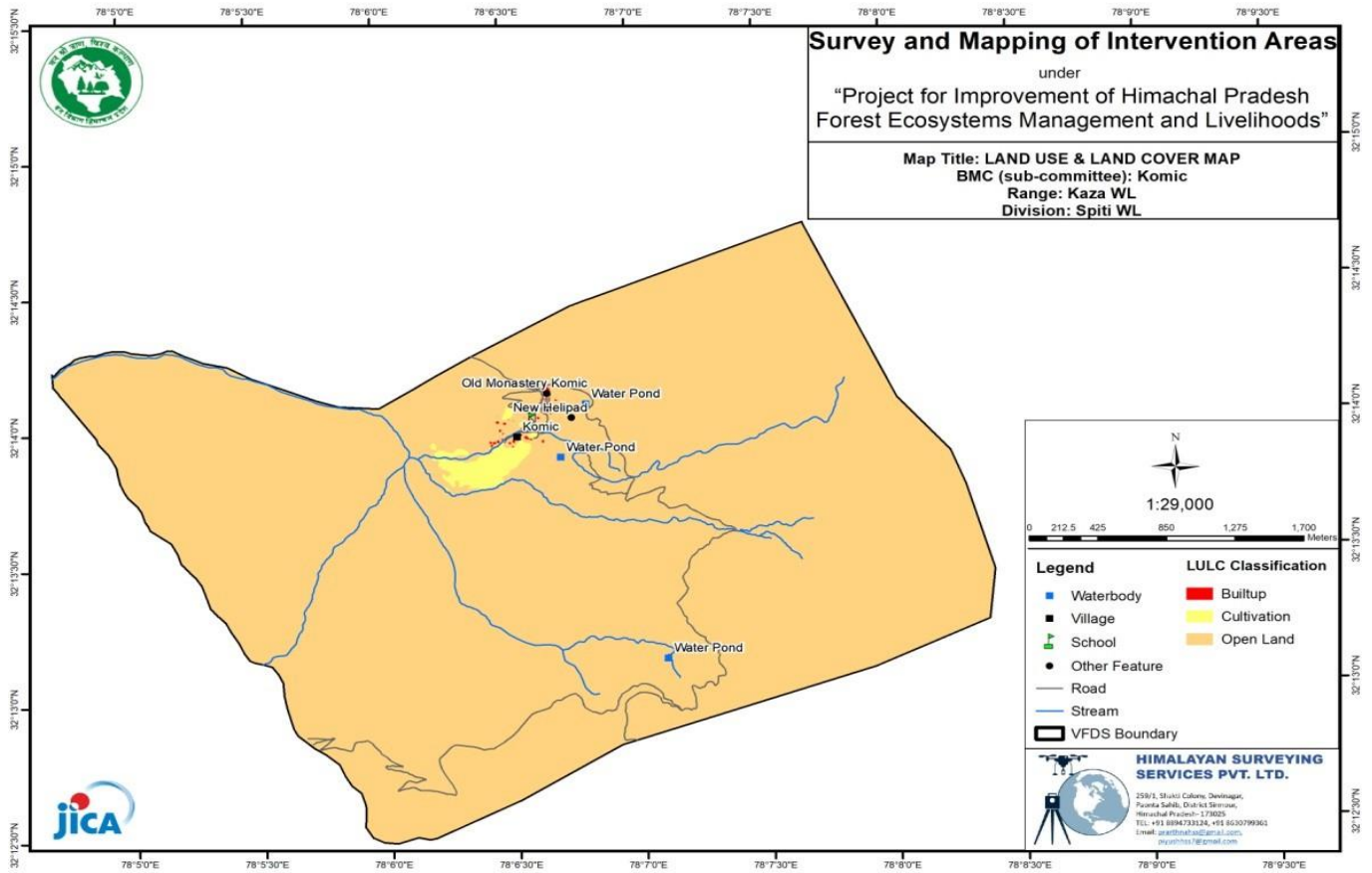


Micro Plan (BMC Sub-C)

