



# PROJECT FOR IMPROVEMENT OF HIMACHAL PRADESH FOREST ECOSYSTEMS MANAGEMENT AND LIVELIHOODS



**BMC SUB-COMMITTEE - KAZA SOMA  
MICRO PLAN**

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## General Detail of Project Area:

<b>Gram Panchayat</b>	<b>Kaza</b>
<b>BMC</b>	Kaza
<b>BMC Sub-Committee</b>	Kaza Soma
<b>Forest Beat</b>	Kaza
<b>Forest Block</b>	Kaza
<b>Forest Range</b>	Wildlife Range, Kaza
<b>Forest Division</b>	Wildlife Division, Spiti
<b>Forest Circle</b>	Wildlife (South), Shimla



## Abbreviations and Acronyms

ADMU	Assistant Divisional Management Unit
ANR	Assisted Natural Regeneration
BMC	Biodiversity Management Committee
BO	Block Officer
FEMP	Forest Ecosystem 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	Mahila Mandal
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
RFO	Range Forest Officer
SHG	Self Help Group
SWC	Soil Water Conservation
TOT	Training of Trainers
VFDS	Village Forest Development Society
YM	Yuvak Mandal
WHS	Water Harvesting Structure

# **1. Introduction**

## **1.1 Project Brief**

### **Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihoods**

## **1.2 Project Objectives**

The objective of the project is to manage and enhance the 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, socioeconomic development in the project area in the state of Himachal Pradesh.

## **1.3 Project Target**

The JICA mission and HPFD agreed that project activities under a non-departmental mode shall be undertaken by the Village Forest Development Society (VFDS) which also includes Joint Forest Management Committee (JFMC) based on Participatory Forest Management Regulation and Biodiversity Management Committee (BMC) sub-committee based on Biological Diversity Act, 2002 at Ward level. Both sides also confirmed that any fund for the project activities shall be transferred directly from Divisional Management Unit (DMU) to VFDS/BMC sub-committee.

## **1.4 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

Output 3: Livelihoods Improvement Support

Output 4: Institutional Capacity Strengthening

### **1.5 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 the Village Forest Development Society (VFDS) and Biodiversity Management Committees (BMCs)/subcommittees.
- Alleviating poverty
- Appropriate Silvicultural operations utilization of the inherent potential of available rootstock, underplanting with suitable species, and 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 the Forest department and its personnel.

### **1.5 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) show their unwillingness to work in these areas, such interventions are to be conducted in the departmental mode. However, the 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 (Participatory Forest Management) 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 in 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 Outside of Forest Areas

### **Departmental Mode**

- Improvement of Forest Boundary Management in Project Intervention Areas
- Improvement of Nurseries
- Seedling Production
- Non-PFM Drainage Line Treatment (ex-situ SWC work: including treatable
- Surface Erosion Control
- Secondary Silvicultural Operations for the Improvement of Existing Forests
- Improvement/ Densification of Moderately Dense Forest
- Improvement of Pastures/ Grasslands (including in-situ SWC work)
- Forest fire management Afforestation/ Improvement of Open/ Scrub Forest

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 BMC Subcommittees.

## 1.6 Need for Sub-Committee Level Micro Plan

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

- Micro Planning shall be considered as an empowering process that helps the BMC sub-committee to learn more about themselves, their resources, issues and challenges, strengths and weaknesses, and further 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 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. The micro plan shall integrate the needs of the BMC sub-committee into the 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 the micro plan, the BMC sub-committee shall interact with officials of other departments and after the preparation of the Micro Plan, it should be shared with other Government Departments and Agencies for dovetailing their activities in the 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, the broad action plan is to be prepared for 5 years based on the 10 years 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 the 4th year, a broad action plan shall be prepared for the forthcoming 5 years. The 2<sup>nd</sup> 5-year action plan process shall follow the same step as discussed in the above section.
- A copy of the Micro Plan, when prepared, shall be shared with the Gram Panchayat, Block Development Office (BDO), and other Line Departments for dovetailing their activities in the BMC sub-committee.
- Although Micro Plan shall be prepared for 6-8 years, it would be revisited annually.

## Location of Intervention Area



### Location of project area



## Boundary Map of Kaza Old BMC Subcommittee





## 2. Basic Information

### 2.1 Basic Information Sheet on Micro plan

1.	Name of the BMC sub-committee	Kaza Soma
2.	Name of the Ward	Kaza
3.	Registration No. of BMC subcommittee	HPCD-5767
4.	Name of Gram Panchayat	Kaza
5.	Name of the FTU/ Range	Kaza
6.	Name of the DMU/Forest Division	Kaza
7.	Name of the District	Lahul &Spiti
8.	Period of Micro Plan	24/06/2023 to 31/07/2023
9.	Date of approval of Micro Plan by Executive Committee of BMC sub-committee	(BMC resolution for approval of micro plan attached)
10.	Date of approval of Micro Plan by DFO/ Head of DMU	24/12/2023
11.	Key team members engaged in Preparation of Micro Plan	FTU Chhodon FTU Minakshi SMS Ashutosh Pathak
12.	Date of General House conducted & resolution passed	28/03/2021
13.	Number of Participants	18
14.	Number of members in EC	Male: 4 Female: 2 Total:6

## 1.2 General Profile of Selected BMC Sub-committee

S. No	Description	Current Status
3.	Date & Registration of BMC Sub-committee	03/06/2022
4.	No. of Revenue Ward/ Forest Villages covered	1(Kaza Soma)
5.	Total number of households (HHs) in Ward	153
6.	Total No of households representing BMC subcommittee	153
7.	Total Population	480
8.	Total General Categories HHs	Nil
9.	Total SC HHs	11
10.	Total ST HHs	142
11.	Total IRDP/BPL HHs	13
12.	Total Livestock Population	20
13.	Bank account details	Saving Account
	Name of the bank	SBI
	Date of account opened	
	Account number /IFSC	40959652584/SBIN0003337

## 2.3 Details of the EC Members of the BMC Sub-Committee Kaza Soma

S.No	Name	M/F	Age	Designation	Occupation	Contact No.
1.	CHHERING CHHOPEL	M	41	President/Chairman/Director	Farmer	6005820410
2.	LAMO BUTIH	F	27	Vice President/Vice Chairman	Housewife	7649947771
3.	KUNGA JUNGNAY	M	29	Secretary/General Secretary	Farmer	7018952480
4.	SURESH KUMAR	M	39	Treasurer/Finance Secretary	Block Officer	N/A
5.	SURYA BHAGAT	M	38	Executive Member/Member	Forest Officer	8091755255
6.	DOLMA CHHERING	F	28	Executive Member/Member	House Wife	N/A

## 2.4 Micro Planning Process

The BMC Subcommittee-level micro-planning process consists of Forest Ecosystem Management Plan (FEMP) and Community Development & Livelihood Improvement Plan (CD&LIP). For activities to be implemented through line departments/agencies, details of the Convergence activities are also added to the Micro Plan. The detailed process followed in the preparation of the micro plan focuses on the information collection from primary sources, secondary sources, ward-level meetings, and other meetings held with primary and secondary stakeholders. The information was also collected from different sections of the community using Participatory Rural Appraisal (PRA) and Rapid Rural Appraisal (RRA) techniques.

The information collected mostly focused on PRA techniques focused on group discussions with the specific groups which include Vulnerable families; ST; SC and Women. The information collected was triangulated with different groups and at last finalized in a plenary session.

The information collected was analyzed jointly with the active members of the BMC subcommittee and other community participants. A meeting was conducted to share the primary information collected. The changes were incorporated based on the participant's consensus.

The participants were asked to gather in a group to discuss and identify their problems, perceived needs, and priorities by giving certain exercises of PRA tools and finally suggested the possible solutions to deal with their needs & priorities which emerged during the group exercises where women and men were given maximum opportunities to bring forward forest-related and livelihood related issues. A detailed set of perceived problems and solutions were developed jointly by Sub-Committee members and the micro-planning team of the project.

The perceived problems, solutions, and information collected through primary and secondary sources were discussed with the 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 FEMP. The Executive Committee was also formed in the General House according to the HP Forestry Project guidelines. For Forestry interventions, User Groups were also formed.

The technical staff of HPFD and the Community focused on quantification and decided on a tentative target for different interventions and prepared cost estimates based on the Project

norms and locally prevailing rates. The micro plan is finalized by consultation with Divisional Management Unit (DMU) staff, Field Technical Unit (FTU) staff, and Executive Committee of Sub-Committee and inputs from the other experts.

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

S.N.	Sequential Steps Followed – Addition can be made as per the locally followed process	Date	Frequency
1.	Community awareness building meetings/workshops organized at GP & ward Level	28/03/2021	-
2.	GP Consent to work with project	20/04/2021	-
3.	Sub-Committee formed/Executive committee constituted /Sub-Committee Registered.	03/06/2022	-
4.	Action plan prepared with Sub-Committee for Micro Plan Preparation	15/02/2023	-
5.	Micro planning process started /PRA exercise conducted (From- To)	22/06/2023 to 31/07/2023	-
6.	Participatory information analysis carried out (From- To)	15/07/2023 to 29/07/2023	-
7.	Negotiation/planning process held (From- To)	02/08/2023 to 30/08/2023	-
8.	Participants involved in negotiation/planning process (Male & Female)	-	15 M 2 F
9.	Presentation of the draft plan in village/ward assembly for approval	28/08/2023	-
10.	Documenting the micro plan (From- To)	05/09/2023 to 10/10/2023	-

11.	MOU signed between DMU and EC of Sub-Committee for undertaking micro planning and implementation	24/07/2023	-
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### 3. Socio-Economic Profile of Kaza Soma

#### 3.1 General Description of the BMC Sub-Committee

##### 3.1.1 History of Area Selected

The administrative headquarter of the Spiti, Kaza is the largest settlement of the valley situated on the left bank of the Spiti River in the Lahul & Spiti district of the state of Himachal Pradesh in the western Himalayas of India. Kaza is situated at an elevation of 3,650 m (11,980 ft) above mean sea level. Kaza is a high altitude or cold desert having close similarities to the neighbouring Tibet and Ladakh regions in terms of terrain, climate and the Buddhist culture. The town is divided into the old, as Kaza *Khas* and new as Kaza *Soma* sections. The Tangyud (Tang-rGyud) Gompa dates to the early 14th century and is built like a fortified castle with massive slanted mud walls and battlements with vertical red ochre and white vertical stripes. It is on the edge of a deep canyon and overlooking the town of Kaza, 4 km from the town. Approaching it from the south one sees Kyu-ling (Skyid-gling), the stately palace of the Nono (king) on the other side of the river. Kaza is one of the coldest towns in India. The temperature varies greatly in different seasons as well as within a day. January is the coldest month of the year with an average temperature of -25 °C, while July is the hottest month with an average temperature of 10 °C.

##### 3.1.2 Location of BMC Sub-Committee Area

**BMC Sub-Committee falls under;**

<b>Village</b>	<b>Kaza Soma</b>
<b>Panchayat</b>	Kaza
<b>Block</b>	Kaza
<b>District</b>	Lahul & Spiti
<b>Beat</b>	Kaza
<b>Range</b>	WL Range Kaza
<b>Forest Division</b>	WL Spiti

Location map of Sub-Committee is attached on **Page No.**

##### 3.1.3 Boundaries

The boundary of selected BMC Sub-Committee area is under

<b>East</b>	Kaza Old
<b>West</b>	Rangrik
<b>North</b>	Dry Mountain
<b>South</b>	Spiti River

### 3.1.4 Distance from

<b>WL Range Office:</b>	<b>0 KMs</b>
<b>District headquarter Keylong:</b>	200 KMs approx.

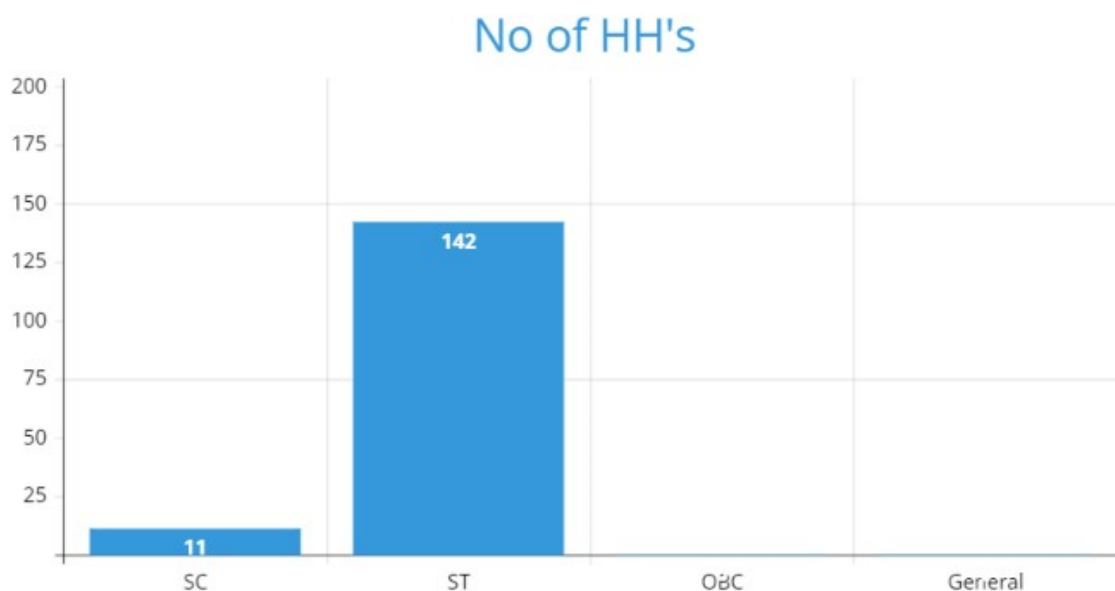


### 3.1.5 Important features of BMC Sub-Committee

Kaza is known for its colourful festivals and the ruins of the ancient Sakya Tangyud Monastery, located near village Komik, 14 km from Kaza. It is also popular with tourists and adventure seekers during the period of June, July and August and September because of its central location and connections to the rest of the valley (Connects to Leh-Manali Highway via Kunzum Pass). This central location also makes Kaza an ideal base camp for trekking, mountaineering, and tours directed to other parts of the valley. The world's highest retail outlet of Indian Oil is located at Kaza Soma market at an altitude of 3,740 masl. All the government departments (Forest department, Agriculture department, Horticulture department, BDO office, Panchayat Office, ADC office, Police station etc and government residences are located in Kaza Soma.

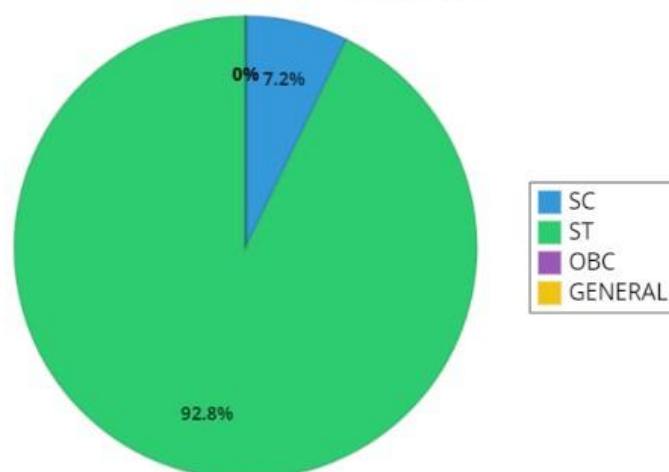
### 3.2 Social Composition

Households (HHs)	ST	SC	OBC	General	Total
No of HHs	142	11	-	-	153
% of HHs	93%	7%	-	-	100%



In Kaza Soma BMC Sub-Committee 142 households belongs to ST category (92.8%) and 11 (7.2%) Households belong to SC category out of 153 households in total.

### HH's Percentage



### 3.3 Population

Social category	Population (Number)					
	Male Adults	Female Adults	Total Adults	Male Children	Female Children	Total Children
ST	150	180	330	55	51	106
SC	11	15	26	8	10	18
OBC	-	-	-	-	-	-
General	-	-	-	-	-	-
Total	161	195	356	63	61	124

- The major composition of the BMC Sub-Committee is constituted by the ST category followed by the SC category and none of them belongs to OBC and general category.
- The total male population is 224 and the total female population is 256.
- There are 1142 females over 1000 males.



### 3.4 Educational Status

#### 3.4.1 Educational Status

Level	Number		
	Male	Female	Total
Literate without formal education	54	67	121
Primary education	47	45	102
Middle education (10 <sup>th</sup> )	36	33	79
Higher Secondary (12 <sup>th</sup> )	20	23	43
Graduates and above	18	19	37
Professional courses	25	16	41
Total literates	200	203	403
Total illiterates	24	53	77
Percentage (literate)	89.2%	79.2%	83.9%

- 88.1% of people are literate in BMC Sub-Committee Kaza Soma.
- The literacy rate of the male population is around 10% higher than the female population

### 3.5 Economic Categories

#### 3.5.1 Wealth ranking as per PRA exercise

Category	Criteria/Indicator	No of HHs	Category code**
Better off	Government Job, Work – Part-time, Business	50	A
Manageable	Agriculture and Livestock	90	B
Poor	Marginal farmers, Wage labors	10	C
Vulnerable (need immediate attention)	No income source, part-time labour	03	D

#### 3.5.2 Above and Below Poverty Line (As per the Government Criteria)

	Total	APL	BPL
No of HHs	153	140	13
% of HHs	100%	91.5%	8.5%

### 3.6 Access to Basic Facilities/Services

Facilities/Services	Availability (% HHs)	Distance (Km)	Current status
Toilets	100 %	-	70% of toilets are without flushing tanks. Almost 95% of toilets are in good condition and are being used.
Toilets with flush water	30%	-	The toilets are in good condition and are being used regularly but erratic supply of water throughout the year.
LPG	90%	-	The use of LPG is not regular as 5-6 cylinders are used per year per household.
Improved stove	95%	-	Almost 95% of HHs have improved stoves for heating and cooking also.
Electricity	100%	-	Almost every household has an electricity connection but electricity fails during harsh winter and there is the problem of irregular supply also.
Drinking water	70%	1-4 KMs	Not all HHs have a drinking water connection. Much more problem arises during winter. Tube -wells are not in proper working condition.
Health services	100%	2-3 KMs	Government Medical services are available in Kaza soma around 2-3 Kms. Ayurvedic medical centre is also there.
Veterinary services	100%	2 KMs	Government (Sub-Divisional Veterinary hospital) is available in old kaza village.
Banks	100%	2 KMs	SBI Bank service is available in kaza old market with ATM facility.
Markets	100%	2 Kms	All the market area is within a kilometre range i.e., Kaza main market.
Anganwadi	100%	0-2 Kms	Anganwadi is located in Kaza Soma village.
Primary schools	100%	0-2 Kms	Primary school is situated

			in Kaza Somavillage.
Secondary schools	100%	1-2 Kms	Secondary school is situated in Kaza Soma village.
PDS	100%	0-1 KMs	PDS available within Kaza with better service.
Transport	100%	1-2 KMs	Government Bus service is available. Kaza bus stand is situated near the entry point of Kaza market. Private taxi services are also available.
Telecommunication	100%	-	All households have mobile phone service but internet/network connection is poor.
Post Office	100%	0-2 KMs	Situated at Kaza Soma.

## 4. Resource Analysis

### 4.1 Land Resources

#### 4.1.1 LandUse Pattern

Land use	Total land	Land under cultivation	Forest land	Pasture land	Waste land	Settlement Area	Water body area
Area (ha)	135-10-49	7-01-72	3-99-35	61-80-85	0-20-66%	59-39-14	-
% Area (ha)	100%	0-04%	02%	47.74%		93-95%	-

#### 4.1.2 Land Ownership Pattern

Land Ownership	Private land	Community land	Panchayat land	Forest land	Other	Other
Area (ha)	7-01-72	-	-	3-19-35	-	-
% Area (ha)	0.04%	-	-	02%	-	-

Source: Data collected from Patwari (Village Revenue Officer-Kaza)

## 4.2 Forest Resources

### 4.2.1 Forest Area

#### 4.2.1.1 Site selection and location

The site has been shortlisted by DMU and his field staffs. Biodiversity Management Committee Kaza had formed by Himachal Pradesh State Biodiversity Board under Biodiversity act 2002. The subcommittee Kaza Soma falls under the Kaza biodiversity management committee. The BMC subcommittee site is approximately 3 Kms away from the wildlife range office Kaza. The site is near the Kibber Wildlife Sanctuary. Location map of site is attached to the **page no.**

#### 4.2.1.2 Data from Wildlife Forest Division for Community Based Biodiversity Management Plan

##### Kibber Wildlife Sanctuary

The Kibber Wildlife Sanctuary is situated within the Geo-coordinates: North Latitude  $32^{\circ} 45' 42''$  N and Longitude  $78^{\circ} 22' 16''$  E Latitude  $32^{\circ} 25' 00''$  N and Longitude  $78^{\circ} 32' 33''$  E, South Latitude  $32^{\circ} 08' 27''$  and longitude  $78^{\circ} 20' 35''$  E, West latitude  $32^{\circ} 35' 38''$  N and Longitude  $78^{\circ} 47' 37''$  E. This area falls on survey of India topo sheet No. 52 L & 52 H of scale 1" 4miles. Total area of Wildlife Sanctuary is 2220.12 sq.km. North boundary of the sanctuary starts Sanctuary starts from a point on Lungher nalla follows downstream up to its confluence with Malung nalla then crossing malung nalla boundary meets interstate boundary of Himachal Pradesh & Jammu Kashmir where it forms V shape and then moves around the same interstate boundary of Himachal Pradesh and Jammu Kashmir up to turning point near Nurbula. East: From turning point interstate then again moves along the interstate boundary of Himachal Pradesh and Jammu & Kashmir up to the point where that boundary ends and meet with international boundary i.e., Gya Peak which is the highest peak having the height of 22290 feet then moves along international boundary of India and Tibet up to the top of Lingti River then again moves along international boundary up to 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 up to its confluence with Lingti river downstream up to village Sanglung and then across Lingti river boundary goes to Khukhe nalla leaving aside Sanglung village and then follows a small ridge up to the top of the nalla near Langcha village in the opposite side the follows the same nalla downstream up to its confluence with Shila nalla and then crossing Shila nalla boundary follows a small nalla in opposite to side up to its top height Dhunhschen of 16900 feet and then follows a small nalla in the opposite side and moves along the same nalla downstream up to its confluence with Puri Lungbhi and then follows Puri Lungbhi up stream upto its top Prangla height of 18300 feet then boundary moves along a ridge separating the watershed of talking river, Tanmu river and Kibjri river in the south and

Lungher river and Malung river in the North and meet in Lungher nalla at starting point of Northern boundary.

#### **4.2.1.3 Description of the forest (Sanctuary Area)**

The entire Spiti region is classified under the 'Trans-Himalayan Cold Desert' Bio-geographic zone. The vegetation in Spiti is classified 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 5,000m 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, Ranunculaceae.

#### **Geology, Rock and Soil:**

The area is characterised by sharp changes in a combination of quartzite, shales, lime stones 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 mostly silty loam to silty clay loam in texture with slightly alkaline pH, poor organic matter and water holding capacity. The soils are low in available nitrogen, phosphorus, potassium and carbon, however are better supplied in calcium.

#### **Terrain:**

All of Spiti occurs above an elevation of 3,000 m. The lowest point is where the river flows into the Kinnaur district near Hurling. 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 40 km plateau from Kibber to Demul on the left bank, which also extends into much of the mid Lingti valley, covering over 500 km<sup>2</sup>. Of the 7,600 km<sup>2</sup> 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 Monsoon effect from the plains rendering the area dry and cold. Westerly disturbances

in the winter bring some precipitation in the form of snow. The temperature ranges from -40°C in peak winter to 25°C 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. The 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 meteorological data suggest a marked change in weather 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 crops.

### **Water sources:**

The Sanctuary area is well drained: the sanctuary falls under the watershed of Lingti river in the north and watershed of Spiti River in the south up to the top of Kibbri nalla. There are numerous seasonal nallas: Lungher nalla, Maung nalla, Kibbri nalla, Shiji bhang nalla and Shila nalla. These streams and nallas are uniformly distributed over the sanctuary area and are well drained and fall in the catchment of the talking river, Tanmu river and Kibji river in the south and Lungher river and Malung river in the North.

### **Range of wildlife, status distribution on and habitat:**

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. 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, Hume's Short-toed Lark (*Calandrella acutirostris*), Rosy Pipit (*Anthus roseatus*), Robin Accentor (*Prunella rubeculoides*), Brown Accentor (*Prunella fulvescens*), White-winged Redstart, Himalayan Griffon (*Gyps himalayensis*), Himalayan Snowcock (*Tetraoallushimalayensis*), 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' covering most of the southern bank and the 'Tibetan Plateau' 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 4,600m, 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.

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 deficient 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.

#### **4.2.1.4 Selection of Intervention areas, planning and treatment:**

The BMC subcommittee has been selected as site by DMU Kaza and his field staff by 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.

#### **4.2.1.5 Data and Maps on Grazing, fire and other risks**

##### **Grazing**

Grazing causes problems to wildlife such as:

- Competition of 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.

##### **Wildfires**

The Area falls under alpine zone and are no trees. During long winter, the area is covered with snow and glacier. So, no incidence of the forest fire in this area.