Map not to scale

Spiti

Annexure-III



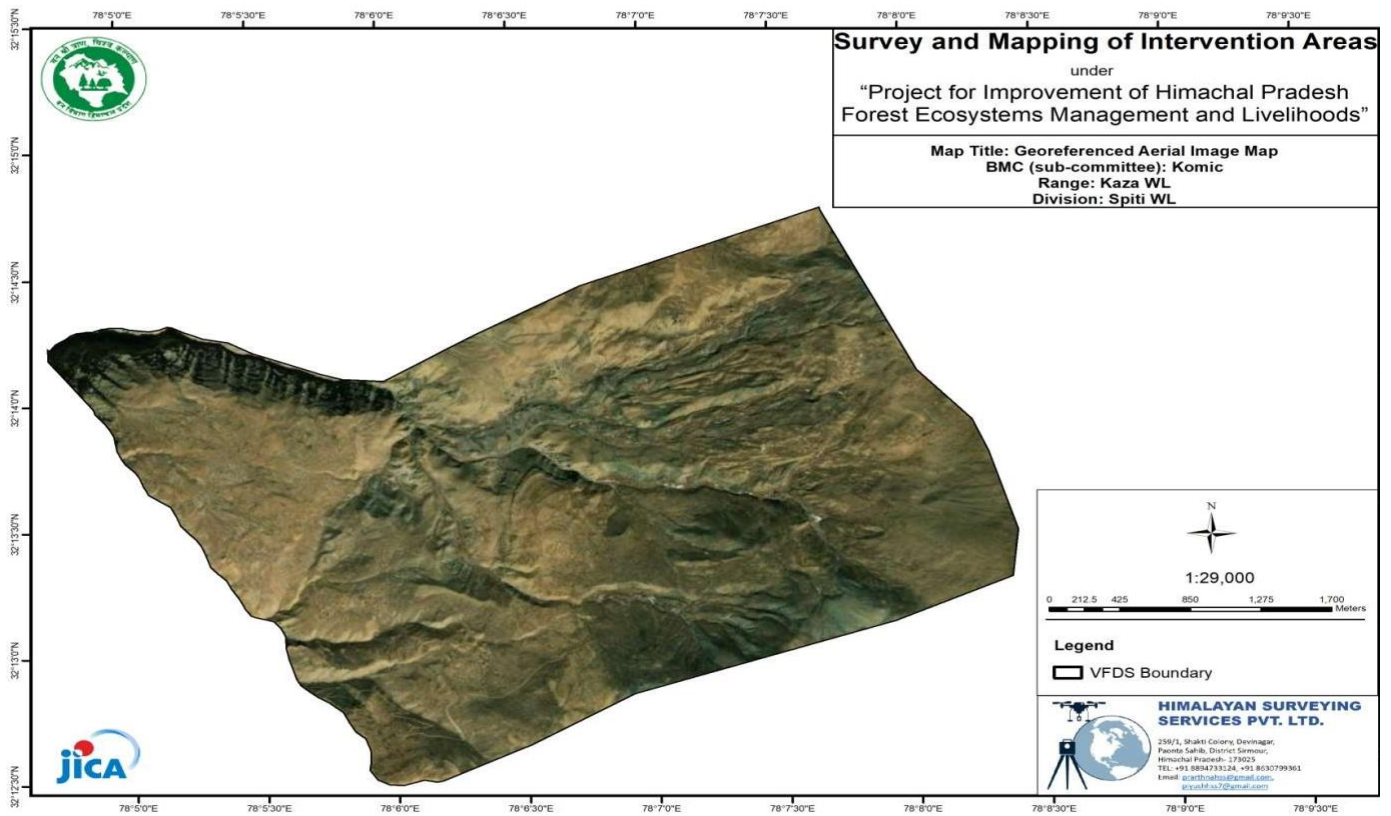
Micro Plan (BMC Sub-Committee Hikkim)