#### **4.2.1.6 Human Wildlife Conflict**

Wildlife conflicts often hamper the wellbeing of people and the information on the issue was facilitated during the PRA exercise. Information about wild animal causing damage was almost no in this particular site. But people as well as their livestock often get harmed by stray dogs.

##### **Prescriptions:**

Awareness programme/workshops should be organized for local people to make them aware about do-s and don'ts in the 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.



#### 4.2.1.7 Data and Maps 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 soil conservation, soil erosion maintenance and soil regeneration works are applicable in this area. Fencing part has been critically analyzed keeping in a view of local conditions as well as biotic pressure and accordingly prescribed.

S.N.	Plot Name	Plot No.	Area	Latitude Longitude	PFM Mode	FD Mode
1	Kaza Soma	1	9 Ha	32 <sup>0</sup> 14' 23" 78 <sup>0</sup> 03' 30"	Yes	-

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

Criteria	Availability & Access in the Past	Current Availability & Access
Forest Area	Easily available with very limited restrictions.	Restrictions due to Forest conservation acts and other rules and regulations but access is easy.
Major species available	Abundant. <i>Trigonella emodi</i> <i>Dactylorhiza hatagirea</i> <i>Festuca rubra</i> <i>Hippophaetibetana</i> <i>Aconogonum</i> <i>Rosa webbiana</i>	Some species becomes very rare due to over exploitation but the major species are still abundant till now.
Major NTFPs available	<i>Hippophaetibetana</i> (Sea buckthorn) <i>Rosa webbiana</i> (wild rose) <i>Allium canadense</i> (Wild onion) <i>Aconitum</i> <i>Arnebia euchroma</i> (Ratanjot) <i>Pedicularis</i> <i>Dactylorhiza hatagirea</i> (Salampanja)	Due to Over foraging some NTFPs like wild onion, ratanjot, salampanja etc becomes rare. Other species are still abundant.

Fodder availability	Fodders like <i>Trigonella emodi</i> And <i>Festuca rubra</i> were easily available.	These fodder species are still abundant in this area.
Fuelwood availability	Many species of bushes were used for fuelwood along with the collection of cow dung from the grazing/pasture area. The collected cow dung used to be the main source of fuelwood.	Along with local bush species the practice of collecting cow dung is still in practice to fulfil the fuelwood requirement. Pasture area is in easy access.
Timber Availability	Salix used to be major timber available in the wild along with <i>Caragana brevifolia</i> and Tibetan Sea buckthorn which were in easy access.	Salix (Wild willow) along with few local species of timber and <i>Populus spp</i> , is available. Plantations programme are the key factors for availability of timber in this area.
Access to open grazing	Easy access	Few restrictions due to forest rules and regulations but access is easy.
Access to fuelwood	Easy access/nearby	Have to move far off
Access to fodder	Easy access as forest land being nearer	Some fodder species are grown in own agricultural land. Fodder collection from forest land is still permissible.
Access to timber	There used to be no trees in the forestland so they depended upon woody shrubs.	They are still depended upon woody shrubs and bushes for timber from forest land.
Access to NTFP	Easy access and highly abundant.	Access is still easy but people collect NTFP on very few quantities. Some medicinal plants are collected by amchis only.

#### 4.4 Households dependent on Forest (As per PRA exercises)

Category	% HHs depending on forest					
	NTFP	Fuelwood	Fodder	Other	Other	
Primary forest users	20	30	30	-	-	-
Secondary forest users	60	45	10	-	-	-

#### 4.5 Forest Resources of the selected area (As per the PRA exercise)

S. No	Species (local name)	Main uses	Relative abundance (%)	Perceived value of plant (Scale of 1-10, 1 being lowest)	
				Men	Women
1	<i>Hippophaetibetana</i> (Chharma)	Medicinal values, fuelwood	70	8	8
2	<i>Arnebiaeuchroma</i> (Ratanjot)	Medicinal, herbal oil	20	6	9
3	<i>Allium canadense</i> (Wild onion)	Medicinal, beautification, fuel	20	5	7
4	<i>Salix</i>	Fuel, Timber	18	10	10
5	<i>Gentiana</i>	Medicinal	10	9	9
6	<i>Trigonella emodi</i>	Fodder	10	6	8
7	<i>Festuca rubra</i>	Fodder	3	5	7
8	<i>Dactylorhizahatagirea</i> (Salampanja)	Medicinal	3	6	6

Major species of this area is Sea buckthorn which is locally known as chharma. The fruits of chharma are used for making juice and jam. Similarly, the leaves are used for herbal tea.

#### 4.6 Biodiversity (BMC Use)

Major habitats	Initiative taken for biodiversity conservation
Snow Leopard	<ul style="list-style-type: none"> <li>• Developing snow leopard &amp; prey species monitoring protocols</li> <li>• Understanding and managing people-wildlife conflicts</li> <li>• Developing models for maintaining socially fenced areas for conservation</li> <li>• Awareness programmes directed at school children, teachers and youth.</li> </ul>
Bharal	<ul style="list-style-type: none"> <li>• Pasture development</li> <li>• Ban on hunting</li> <li>• Improvement of wildlife habitat by constructing water pond/water harvesting structure</li> <li>• Repair of path bunkers, saltlicks etc.</li> </ul>

Ibex	<ul style="list-style-type: none"> <li>• Pasture development</li> <li>• Ban on hunting</li> <li>• Improvement of wildlife habitat by constructing water pond/water harvesting structure</li> <li>• Repair of path bunkers, saltlicks etc.</li> </ul>
Red Fox ( <i>Vulpusvulpus</i> )	<ul style="list-style-type: none"> <li>• Awareness related to human wildlife conflict.</li> <li>• Initiatives for tackling wild-domestic animal's conflict.</li> <li>• Precautions during grazing.</li> </ul>

### 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 the availability of food to the wildlife of this area.

### Management Prescriptions:

- 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 thatches/ pastures, planting of bushes like *caragana*, Sea buckthorn, *Rosa spp*, Juniper 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 area 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, 5-6 earthen ponds will be constructed. 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 sit

#### 4.7 NTFP Collection (as per PRA exercises)

S. No	Name of NTFP	Collection time (Months)	No. of HHs engaged - approx.	Unit	Average collection/ Season/HH /Year	Quantum collected in a season/ year	Quantum sold in a season/ year	Sale value in Rs.	From VFDS Area - yes/no	Major problems
1.	Sea - buckthorn	September- November	80	Kg	5	-	-	Rarely sold	Yes	No proper knowledge of processing
2.	Ratanjot	June-August	40	Kg	2	-	-	No sale	Yes	Low abundance
3.	Wild Onion	July-August	40	Kg	2	-	-	No sale	Yes	Low abundance
4.	Salampanja	July	10	Kg	2	-	-	No sale	Yes	Low abundance
5.	Pedicularis	June-August	10	Kg	2	-	-	No sale	Yes	Low abundance

Medicinal plants like Ratanjot, wild onion, Salampanja etc are collected by very few households for their culinary purpose and medicinal use. Only those who have knowledge regarding their value are engaged in foraging of these species. Sea-buckthorn fruits are collected for household purpose. Locals are engaged in making juice and jam from sea buckthorn fruits to some extent but they don't have proper knowledge regarding this process. Some locals are commercially collecting sea buckthorn leaves for the purpose of herbal tea. Community level Sea buckthorn processing unit is needed to fulfil the commercial aspects.

#### 4.8 Fuels Collection/Consumption

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.	Cow dung	100	kg	4	-	Pasture/forest land	-	<ul style="list-style-type: none"> <li>• Need to go far for cowdung collection</li> <li>• Human wildlife conflict</li> </ul>
2.	LPG	140	Per unit	10	-	Government gas agency	Rs. 1110	Problems may arise during winter for LPG distribution.
3.	Fuelwood	140	Q	20	-	Forest department	Rs. 610/Q	It will be costly if government doesn't provide subsidy
4.	Kerosene	140	L	30	-	Government agency/Kaza Market	90-95/L	High cost Unavailable sometimes during winter.
5.	Wild bushes	20	Q	2	-	Forest area	-	Transportation cost

#### 4.9 Fuels/Fuel wood Deficiency

Fuels deficiency	% HHs with fuels deficiency	Duration (Months)	Coping strategies
Low	10	Sept-march	Use of locally available and stored fuels
Medium	80	Sept-march	More use of stored fuels like cow dung cake
High	10	Nov-march	Use of kerosene and alternative fuelwoods

Consumption of fuel wood is more during winter (September – April).

- Fuel wood distribution by forest department in subsidised rate is not enough for households to cope up during winter so more supply is needed.
- The villagers are also relying on collection of cow dung cakes from forest area to use during winter.

#### 4.10 Fodder collection/consumption

S.N.	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	35	Q	10	350 Q	Forest land/Agriculture field	-	Transportation
2	Green grass	35	Q	18	630 Q	Forest land/Agriculture field	-	Transportation
3	Dry grass	35	Q	15	525 Q	Forest land/Agriculture field	-	Transportation
4	Straw & oilcakes	35	Q	10	350 Q	Market	1200/Q	Transportation/Not available on time

- People prefer High value cash crops, especially Vegetables and are not growing traditional crops which are resulting in lesser fodder availability.
- After September cows and bulls are sent to open pastures for free grazing till the snow occurs. In winters they take their domestic cattle back to the houses.
- Fodders like *Trigonella emodi* and *Festuca rubra* are easily available.



#### 4.11 Fodder Deficiency

Fodder deficiency	% HHs with fodder deficiency	Duration (Months)	Coping strategies
Low	15	November-march	Have to use stored dry fodder
Medium	60	November-march	Use of dry fodder, barley & wheat straw brought from market
High	25	November-march	Use of dry fodder, barley & wheat straw brought from market

#### 4.12 Timber

S. No	Type Timber used	No of HHs demand /Year	Unit	Average HH consumption /Year	Current source of collection/ purchase	Major Problems
1	Timber for Agricultural equipment, House construction/repair, Furniture etc	30-40 (This depends upon the need of the households)	Q	15-20	Timber distribution, wood depots, sale depots,	<ul style="list-style-type: none"> <li>• There is no forest they have to pay carriage for timber they purchase from depot.</li> <li>• There is generally high demand of deodar but its not available there and very costly if purchase from supply markets.</li> </ul>

### 4.12.1 Timber Deficiency

Timber deficiency	%HHs with timber deficiency	Duration (Months)	Coping strategies
Low			
Medium	100 %	Throughout the year	<ul style="list-style-type: none"> <li>• Illegal purchase.</li> <li>• Delay construction</li> </ul>
High			

### 4.13 Forest Management Practices

Key activities	Traditional practices	Current practices
Nursery	<ul style="list-style-type: none"> <li>• No nursery raising practices</li> </ul>	<ul style="list-style-type: none"> <li>• Nursery raising and</li> </ul>

development	<p>for forest species.</p> <ul style="list-style-type: none"> <li>• Natural regeneration of some species in forest area.</li> </ul>	<p>development is done by forest department.</p>
Plantation management	<ul style="list-style-type: none"> <li>• Protection of naturally growing species.</li> <li>• Plantation on private land</li> </ul>	<ul style="list-style-type: none"> <li>• Plantation programmes with the help of forest department.</li> <li>• Community forest development.</li> <li>• Pasture land management</li> </ul>
Forest protection	<ul style="list-style-type: none"> <li>• No such protection activities;</li> <li>• Some species were over exploited and harvested.</li> </ul>	<ul style="list-style-type: none"> <li>• Forest protection through different management committee and forest department.</li> </ul>
Development activities	<ul style="list-style-type: none"> <li>• Fencing in some areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Development activities through different biodiversity management committee and forest department.</li> </ul>
Livelihood	<ul style="list-style-type: none"> <li>• Agriculture, NTFP</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture, NTFP collection,</li> </ul>

activities	collection.	small scale business.
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- BMC subcommittee will be involved in forestry plantations, soil conservation works, forest maintenance and protection work.



#### 4.14 Forest Protection Practices

Forest disturbances	Traditional practices	Current practices
Forest fire	The area is devoid of trees and during winter snow covered condition makes this area free from forest fire. So, there is of chance of forest fire.	The area is devoid of trees and during winter snow covered condition makes this area free from forest fire. So, there is of chance of forest fire.
Land slide	Check dams and vegetative walls	Construction of Check dams, crate walls, plantation programme.
Flood	Protection walls	Construction of Protection walls, dams etc.
Hunting	Hunting/poaching was prevalent prior to WLPA 1972	Completely banned.

Illegal activities	-	-
Biodiversity conservation	Not much aware about conservation of biodiversity.	Actively participating in biodiversity conservation.

- BMC Sub-committee will protect plantation sites.
- BMC Sub-committee will participate in dry stone check dam construction, brush wood check dam and bioengineering works.
- BMC Sub-committee will help to prevent illegal activities like illegal logging, hunting etc.
- BMC Sub-committee will participate in NTFP conservation works.