Beat Kibber & Range WL Kaza

Wild Life Division, Kaza

Annexure-IV

Memorandum of Understanding



Annexure-IX

Micro Plan (BMC Sub-Committee Hikkim)

Beat Kibber&Range WL Kaza

Wild Life Division, Kaza

**The Bye laws
Of Komic Biodiversity sub committee**

**THE BYE-LAWS
OF
The Komic Village Forest Development Society
Project for Improvement of HP Forest Ecosystems Management & Livelihoods
NAME, ADDRESS AND AREA OF OPERATION**

1 The society shall be called the _BMC Sub Committee Komic Village Forest Development Society.

It shall be referred to here-in-after as the society.

2 The registered address of the society shall be C/O Tanpa Chhering S/O Palden Village Komic Post Office Komic Tehsil Spiti District Lahaul & Spiti

3 The area of operation of the society shall cover the following village/villages:

Definitions

4 In these by-laws, unless there is anything repugnant in the subject or context

- i "Act" means Indian Forest Act, 1927, (Act No.16 of 1927) as amended in its application to Himachal Pradesh;
- ii "**Conflict Resolution Group**" means a group consisting of representatives of the concerned Gram Panchayats, a representative of the local non-government organizations or local community based organizations, a representative from local/migratory community and the concerned Assistant Conservator of Forests/Forest official;
- iii "**common land**", "**family**", "**Gram Panchayat**", "**Panch**", "**Pradhan**", "**Village**" and "**Ward**" shall have the meanings respectively assigned to them in the Himachal Pradesh Panchayati Raj Act, 1994 (Act No.4 of 1994);
- iv **CD & LIP**: Community Development and Livelihood Improvement Plan refers to the plan activities that shall be included in the microplan to enhance community well being and resilience of household economy.
- v **CIG**: Common Interest Group refers to a group of persons who have a common interest in a particular Livelihood Improvement Activity.
- vi "**Department**" means the Himachal Pradesh Forest Department.

Micro

मिशन के नाम पर 2020 के नाम पर प्रस्ताव लगे हैं
 कोशिका में आगमना प्रधान श्री जीत सिंह
 कोशिका अधिकारी (आर.ओ.) R.O साहब और
 कोशिका के निवासी श्री जीत सिंह
 कोशिका में बैठकर किया गया।
 Committee Komic के नाम पर सदस्यों के नाम →

i)	अध्यक्ष	(M) Tanka Chasing	तन्का चिसिंग
ii)	उपप्रधान	(F) Tangin Angma	Tangin Angma
iii)	सचिव	(F) Padma Jomo	Padma Jomo
iv)	अध्यक्ष सचिव	(F) Yonden Palma	Yonden Palma
v)	सदस्य	(M) Chasing fanchok	Chasing fanchok
vi)	सदस्य	(M) Tangin Norzang	Tangin Norzang
vii)	सदस्य	(F) Sonam Chhadon	Sonam Chhadon
viii)	कोशिका अध्यक्ष	(M) B.O. सुरेश कुमार	B.O. सुरेश कुमार
ix)	सदस्य	(M) Fgd श्री मात देवी	Fgd श्री मात देवी
x)	सदस्य	(F) Chasing Paldon	Chasing Paldon