#### 4.15 Water Resources

Water resources	Number	Availability of water (Months)	Different uses	Current status	Maintained by whom	Problems	Opportunities
Natural springs	01	5	For drinking	In use/running	villagers	Open source, not available during winter	Can be utilised for drinking as well as irrigation purpose if maintained well.
River	01 (Spiti river)	12	irrigation	available	Naturally maintained/govt.	flooding	High potential for irrigation in the area

					departments		
Dam							
Tank	4 (Water storage and sedimentation tanks)	6	Drinking/irrigation	available	villagers	Cannot be used during winter	More efficient in distribution of well maintained
Canal	-	-	-	-	-	-	-
Drinking water supply	IPH	7	drinking	available	IPH	Not available during winter	The problem of drinking water during winter can be reduced.

## 4.16 Agricultural resources

### 4.16.1 Cultivable land use pattern

Cultivable land	Irrigated land	Rainfed land	Cultivable wasteland	Land leased in	Land leased out	Other
Area (ha)	7-01-72	-	-	-	-	-
% Area (ha)	0-04%	-	-	-	-	-

### 4.16.2 Land holding pattern

Category	Criteria	Number of HHs	% HHs
Landless HHs	-	-	-
Marginal farmers	-	-	-
Small farmers	0-1 Ha	150	-
Medium Farmer	1-2 Ha	-	-
Large farmers	-	-	-

#### 4.16.3 Cropping Pattern

Major crops	No of farmers engaged	Irrigated/ Rain fed	Unit of yield	Average Crop yield	District/State average yield	% deficit yield	Reasons, if low yield	Perceived solutions to improve crop yield
Potato	40	Rain fed	Q/Ha	75	86.88	11.88	No proper irrigation facilities, Lack of fertilizers and improved seeds	Irrigation facilities should be improved.



Barley	40	Rain fed	Q/Ha	14.45	16.72	2.27	No proper irrigation facilities, Lack of fertilizers and improved seeds	Technical guidance from agriculture department is needed.
Green Peas	110	Rain fed	Q/Ha	65	76.6	11.4	Lack of fertilizers and irrigation facilities, High seed rate and low germination rate, Powdery mildew disease	Improved (disease resistant and high yielding) varieties should be used for which department of agriculture is responsible. Should provide soil testing facilities to farmers.

#### 4.16.4 Challenges of Cultivable Land

Major challenges	Current strategies to deal with challenges	Usefulness of the current strategies
Poor soil fertility	Application of FYM and other fertilizers	Moderately useful
Soil erosion (low)	Stone structures, plantations, live mulching	Moderately useful
Soil erosion (medium)	Stone structures, plantations, live mulching	Moderately useful
Soil erosion (severe)	No severe soil erosion	-
Low land productivity	Application of FYM and other fertilizers	Moderately useful
Low moisture retention	Live mulching, organic mulching	Moderately useful
Lack of irrigation	Use of PVC pipes for irrigation	Less useful (Costly)

Other-specify		
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#### 4.16.5 Livestock Resource

##### 4.16.5.1 Livestock Holding Pattern

Type	Number of HHs involved	Average HH holding	No. of animals – approx.	Problems	Opportunities
Cows	20	1	20	Distant Fodder Availability less milk production lack of scientific knowledge of animal rearing	<ul style="list-style-type: none"> <li>• Identification of potential grazing area.</li> <li>• Veterinary department should act accordingly.</li> </ul>

#### 4.16.5.2 Production of main Livestock

Type	Product	Unit of production	Average yield/production	District/State average	% deficit yield	Reasons for low yield/production
Cows	Milk	Litre	2	4.2	2.2	<ul style="list-style-type: none"> <li>• Stall feeding</li> <li>• Nutritional deficiency</li> <li>• Low fodder availability</li> </ul>

### 5. Livelihood Strategies

#### 5.1 Existing Livelihood Strategies

Source of livelihood	Number of HH dependent as		Major constraints/ challenges
	Primary source	Secondary source	
Agriculture	35	17	<ul style="list-style-type: none"> <li>• The area is rainfed so the adoption rate of improved technologies and inputs by the farmers is less compared to irrigated land.</li> <li>• Small land holding.</li> <li>• Soil erosion due to serious topographical and climatic factors and all the biotic pressure.</li> </ul>
Forestry	17	9	<ul style="list-style-type: none"> <li>• Wide pasture area but very less vegetation.</li> <li>• Encroachment problem</li> </ul>
Livestock/Animal Husbandry	9	8	<ul style="list-style-type: none"> <li>• Shortage of fodders</li> <li>• Scattered land holdings</li> <li>• Low milk production and poor extension service</li> </ul>

			<ul style="list-style-type: none"> <li>• Lack of improved breed</li> </ul>
Wage labour	3		<ul style="list-style-type: none"> <li>• No commitment / low employment</li> </ul>
Small business			<ul style="list-style-type: none"> <li>• Marketing problems in agricultural business</li> <li>• Unavailability of raw materials on time</li> </ul>
Service/Job	35	20	<ul style="list-style-type: none"> <li>• Lack of quality education and skilled manpower to prepare service-oriented people.</li> </ul>

## 5.2 Livelihoods- Activity Calendar

Month (local)	Main activities			
	Agriculture	Forestry works	Wage Work	Other-specify
January	-	-	-	Handlooms/Handknitting/carpet making
February	-	-	-	Handlooms/Handknitting/carpet making
March	-	-	-	Handlooms/Handknitting/carpet making
April	Field preparation and sowing	Plantation in forest and private land	Construction work/labour in agriculture field	-
May	Intercultural and irrigation	Plantation in forest and private land	Construction work/labour in agriculture field	-
June	Intercultural and irrigation	Plantation in forest and private land,	Construction/plantation	-
July	Intercultural and irrigation	Plantation in forest and private land, NTFP collection	Construction/plantation	-
August	Intercultural and irrigation	Construction of crate wall/Check dam, NTFP collection	Agricultural activities	-

September	Reaping	Conservation activities, NTFP collection	Agricultural activities	-
October	Threshing, Post harvest and storage	NTFP collection	Agricultural activities	-
November	-	-		Handlooms/Handknitting/carpet making
December	-	-		Handlooms/Handknitting/carpet making

### 5.3 Food deficiency

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

Although few BPL families are there but no such food deficiency is observed as PDS schemes are there to cope up for this.

### 5.4 Income deficiency

Income deficiency	% HHs with income deficiency	Duration (Months)	Coping strategies

Low	5	November-march	-
Medium	-	-	-
High	-	-	-

Income deficiency is observed in very small amount. Drudgery load is high; all are busy in working in Agriculture, Animal husbandry in summer season whereas in winter season they are involved in handloom, handicraft practices for sustenance livelihood.

## 6. Institutional Analysis

### 6.1 Existing Community Based Organisations (CBOs)

CBOs	Age of CBO (Year)	Formal/ Informal	Registered (Yes/No)	Objectives	Member ship	Key activities	Credibility of CBO	External linkages	Useful for the project
BMC	2	Formal	Yes	<ul style="list-style-type: none"> <li>Biodiversity Conservation</li> <li>Participatory Forest management</li> </ul>	Voluntarily (17 members)	<ul style="list-style-type: none"> <li>Wildlife conservation</li> <li>Forest management</li> <li>Community development</li> </ul>	effective	With forest department	Very useful
Mandir (Monastery) committee	-	-	yes	<ul style="list-style-type: none"> <li>Religious activities</li> </ul>	All the believers and worshippers	<ul style="list-style-type: none"> <li>Religious gatherings and meetings</li> </ul>	effective	-	yes
Self-help group	1	Formal	yes	<ul style="list-style-type: none"> <li>Community development</li> <li>Women empowerment</li> <li>Rural entrepreneurship development</li> </ul>	20 members	<ul style="list-style-type: none"> <li>Small scale business</li> <li>Meetings regarding entrepreneurship</li> </ul>	excellent	Forest department	yes
Youth Group	20	Formal	Yes	<ul style="list-style-type: none"> <li>Anti-drug campaign</li> <li>Health and fitness</li> </ul>	voluntarily	<ul style="list-style-type: none"> <li>sports activities</li> <li>sanitation campaign</li> </ul>	good	-	yes

				<ul style="list-style-type: none"> <li>community development</li> </ul>					
Mahila Mandal	20	Formal	Yes	<ul style="list-style-type: none"> <li>women empowerment</li> </ul>	Voluntarily	<ul style="list-style-type: none"> <li>activities for girls' education</li> <li>community development</li> </ul>	good	-	yes

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-Committee as nominated members.

## 6.2 Preferences for External Linkages

Name of External Intuition (EI)	Importance of the EIs	Relationship with EIs	Preference to associate with EIs
Gram panchayat	Government schemes for families Road connectivity through PMGSY and General house meeting	Very good and helpful	2
Forest department	Biodiversity conservation and forest protection, plantation activities	Cordial relation	1
Horticulture/Agriculture Department	Schemes for agricultural/horticultural crops and improved varieties	Cordial	3
Veterinary	For commercial livestock production	Cordial	4
Community health centre	Health facilities/services	Cordial	5

Jal Shakti	Water supply and irrigation	Good	3
PWD	Developmental activities	Bitter	3

### 6.3 Profile of existing SHGs

S. No	Name	Members	Type of (IGAs)	Funds invested	Source of finance	Profitability	Credibility
1	Kangrishung	11	Hang knitting	-	Monthly saving of each member and revolving fund provided	-	-
2	Sakya	9	Automatic hand knitting	-	Monthly saving of each member and revolving fund provided	-	-





## 7. Problem Analysis and Solution

### 7.1 Analysed Problems and Scientific Solutions

S. No	Problems identified	Justification of problems identified	Extent of problems	Recommended solutions
1	Depleting availability of medicinal plants and fodders from nearby forest area.	Due to limited forest area, the over exploitation and overgrazing causes the problem	Serious	Conservation of floral diversity through community approaches. Plantation programs.
2	Low moisture retention/water scarcity	The area is rain fed so limited water resources cause these problems.	Severe	Construction of water harvesting structures at Kaza Soma.
3	Soil erosion	Due to glacier melt and wind.	Moderate	Contour trenching, construction of check dams/crate walls
4	Poor drainage system	The population is concentrated on Kaza market where the drainage system is very poor.	Moderate	Consult with panchayat office/BDO regarding this issue
5	Sanitation	No public toilets and dustbins are available. Despite being the tourist area, these facilities are provided to them as well as other migrant workers.	severe	Construction of public toilets with the help of BDO/Panchayat.
6	Inadequate supply of drinking water	Due to cold winter when temperature reaches below $-25^{\circ}\text{C}$ then drinking water is not available	Severe	This issue should be addressed by government agencies.

## 7.2 Perceived Problems and Solutions

S. No	Key Stakeholders	Key problems identified by stakeholders	No of HHs and/or area affected	Critical causes of the problems	Perceived solutions
1	Women	Low income, problems related to fodders and fuel wood, no equal rights for participation in community development activities	110	Lack of education and awareness	Education for women/girls, equal participation in community activities, rural entrepreneurship development through SHGs and Mahila mandal.
2	Wage-labour	No proper/promised employment,	20	Not much employment generation activities	Employment chances in agricultural activities/construction work and in other departments
3	Farmer	Water scarcity, no proper marketing of agricultural products, less availability of improved seed and fertilizers.	120	Rainfed agriculture, tough terrains, long and harsh winter, not much support from agriculture/horticulture department	Water harvesting activities, plantation activities, capacity building programs on organic compost preparation and scientific/climate resilient agriculture

### 7.3 Implementation Activities/Interventions

S. No	Specific activities as per the agreed solutions	No of beneficiaries
<b>1</b>	<b>Participatory forest management</b>	
	<ul style="list-style-type: none"> <li>Plantation of fodder and fuelwood trees in the community land. Although there is a demand of high fodder and fuelwood species but only few species can grow and survive in this region. The major species which will be planted are Poplar, Willow and Sea buckthorn.</li> </ul>	Whole community
	<ul style="list-style-type: none"> <li>Conservation of high value NTFP species and development of pasture land.</li> </ul>	
	<ul style="list-style-type: none"> <li>Sustainable forest development practices will be implemented and over exploitation of grass/fodder species and other medicinal plants will be reduced.</li> </ul>	
	<ul style="list-style-type: none"> <li>Banned on Encroachment of forest land will be stopped.</li> </ul>	
<b>2</b>	<b>Soil &amp; water conservation</b>	
	<ul style="list-style-type: none"> <li>Construction of check dams/crate walls to reduce the Soil erosion and landslides near the drain,</li> </ul>	Whole community
	<ul style="list-style-type: none"> <li>Renovation of existing water bodies, construction of tanks, etc.</li> </ul>	
	<ul style="list-style-type: none"> <li>Mulching practices to reduce soil erosion from agriculture land.</li> </ul>	
	<ul style="list-style-type: none"> <li>Management of existing natural springs.</li> </ul>	
<b>3</b>	<b>Bio-diversity conservation</b>	
	<ul style="list-style-type: none"> <li>Community participation in biodiversity conservation.</li> </ul>	Whole community
	<ul style="list-style-type: none"> <li>Participation in awareness campaign with forest department.</li> </ul>	
	<ul style="list-style-type: none"> <li>Conservation of local species of flora and fauna.</li> </ul>	
	<ul style="list-style-type: none"> <li>Complete ban on hunting/poaching and illegal activities.</li> </ul>	

4	<b>Community development</b>	
	<ul style="list-style-type: none"> <li>• Construction of public toilets and dustbin instalment in different locations for sanitation.</li> </ul>	Whole community
	<ul style="list-style-type: none"> <li>• Beautification of monastery.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Crate wall construction at monastery periphery.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Installation of street light at different locations.</li> </ul>	
5	<b>Livelihood improvement</b>	
	<ul style="list-style-type: none"> <li>• Training and capacity building of SHGs.</li> </ul>	Whole community
	<ul style="list-style-type: none"> <li>• Capacity building on Tailoring/ handlooms.</li> </ul>	
	<ul style="list-style-type: none"> <li>• SHGs training on Hand knitting/automatic knitting</li> </ul>	
	<ul style="list-style-type: none"> <li>• Capacity building activities for agriculture/horticulture service.</li> </ul>	
6	<b>Miscellaneous activities to be taken up in convergence</b>	
	<ul style="list-style-type: none"> <li>• Processing unit set-up for processing of Sea buckthorn.</li> </ul>	Whole community
	<ul style="list-style-type: none"> <li>• Construction of drainage channels.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Soil testing camps.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Landscaping of market area.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Plantation activities on pathways.</li> </ul>	

#### 7.4 SWOT Analysis

Strengths	Weakness
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<ul style="list-style-type: none"> <li>• Unity among people.</li> <li>• Centre of attraction of the spiti valley.</li> <li>• Educated youths.</li> <li>• Very strong among individual level.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of awareness about project.</li> <li>• Drudgery</li> <li>• No income generation activities for women.</li> <li>• No coordination with other departments.</li> <li>• Very poor performance on community development.</li> </ul>
<b>Opportunity</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>• Market potential of local agriculture products.</li> <li>• Tourist attraction.</li> <li>• Maximum concentration of funds in this area.</li> </ul>	<ul style="list-style-type: none"> <li>• Over exploitation of resources.</li> <li>• Climatic condition of the area.</li> <li>• Lack of transportation facilities.</li> </ul>

## 7.5 Setting the objectives for Development for the project duration

### Objectives for Forestry Development

- Improving long-term forest health and productivity
- Conservation and protection of forest areas and wildlife sanctuary.
- Enhanced vegetative growth for fodder and fuelwood.
- Conservation of NTFPs.
- Sustainable forest ecosystem management.
- conservation works
- Reduce encroachment of forest land.
- Plantation management.

### Objectives for village/community Development

- Sustainable Livelihood

- Reduction in pressure on forest resources
- Asset Generation
- Convergence of various departments for overall development of the region
- Women Empowerment
- Rural entrepreneurship development.
- Income generation activities.

## 8. Forest Ecosystem Management Plan

### 8.1 General description

The Potential intervention areas /treatment plots and soil conservation works have been identified during Micro planning exercises by technical staff (Fgd, Block Officer and Range officer). GPS locations have been collected and plot wise expenditure details of plantation sites have been prepared. The activities to be carried out stands discussed with villagers in detail during PRA exercises. The selected plantation plots /patches are either open areas or are blank, which would be planted with multipurpose trees varying from 500 -200 trees per hectare. Being on the southern and southern eastern aspect species selection of plan table species, stock health, and pit size needs to be kept in mind. For soil conservation works estimate will be prepared by FTU and field staff before implementation. Members from committee 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 user groups. In addition, the participants suggested itemised conservation measures to be takenforeachspecies.

Work to be executed in PFM mode and in FD mode was discussed and finalized. All Plantationsplanted by Sub-Committee will be protected by Sub-Committee. Technical works, Masonry/Gabioncheck dams, water harvesting structures, will be built by FD. Bioengineering structures, Dry stoneCheckDams on smallstreams, Masonrypondsetc, willbedone by Villagers.

### 8.1.1 Memorandum of Understanding

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: All the user group members agreed that they will contribute their VFDS membership beneficiary share into the VFDS 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 VFDS account and can be used as community share for doing any other development work with other departments or with project, if VFDS 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 Subcommittee (Details written in proceeding register and The MoU was also signed by the president of BMC Subcommittee and DFO Spiti Signed MoU annexed in this document).

### 8.1.2 Project Support to the beneficiary BMC Subcommittee 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 BMC by CHEQUE OR BY BANK TRANSFER. NO CASH TRANSACTIONS PERMITTED).

**CDAs:** The Community Development Activities as identified by the VFDS and in conformity with the Project guidelines will be decided and implemented by the BMC 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:**

- I. Stock: quality nursery raised plants



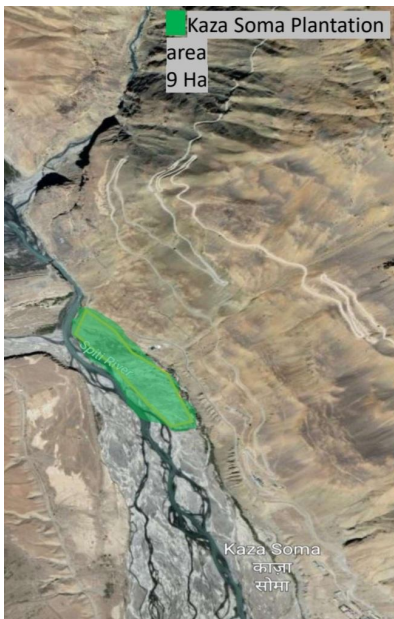
II. Material e.g., B. wire, U. nails, fence posts, Tar/ black Japan etc.

**Stationary:** Stationary to BMC Subcommittee including stamps, stamp pad, registers, receipt book, carbon papers, paper pin, resolution pads, pen, pencil, dairies, chairs, table, Almirah etc. to run the office effectively.

## 8.2 Activities for plantation

**Plantation area: 9 Ha**

**Plantation norm: Afforestation@ 1100 normal plants/Ha**

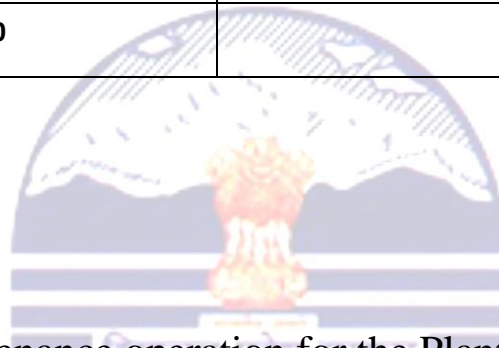


S.N.	Activity	Benefitting HHs	Area to be covered (Ha)				
			2023-24	2024-25	2025-26	2026-27	2027-28
1	Afforestation @ 1100plants/Ha Normal plantation	Whole community	-	9 Ha (Advance work and Plantation)	Maintenance	Maintenance	Maintenance

### 8.3 Requirements of Planting Materials

Year	Number of saplings required		Source of planting material
	<i>Hippophae rhamnoides (Sea buckthorn)</i>		
	New	Maintenance	
2023-24	-	-	Shego/Schichling Nursery
2024-25	<b>9,900</b>		-do-

2025-26		2,970 (30% of new)	-do-
2026-27		1,980 (20% of new)	-do-
2027-28		990 (10% of new)	-do-
<b>Total</b>	<b>9,900</b>	<b>5,940</b>	



#### 8.4. Forest Protection/Silviculture/Maintenance operation for the Plantation

Years	Activities to be taken up site		Responsibility	
			Project	Subcommittee
	Kaza Soma (total plantation area = 9 Ha)			
2023-24	-	-	Yes	Yes
2024-25	Plantation (9,900 Saplings)		Yes	Yes
2025-26	-	Maintenance (30% beating up)	Yes	Yes
2026-27	-	Maintenance 20% beating up)	Yes	Yes
2027-28	-	Maintenance 10% beating up)	Yes	Yes

## 8.5 Plantation Activity under PFM Mode

Years	Activities to be taken up site		Responsibility	
			Project	Subcommittee
	Kaza Soma (total plantation area = 9 Ha)			
2023-24	-	-	Yes	Yes
2024-25	Plantation (9,900 Saplings)		Yes	Yes
2025-26	-	Maintenance (30% beating up)	Yes	Yes
2026-27	-	Maintenance 20% beating up)	Yes	Yes
2027-28	-	Maintenance 10% beating up)	Yes	Yes

## 8.6 Soil and water conservation

### 8.6.1 Soil and Water Conservation Works (Proposed)

S.N.	Type of SWC work	Unit of work	Quantum of work	HH beneficiaries	Responsibility		
					Project	Sub committee	Convergence
1	Construction of contour trenches	Ha	9Ha	Whole community	Finance	Implementation and management	

### 8.6.2 Soil and Water Conservation works (Year wise Physical Target)

S.N.	Type of SWC work	Unit of work	Quantum of work	HH beneficiaries	Physical target for SWC activities				
					2023-24	2024-25	2025-26	2026-27	2027-28

1	Construction of contour trenches	Ha	9 Ha	Whole community	0	4,500	0	0	0
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## 8.7 Physical and Financial Plan (FEMP)

### 8.7.1 Proposed physical and financial plan

S.N.	Proposed Activity	Unit Cost	2023-24		2024-25		2025-26		2026-27		2027-28		Total	
			phy	fin	phy	fin	phy	fin	phy	fin	phy	fin	Phy	Fin
1	New plantations													
a	Afforestation @1100 normal plants/Ha	68,600/Ha	0	0	9 ha	6,17,400	0	0	0	0	0	0	9 ha	6,17,400
<b>A</b>	<b>Total new plantations (A)</b>				<b>9 ha</b>	<b>6,17,400</b>							<b>9 ha</b>	<b>6,17,400</b>
		<b>Unit Cost</b>	<b>2023-24</b>		<b>2024-25</b>		<b>2025-26</b>		<b>2026-27</b>		<b>2027-28</b>		<b>Total</b>	
a	Afforestation @1100 normal plants/Ha (Maintenance)		phy	fin	phy	fin	phy	fin	phy	fin	phy	fin	Phy	Fin

i	1st.YearMaint. (10,000/Ha.)	10,000					9 ha	90,000					9 ha	90,000	
ii	2nd Year maint.( 6,700/ha)	6,700							9 ha	60,300			9 ha	60,300	
iii	3rd year maint.( 5,100/ha)	5,100									9 ha	45,900	9 ha	45,900	
iv	4th year maint.( 3,500/ha)	3,500													
v	5th year maint.( 3,500/ha)	3,500													
<b>Total (B)</b>							9 ha	90,000	9 ha	60,300	9 ha	45,900	9 ha	1,96,200	
<b>Sub Total (A+B)</b>								6,17,400		90,000		60,300		45,900	8,13,600
S.N.	Proposed Activity	Unit Cost	2023-24		2024-25		2025-26		2026-27		2027-28		Total		
	<b>SMC Trenching</b>		phy	fin	phy	fin	phy	fin	phy	fin	phy	fin	phy	fin	
1.	SMC works (Preparation of contour trenches)	15,750/Ha			9 Ha	1,41,750							9 Ha	1,41,750	
<b>Total (C)</b>						1,41,750								1,41,750	
<b>Grand Total (A+B+C+)</b>						7,59,150		90,000		60,300		45,900		9,55,350	



### 8.7.2 Annual Work Plan for FEMP 2024-2025

S. N	Proposed activity	Benefitting HH	Unit of work	Quantum of work	Unit cost (Rs)	proposed budget	Financial source		
							project	convergence	community contribution
<b>New plantations</b>									
1	Afforestation @1100 normal plants/Ha	whole community	ha	9	68,600	6,17,400	project		management
<b>Total</b>						<b>6,17,400</b>			
<b>soil and water conservation</b>									

1.	Contour trenches	whole community	ha	9	15,750	1,41,750			
<b>Total</b>						<b>1,41,750</b>			
<b>Sub total</b>						<b>7,59,150</b>			