प्रतिलिपि :-
 कोशिका मंचायत लॉजिंगा
 कोशिका अधिकारी कोशिका

Signature
 Mumbam सचिव

तन्का चिसिंग
 अध्यक्ष B.M. Sub
 Committee

B.M.L. - 2011 - Committee - Date

S.No	Name	Signature
1	Tanzin Nazam	<u> </u>
2	Nawroz Khan	<u> </u>
3	Kunja 	<u> </u>
4	Khendri Chhokel	<u> </u>
5	Chhoring Funchok	<u> </u> 948958866
6	Tumpa Chhoring	<u> </u> 948948314
7	Funchok Chhokel	<u> </u>
8	Lotoy Gogotso	<u> </u>
9	Yeste Dama	<u> </u>
10	Sonam Chhodon	<u> </u> Sonam Chhodon
11	Sonam Talpa	<u> </u> 20111120111
12	Saresti Kumar Megi	<u> </u>
13	Yonten Dama	<u> </u> Yonten
14	Padma Jomo	<u> </u> 7649947337
15	Tanzin Angmo	<u> </u> Angmo
16	Chhoring Palen	<u> </u> 2011
17	Kunja Joralar	<u> </u> Kunja

Certificate of Registration of Societies



Registration No :



HPCD-3990

Certificate of Registration of Societies



Himachal Pradesh Societies Registration Act 2006 (Act No. 25 of 2006)

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Given under my hand and seal at **SDM Office, Kaza, Himachal Pradesh.**



Deputy Registrar,
SDM -cum- Deputy Registrar of Societies
District Lahaul & Spiti (H.P.)
Himachal Pradesh

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due to constitution of the Society and will continue to be exercised as heretofore.

- 5.2. The **Benefits** which Society members and their user groups will be entitled to after closure of plots / patches in the forest for various project interventions are as follows:
- i) to collect the yield such as fallen twigs, branches, loppings, grass, bamboos, fruits, flowers, seeds, leaf fodder and non-timber forest products free of cost through individual or collective arrangements as decided by the Society;
 - ii) to the sale proceeds of all intermediate harvest, subject to protection of forest and plantations for at least 3 years from the date of agreement;
 - iii) to organize and promote vocational activities related to forest produce and land; and other activities such as promotion of self-help groups which may provide direct benefits, including micro-lending to women. None of the activities so promoted shall affect the legal status of the forest land;
 - iv) recorded rights over the forest shall not be affected by these benefits;
 - v) after 5 years, the Society may expand the area, on the basis of a fresh agreement deed, by inclusion of adjoining or nearby areas;
 - vi) To utilize at least 40 percent of the sale proceeds on forest regeneration activities including soil and water conservation.

Provided that for the purpose of usufruct, the usufruct sharing family shall be one unit.

- 5.3 The Society will be entitled to their share of payments from intermediate and final felling, Whenever they take place in this forest, as laid out in the PFM Regulations of HP, 2001,

6. Monitoring & Evaluation

- 6.1. Monitoring and Evaluation of project activities will be done at different levels, including by the EC, a participatory monitoring committee and an independent third party apart from Project authorities.
- 6.2. The EC of VFDS/BMC (Sub-Committee) or any of its members will monitor progress and quality of work during execution of various works. The Member Secretary will record the date, places and names of EC members who checked the work(s) and whether works were satisfactory and any instructions given.
- 6.3. A participatory monitoring committee made up of members of the Society, a member from the Panchayat as well as a representative from the Forest Department (e.g. Deputy RO) will on quarterly basis review objectives, inputs and work progress and report to the whole Society. Their reports will then be sent to the Forest Officer for further action.
- 6.4. Where Society groups have carried out or are responsible for activities like social fencing, fire prevention, plantations or maintenance of plantations, annual monitoring will be carried out by Project-approved monitors (Third Party) and the results of this monitoring linked to release of payments, a) for social fencing in lieu of barbed wire fencing, b) for fire prevention as specified in the Plan and c) for survival in forest plantations as given in the agreed to norms for that activity.
- 6.5. Settlement of Disputes: Settlement of disputes and conflict resolution will be governed as laid out under para 47, 48 and 49 of the Bye Laws notified by GoHP.

Memorandum of Understanding

We are aware that the benefits mentioned in this agreement shall be available to the Society only

when it discharges its duties, responsibilities and works in a satisfactory manner and this is certified by the Forest Officer every year. However, if the Forest Officer fails to fulfil conditions mentioned in para 3 and 4 of this agreement and this is a cause for the Committee not able to discharge its responsibilities and works, and then it will be kept in mind while evaluating the works of the Committee every year.