## 9. A BRIEF APPROACH OF SATOYAMA UNDER THIS PROJECT

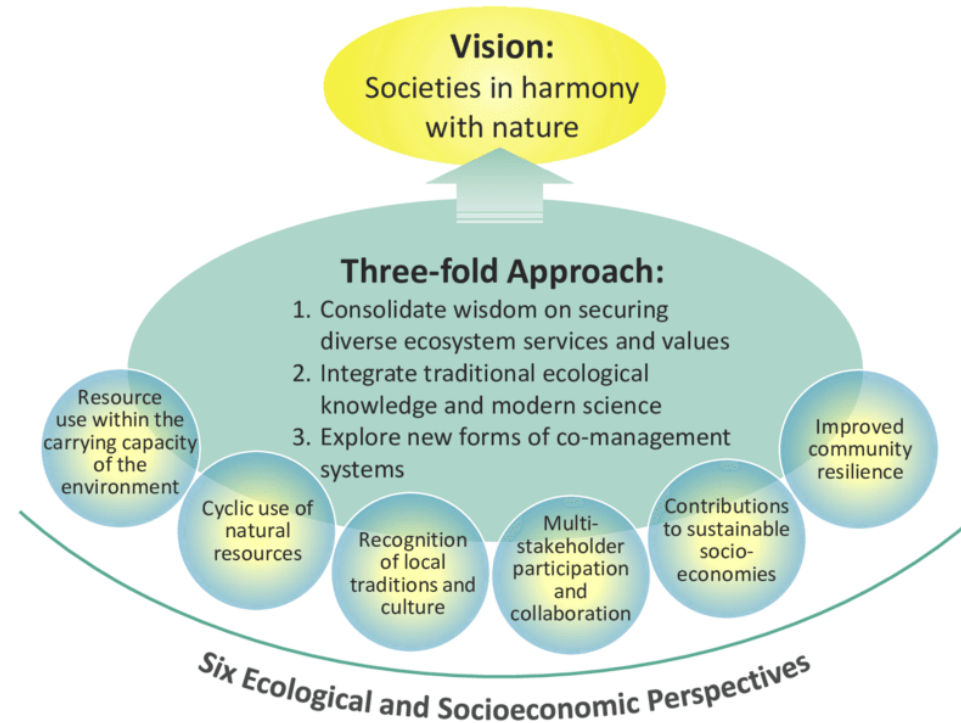
Satoyama is a traditional Japanese concept that refers to a unique and sustainable approach to managing rural landscapes. The term "satoyama" literally translates to "sato" (village) and "yama" (mountain), signifying the harmonious coexistence of human settlements and the surrounding natural environment. Satoyama landscapes are characterized by a balanced relationship between agriculture, forestry, and the preservation of biodiversity.

Here is some brief information about Satoyama:

- Ecological Harmony:** Satoyama landscapes are designed to maintain a delicate balance between human activities and the natural world. This balance is achieved by sustainable farming practices, including crop cultivation, livestock rearing, and forestry.
- Biodiversity Conservation:** Satoyama areas often contain diverse ecosystems with a wide variety of plant and animal species. Local communities play a crucial role in preserving these ecosystems, which can support both wildlife and human needs.
- Cultural Significance:** Satoyama landscapes are deeply rooted in Japanese culture and history. They are often associated with traditional agricultural practices, festivals, and communal activities that have been passed down through generations.
- Community Involvement:** Local communities in satoyama areas actively participate in the management and conservation of their natural resources. This involvement helps foster a sense of responsibility and pride in maintaining the balance between human activities and nature.
- Economic Sustainability:** The sustainable management of satoyama landscapes not only supports the environment and culture but also contributes to the economic well-being of rural communities. It provides livelihoods for people engaged in farming, forestry, and related industries.



6. **Challenges:** Despite their importance, many satoyama landscapes face challenges due to urbanization, depopulation of rural areas, and changes in land use. Conservation efforts and policies are being implemented to protect and revitalize these valuable landscapes.



**Schematic Diagram of Satoyama Initiative**

Satoyama serves as an inspiring example of how humans can live in harmony with nature, maintaining both ecological and cultural diversity. It represents a holistic approach to land use and conservation that can provide valuable lessons for sustainable development and environmental stewardship worldwide.

The implementation of the Satoyama concept in a JICA (Japan International Cooperation Agency) project for the improvement of Himachal Pradesh's forest ecosystem management and livelihoods would involve applying the principles of Satoyama to the specific context and needs of the region. Here's how it could be implemented and why it's important:

### **Implementation:**

1. **Assessment and Planning:** The project would start with a comprehensive assessment of the current state of Himachal Pradesh's forest ecosystems and the livelihoods of the communities dependent on them. This assessment would identify areas where the Satoyama approach could be applied effectively.
2. **Community Engagement:** Engaging with local communities is a fundamental aspect of Satoyama. The project would involve communities in decision-making processes, ensuring that their traditional knowledge and practices are integrated into conservation and livelihood improvement efforts.
3. **Sustainable Forest Management:** Himachal Pradesh has significant forest resources. Implementing sustainable forestry practices, such as selective logging and reforestation, would be crucial to maintaining ecological balance and ensuring a long-term supply of forest products.
4. **Biodiversity Conservation:** Efforts would be made to protect and enhance biodiversity within the forest ecosystems. This might include the establishment of protected areas and the promotion of habitat restoration practices.
5. **Agricultural Practices:** Like in traditional Satoyama landscapes, the project could promote sustainable agricultural practices that reduce the environmental impact, such as organic farming and agroforestry.
6. **Livelihood Diversification:** Recognizing that communities often rely on a combination of activities for their livelihoods, the project could support the diversification of income sources, such as promoting ecotourism, cottage industries, and non-timber forest product harvesting.
7. **Capacity Building:** Training and capacity-building programs would be essential to equip local communities with the skills and knowledge needed to manage their resources sustainably.
8. **Traditional values:** Indigenous and local communities in Himachal Pradesh have valuable traditional knowledge related to agriculture, forestry, and resource management. The Satoyama Initiative aims to preserve and integrate this knowledge into sustainable practices.

### Comparison of rational for Satoyama initiatives in Himachal Pradesh

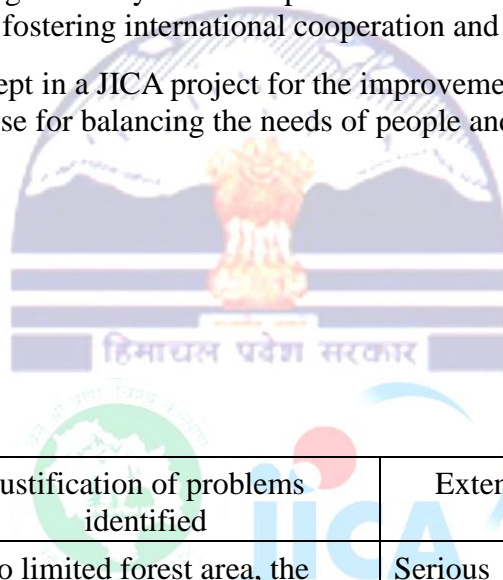
JAPAN	HIMACHAL PRADESH
<ul style="list-style-type: none"> <li>• 68% of total geographical area is under forest cover.</li> </ul>	<ul style="list-style-type: none"> <li>• 27.72% of total geographical area is under forest.</li> </ul>
<ul style="list-style-type: none"> <li>• Maximum forest land is owned privately</li> </ul>	<ul style="list-style-type: none"> <li>• Maximum forest area is government owned</li> </ul>
<ul style="list-style-type: none"> <li>• Natural Resource depletion is due to depopulation and under use of natural resources(forests)</li> </ul>	<ul style="list-style-type: none"> <li>• Natural Resource depletion is because of overuse of forest resources</li> </ul>
<ul style="list-style-type: none"> <li>• Migration of rural population to urban areas</li> </ul>	<ul style="list-style-type: none"> <li>• Trend in urbanization is on rise</li> </ul>
<ul style="list-style-type: none"> <li>• It aims to bring back people towards forests to manage forests</li> </ul>	<ul style="list-style-type: none"> <li>• It aims to enable human interface for sustainable management of forest resources and minimise migration of people from villages to urban areas</li> </ul>

#### Importance:

1. **Conservation of Biodiversity:** Implementing the Satoyama approach in Himachal Pradesh would help conserve its rich biodiversity, protecting endangered species and preserving the ecological balance of the region.
2. **Sustainable Resource Management:** Himachal Pradesh's forests are critical for the well-being of both nature and local communities. Sustainable resource management would ensure a continuous supply of forest products and protect against deforestation and environmental degradation.
3. **Community Empowerment:** Engaging local communities in decision-making and resource management empowers them to take ownership of their environment, leading to more effective conservation and improved livelihoods.

4. **Cultural Preservation:** The project would help preserve the cultural and traditional practices of indigenous communities in Himachal Pradesh, which are often closely linked to their natural environment.
5. **Climate Resilience:** Satoyama practices often enhance the resilience of ecosystems to climate change, making the region better prepared for future environmental challenges.
6. **International Collaboration:** By implementing the Satoyama concept in Himachal Pradesh, India can benefit from Japan's experience and expertise in sustainable land management, fostering international cooperation and knowledge exchange.

In summary, implementing the Satoyama concept in a JICA project for the improvement of Himachal Pradesh's forest ecosystem management and livelihoods holds great promise for balancing the needs of people and nature in the region while promoting sustainable development and conservation.



## Problem Analysis and Solution

### Analysed Problems and Scientific Solutions

S. No	Problems identified	Justification of problems identified	Extent of problems	Recommended solutions
1	Depleting availability of medicinal plants and fodders from nearby forest area.	Due to limited forest area, the over exploitation and overgrazing causes the problem	Serious	Conservation of floral diversity through community approaches. Plantation programs.
2	Low moisture retention/water scarcity	The area is rain fed so limited water resources cause these problems.	Severe	Construction of water harvesting structures at Kaza Soma.
3	Soil erosion	Due to glacier melt and wind.	Moderate	Contour trenching, construction of check dams/crate walls
4	Poor drainage system	The population is concentrated on Kaza market where the drainage	Moderate	Consult with panchayat office/BDO regarding this issue

		system is very poor.		
5	Sanitation	No public toilets and dustbins are available. Despite being the tourist area, these facilities are provided to them as well as other migrant workers.	severe	Construction of public toilets with the help of BDO/Panchayat.
6	Inadequate supply of drinking water	Due to cold winter when temperature reaches below -25 <sup>0</sup> c then drinking water is not available	Severe	This issue should be addressed by government agencies.

### Perceived Problems and Solutions

S. No	Key Stakeholders	Key problems identified by stakeholders	No of HHs and/or area affected	Critical causes of the problems	Perceived solutions
1	Women	Low income, problems related to fodders and fuel wood, no equal rights for participation in community development activities	110	Lack of education and awareness	Education for women/girls, equal participation in community activities, rural entrepreneurship development through SHGs and Mahila mandal.

2	Wage-labour	No proper/promised employment,	20	Not much employment generation activities	Employment chances in agricultural activities/construction work and in other departments
3	Farmer	Water scarcity, no proper marketing of agricultural products, less availability of improved seed and fertilizers.	120	Rainfed agriculture, tough terrains, long and harsh winter, not much support from agriculture/horticulture department	Water harvesting activities, plantation activities, capacity building programs on organic compost preparation and scientific/climate resilient agriculture

## SatoYama

### 9.1 SatoYama Activities

S.N.	Activity	Purpose of the Activity	HHs to be benefited	Community Contribution
1	Maintenance/Repair of community footpath (Fencing and flooring)	Ease of maneuverability of villagers (Children and senior citizens) from one village to other	Whole community	Maintenance
2	Waste treatment facility	Waste dumping in open causing rise in street and feral dogs and in turn leading to negative interaction between wildlife	Whole community	Maintenance

		and feral dogs during extreme winters		
3	Public dustbins (Dry and wet)/no.	For Sanitation/Beautification of Tourist area	Whole community	Maintenance
4	Construction of Public Toilets	Public toilets for the village as the wet toilets freeze during extreme winters	Whole community	Maintenance
5	Corals for livestock's	Protection of livestock from snow leopards and feral dogs	Whole community	Maintenance
6	Solar Hamam	Providing Warm Water during winters	Whole community	Maintenance
7	Feral Dogs Sterilization	Control population of feral dogs`	Whole community	Maintenance
8	Incentive to dog catcher	Control population of feral dogs`	Whole community	Maintenance
9	Orientation workshop on crop damage protection from wildlife	Spreading awareness on Protection of crops from wildlife damage	Whole community	Maintenance

- Detailed estimation plan will be prepared by BMC Subcommittee with inputs from PMU/DMU/FTU and concerned departments if required. If possible, the
- Community will be expected to contribute to activity costs in the form of labour, materials and cash.
- The BMC Subcommittee will be responsible for monthly monitoring and quality control of the work to be executed and the maintenance and management of the community assets created.

- Guidelines will be developed by the PMC for the performance, maintenance and management of community assets.

### 9.1.1 Physical & Financial details of SatoYama Activities

S.N.	Proposed activities	Unit Cost	2023-24		2024-25		2025-26		Total unit	Total est. cost
			Unit	Estimated cost Rs)	Unit	Estimated cost Rs)	Unit	Estimated cost Rs)		
1	Maintenance/Repair of community footpath (Fencing and flooring)	750/Rmt			500 Rmt	3,75,000			500Rmt	3,75,000
2	Waste treatment facility	10,00,000 (L/S)					1	10,00,000	1	10,00,000
3	Construction of public toilets	15000					5	75,000	5	75,000
4	Public dustbins (Dry and wet)/no.	15,000					5	75,000	5	75,000
5	Corals for livestock's	15000	-	-	7	1,05,000	7	1,05,000	14	2,10,000



6	Solar Hamam	15000	5	75000					5	75000	
7	Feral Dogs Sterilization	100000						L/S	2,00,000	L/S	2,00,000
8	Incentive to dog catcher	10000						10	1,00,000	10	1,00,000
9	Orientation workshop on crop damage protection from wildlife	10,000			1		10,000			1	10,000
<b>Total</b>				<b>75,000</b>			<b>4,90,000</b>		<b>15,55,000</b>		<b>21,20,000</b>

## 9.2 Livelihood Improvement/Income Generation Activities (IGAs)

S.N.	Activity	No. of SHGs to be covered/benefitting households	Members to be Covered		Availability to key inputs (YES/No)				Expected Funds (Rs)	Expected Profitability (Rs)	Beneficiary Contribution (%)
			Male	Female	Skills	Raw Material	Technology	Market			

1	Capacity building/Training on agricultural activities	Whole community	Whole community	No	Yes	No	Yes	1,00,000		
<b>Total</b>								<b>1,00,000</b>		

- Major livelihood activities emerged during micro planning process included Sewing and embroidery along with mushroom cultivation. Some committee members are demanding the technology for mushroom cultivation
- Livelihood activities will be implemented through self-help groups (SHG).
- The SHG will have 8-20 members.
- In addition to regular group savings of Rs. 1.00 lakh will be provided as grant for revolving fund Focus will be on linking SHGs with banks
- Banks may consider loan of 3-4 times of the savings and deposits of the SHG.
- The technical feasibility and economic viability of the proposed livelihood activities will be considered. Business plan will be prepared for each activity
- The livelihood improvement scheme at the ward level will be linked to the cluster for procurement, marketing and technical advice.
- Guidelines to be developed by PMC for implementation of livelihood improvement activities.

### 9.3 Proposed Physical and financial coverage of livelihood improvement and Income Generation Activities

S. N	Activity	Target Group	Unit Cost	2023-24		2024-25		2025-26		Total	
				phy	fin	ph y	fin	ph y	fin	ph y	fin
<b>1</b>	Capacity building/Training on agricultural activities	Whole community	100000	0	-	1	1,00,000	0	0	1	100,000
<b>Total</b>							<b>1,00,000</b>		<b>1,00,000</b>		<b>1,00,000</b>

## 9.4 Formation of SHGs

Year	No. of SHGs	Members		
		Male	Female	Total
2021-22				
2022-23	2	0		
2023-24				

Two SHGs will be formed in the Kaza Soma BMC.

## 9.5 Annual Work Plan for Community Development and Livelihood Improvement (CD&LIP)

S.N	Proposed Activity	SHGs	No. of Beneficiary	Proposed Budget	Financial source		
					Project	convergence	Community contribution
	<b>Community Development</b>						
a.	Maintenance of community cultural fair ground and beautification/fencing of ground	-	Whole community	5,00,000	5,00,000	-	-

	<b>total</b>			<b>5,00,000</b>	<b>5,00,000</b>	<b>0</b>	<b>-</b>	<b>-</b>
<b>Livelihood Improvement</b>								
<b>a.</b>	Capacity building/Training on agricultural activities		Whole community	100,000	100,000	0	0	0
	<b>total</b>			<b>1,00,000</b>	<b>1,00,000</b>	<b>0</b>	<b>-</b>	<b>-</b>
	<b>Total</b>			<b>6,00,000</b>	<b>6,00,000</b>	<b>0</b>	<b>-</b>	<b>-</b>

## 10. Activities identified in Kaza Soma BMC

Activities to be carried out with the support of other Departments/ Projects/ Schemes Community Infrastructure development, basic human needs, agriculture and horticulture, IPH, Jal Shakti (through convergence).

### 10.1 Activities identified and implementing agencies

S.N.	Activities	HHs to be benefitted	Implementing agency	Proposed Budget (Rs)
1	Plantation (Afforestation @ 1100 normal plants/Ha)	Whole community	Forest department	6,17,400
2	Maintenance of new plantation	Whole community	Forest department	1,96,200
3	Contour trenches	Whole community	Forest department	1,41,750

4	Maintenance of community cultural fair ground and beautification/fencing of ground	Whole community	Forest department	5,00,000
5	Maintenance/Repair of community footpath (Fencing and flooring)	Whole community	Forest department	3,75,000
6	Waste treatment facility	Whole community	Forest department	10,00,000
7	Construction of public toilets	Whole community	Forest department	75,000
8	Public dustbins (Dry and wet)/no.	Whole community	Forest department	75,000
9	Corals for livestock's	Whole community	Forest department	2,10,000
10	Solar Hamam	Whole community	Forest department	75,000
11	Feral Dogs Sterilization	Whole community	Forest department	2,00,000
12	Incentive to dog catcher	Whole community	Forest department	1,00,000
13	Orientation workshop on crop damage protection from wildlife	Whole community	Forest department	10,000
14	Capacity building/Training on agricultural activities	Whole community	Forest department	1,00,000
<b>TOTAL</b>				<b>36,75,350</b>



## 10.2 Proposed Physical & Financial Coverage of Activities identified

S.N.	Activity	Unit Cost	2023-24		2024-25		2025-26		2026-27		2027-28		Total	
			phy	fin	phy	fin	phy	fin	phy	fin	phy	fin	phy	fin
	<b>Proposed Physical &amp; Financial Coverage of Convergence Activities</b>													

1	Plantation	68,600/Ha			9 Ha	6,17,400							9 Ha	6,17,400
2	Maintenance	10,000/ha (1 <sup>st</sup> yr) 6,700/ha (2 <sup>nd</sup> yr) 5100/ha (3 <sup>rd</sup> yr)					9 Ha	90,000	9 Ha	60,300	9 Ha	45,900	9 Ha	1,96,200
3	Contour trenches	15,750/ha			9 Ha	1,41,750							9 Ha	1,41,750
4	Maintenance of community cultural fair ground and beautification/fencing of ground		1	2,50,000		2,50,000							1	5,00,000
5	Maintenance/Repair of community footpath (Fencing and flooring)	750/Rmt			500Rmt	3,75,000							500Rmt	3,75,000
6	Waste treatment facility	10,00,000 L/S					1	10,00,000					1	10,00,000
7	Construction of public toilets	15,000					5	75,000					5	75,000
8	Public dustbins (Dry and wet)/no.	15,000					5	75,000					5	75,000
9	Corals for livestock's	15000			7	1,05,000	7	1,05,000					14	2,10,000

10	Solar Hamam	15000	5	75,000								5	75,000
11	Feral Dogs Sterilization	100000					L/S	2,00,000				L/S	2,00,000
12	Incentive to dog catcher	10000					10	1,00,000				10	1,00,000
13	Orientation workshop on crop damage protection from wildlife	10,000			1	10,000						1	10,000
14	Capacity building/Training on agricultural/horticultural crops cultivation and processing	1,00,000			1	1,00,000						1	1,00,000
	<b>Total</b>			<b>3,25,000</b>		<b>15,99,150</b>		<b>16,45,000</b>		<b>60,300</b>		<b>45,900</b>	<b>36,75,350</b>

## 11. Implementation Strategies

### 11.1 Implementation guidelines on components and sub-components

- Participatory forest management
- Soil & water conservation/landslide control measures
- Community development and livelihood improvement with gender Mainstreaming

### 11.2 Training and capacity building of community institutions (BMC Subcommittee, SHG)

Institution	Areas of training/Capacity Building	Resource Person/group	Location for exposure visit
BMC-Executive committee	Proceeding writing <ul style="list-style-type: none"> <li>• Account maintaining</li> <li>• Inventory of Assets</li> <li>• created</li> <li>• Role &amp; responsibility of EC</li> </ul>	JICA Staff/ Forest Department staff/ Consultant	Dehradun, Chamba, Kangra, Solan
SHG	<ul style="list-style-type: none"> <li>• Group formation,</li> <li>• Account maintaining,</li> <li>• Proceeding writing, Bank</li> <li>• linkages etc.</li> </ul>	NABARD/Master trainer	-



### 11.3 Year wise detail of training and capacity building plan

S.N.	Year	Community institution	Subject of training	Number of participants	Duration	Resource person/group
1	2023-24	BMC Subcommittee (Executive committee)	<ul style="list-style-type: none"> <li>• Proceeding writing</li> <li>• Account maintaining</li> <li>• Role &amp; responsibility of EC</li> <li>• Gender</li> <li>• Group formation and inter loaning</li> </ul>	7-15 (EC Representative)	2 days	<ul style="list-style-type: none"> <li>• Master trainer</li> <li>• FD accountants</li> </ul>

			in SHG			
2	2023-24	EC and SHG training	<ul style="list-style-type: none"> <li>• M&amp;E /Social audit</li> <li>• Assets created</li> </ul>	3-5	1 day	FTU Coordinators

### 11.4 Proposed year wise trainings/ capacity building of community institutions

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													
Subcommittee (EC) training													
a) Proceeding account Maintain	no.	2	0	1	0	0	0	1	0	0	0	1	0
b) Role Responsibility, Gender, Assets created	no.	3	0	1	0	1	0	1	0	0	0	1	0
c) M&E and Audit	no.	4	0	1	0	1	0	1	0	1	0	1	0
Sub total		9	0	3	0	2	0	3	0	1	0	3	0
SHG Training													
a) Group formation, proceeding writing	no.	2	0	1	0	1	0	0	0	0	0	0	0

S.N.	Name of the record/register to be maintained	To be maintained by whom	To be verify by whom
1	Membership register, bye laws, & other records	President / Member Secretary VFDS	FTU Officer/FTU Coordinator



b) Account Maintain, Bank Linkages etc.	no.	2	0	1	0	1	0	0	0	0	0	0	0
Sub total		4	0	2	0	2	0	0	0	0	0	0	0

## 11.5 Records to be maintained by the Community Institution

2	Proceeding register	Member Secretary VFDS/Joint Secretary	FTU Coordinator
3	Cash account register & related books	Treasurer, Secretary, joint Secretary	FTU Officer/FTU Coordinator
4	Asset created register	President, Secretary	FTU/Project representatives