I विकास धर्तरे, President, Komic Joint VFDS/BMC (Sub-Committee), declare on behalf of the Society, that I am committed to follow all the conditions mentioned in this MoU and am signing this memo after reading/understanding all conditions mentioned herein, literally and in their original meaning.

विकास धर्तरे

(Name and Signature of the President)

On behalf of VFDS/BMC (Sub-Committee)

विकास धर्तरे

OC
Divisional Forest Officer
Forest Division
(on behalf of HPPD)

Witnesses: Village Forest Development Society/BMC (Sub-Committee) and
The Forest Department for Participatory Forest Management.

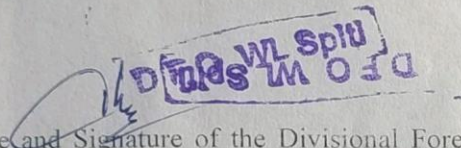
1. Padma Lama

2. Tenzin

3.

4.

I, _____, _____ [position] undertake, on behalf of
_____ Forest Department, to implement all duties/responsibilities of
the Forest Department mentioned in this memorandum.


(Name and Signature of the Divisional Forest Officer or other officer authorized by
him) On behalf of _____ Forest Department

Glimpses of Komic Ward



Annexure XIII

Micro Plan Assessment Criteria for Financing and Sanctioning

DMU: Wildlife Division..... FTU: Wildlife RangeBeat:.....

GP: BMC Sub-Committee:

S.NO	Assessment Criteria	Achievement DD/MM/YY	Status at the time Applying for Approval
	Process Related		
1.	GP Level and Ward Level awareness done		
2.	GP Consent/Ward Consent to work with Project Obtained		
3.	BMC Sub-Committee Formed/Executive Committee Constituted		
4.	BMC Sub-Committee Registered		
5.	MOU Signed between DMU and BMC Sub-Committee for undertaking micro-planning and implementation		
6.	EC 1 st meeting held to explain their role and responsibilities		
7.	BMC Sub-Committee account Opened		
8.	Percent of households represented in micro-planning process(App.)		
9.	Percent of Women Participants involved in micro-planning process(App.)		
10.	Collected information crosschecked and updated in Green Assembly		
11.	Women, Poor, Youth and other communities were involved in micro-planning process		
12.	BMC Sub-Committee involved in information analysis and finalizing key emerging activities		
13.	Micro Plan (CBMP,CD&LIP) approved by		

	BMC Sub-Committee in General Assembly and confirmed by executive committee		
14.	Formats prescribed for MP(CBMC,CD&LIP) used by social and technical staff		
15.	Total amount of CBMP,CD&LIP and convergence mentioned in Micro plan		
16.	Days taken to complete MP(CBMP,CD&LIP)		
17.	Micro plan Submitted by FTU to DMU		
18.	Micro plan approved by the Head of DMU		
	Output related		
19.	List of executive members attached		
20.	BMC Sub-Committee contribution is there		
21.	Are CBMP and CD&LIP activities in line with project objectives		
22.	Livelihood activities checked for initial technical feasibility and economic viability by micro planning team		
23.	Convergence activities included		
24.	BMC Sub-Committee training and capacity building aspect included		
25.	Costing of CBMP,CD&LIP checked by DMU		
26.	Micro plan includes adversely affected households/group, if any		
27.	PRA tools, wellbeing analysis, BMC sub-committee resolution, maps of CBMP and other documents are annexed		
28.	Sources of secondary information mentioned I micro plan		

Assessed by FMU

Recommended by DMU

Approved by PMU

Micro Plan (BMC Sub-Committee Hikkim)

Beat Kibber&Range WL Kaza

Wild Life Division, Kaza