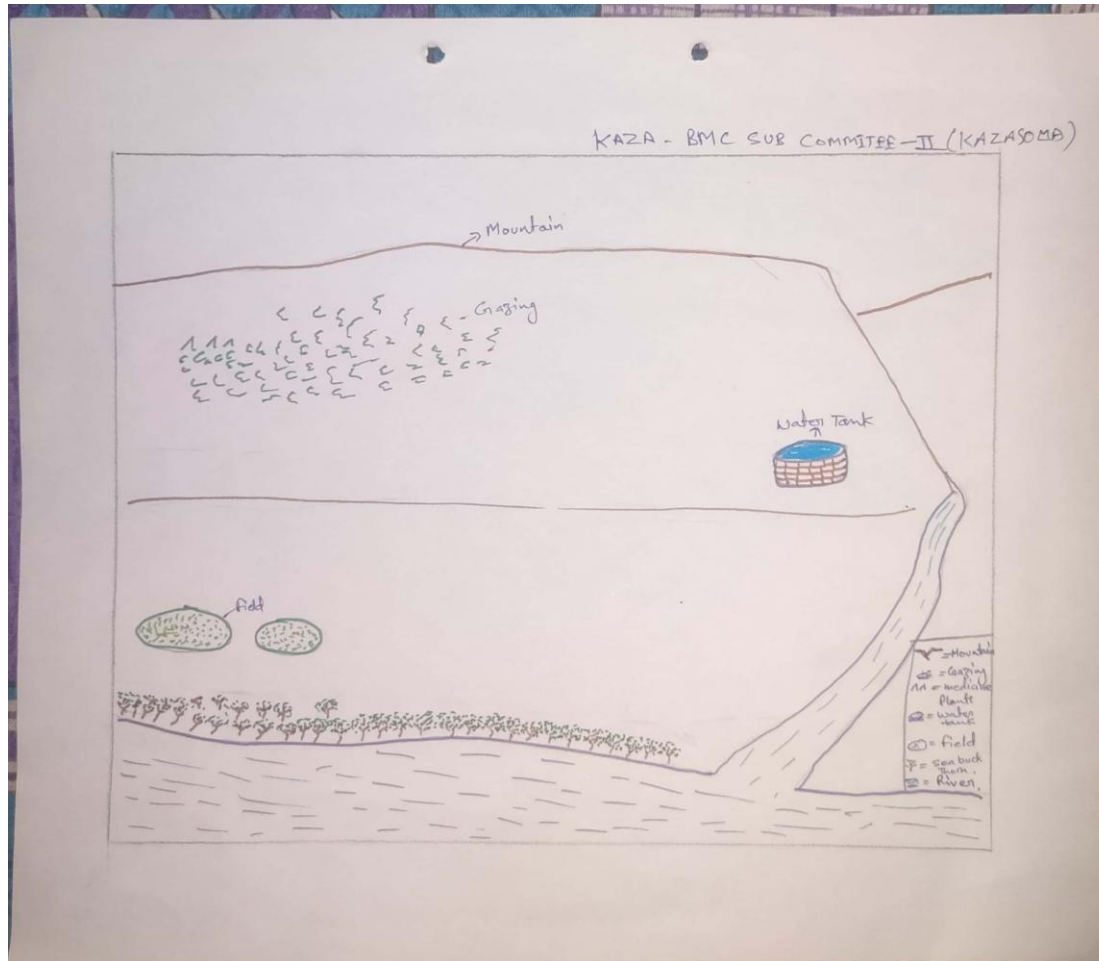


# ANNEXURES



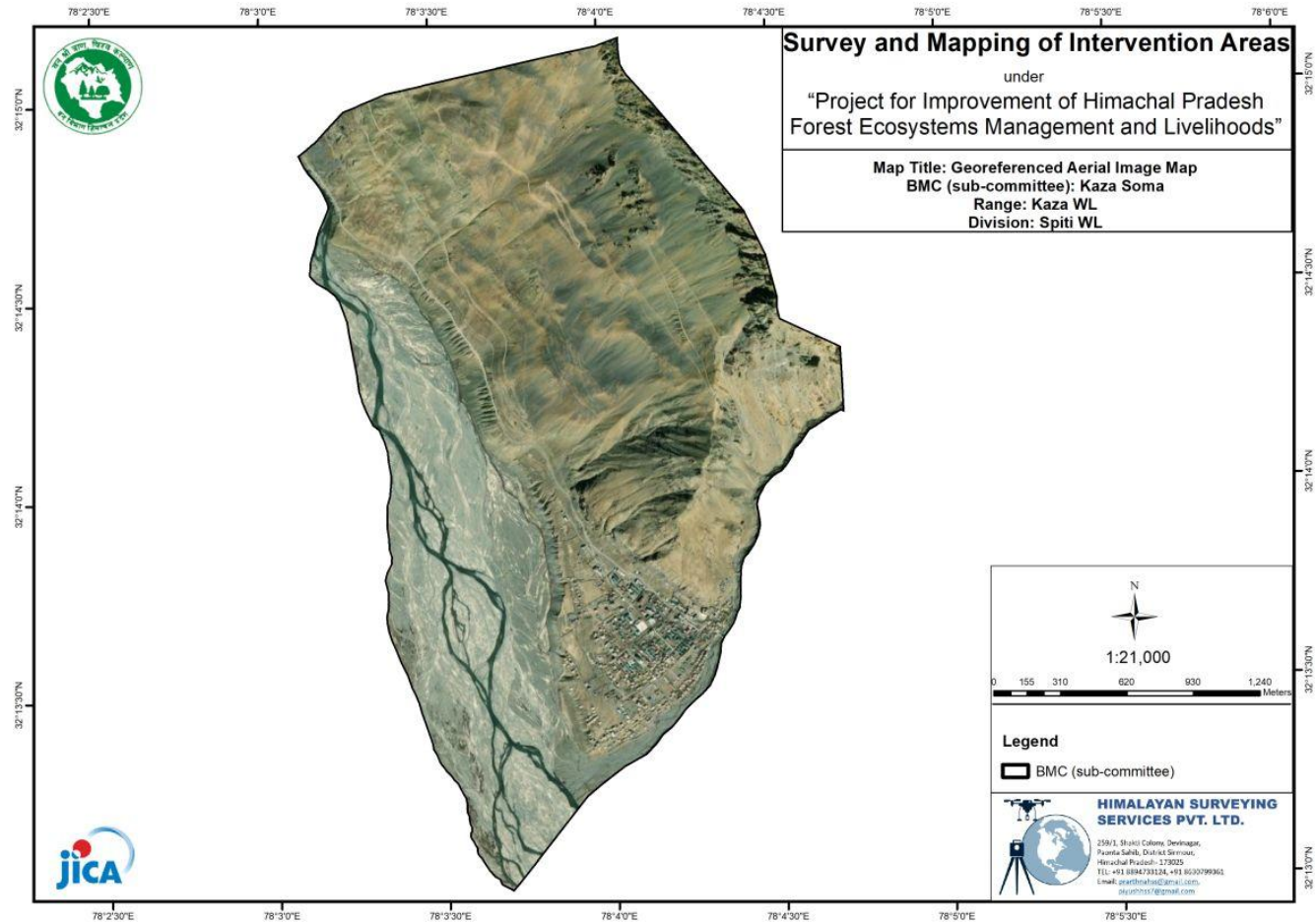
## Annexure-II Resource map of Kaza Soma BMC Subcommittee

### Resource map of Kaza Soma BMC Sub Committee



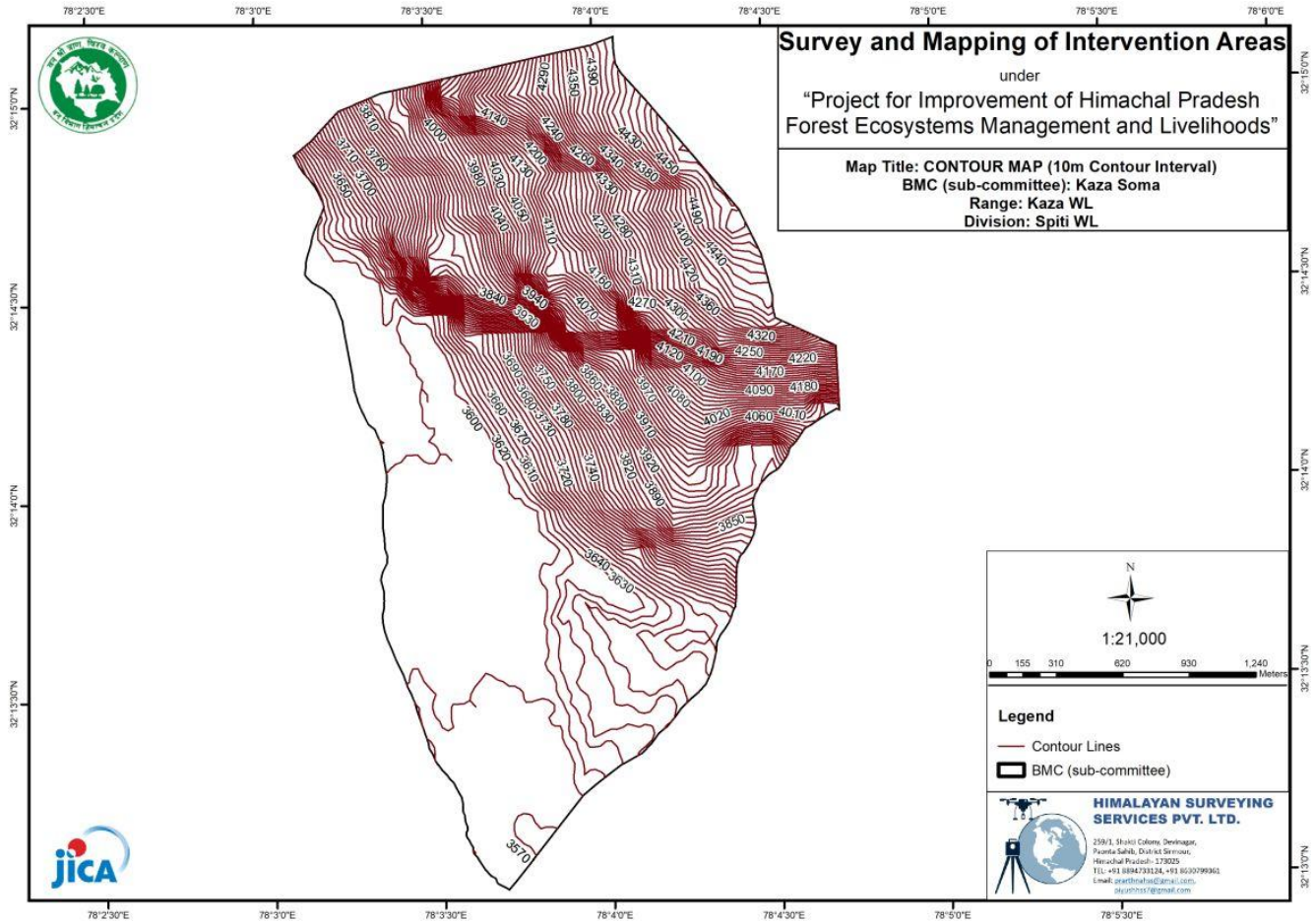
### Annexure-III

#### Aerial image map: Survey & Mapping of Intervention area



## Annexure-IV

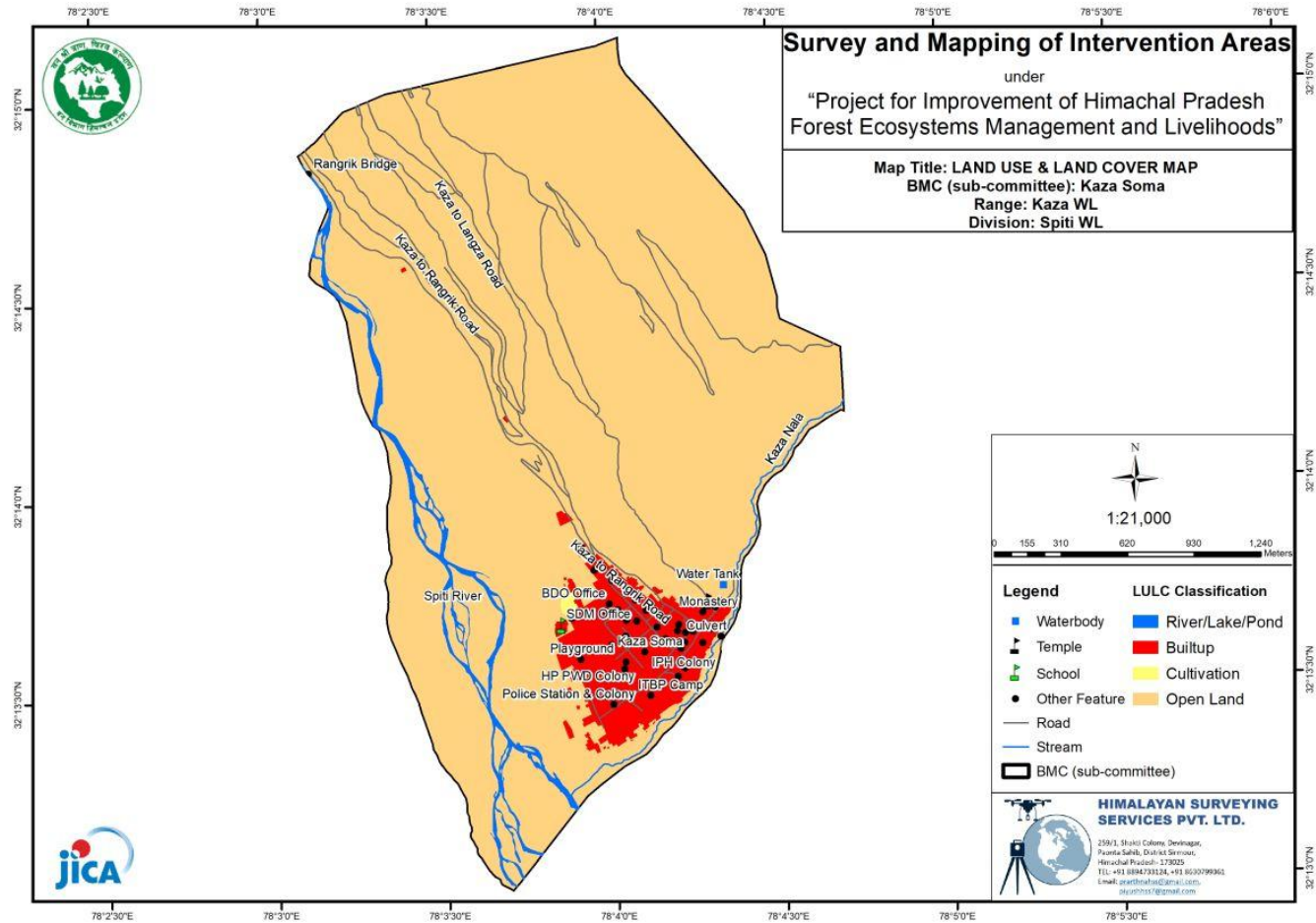
### Contour Map: Survey & Mapping of Intervention Area





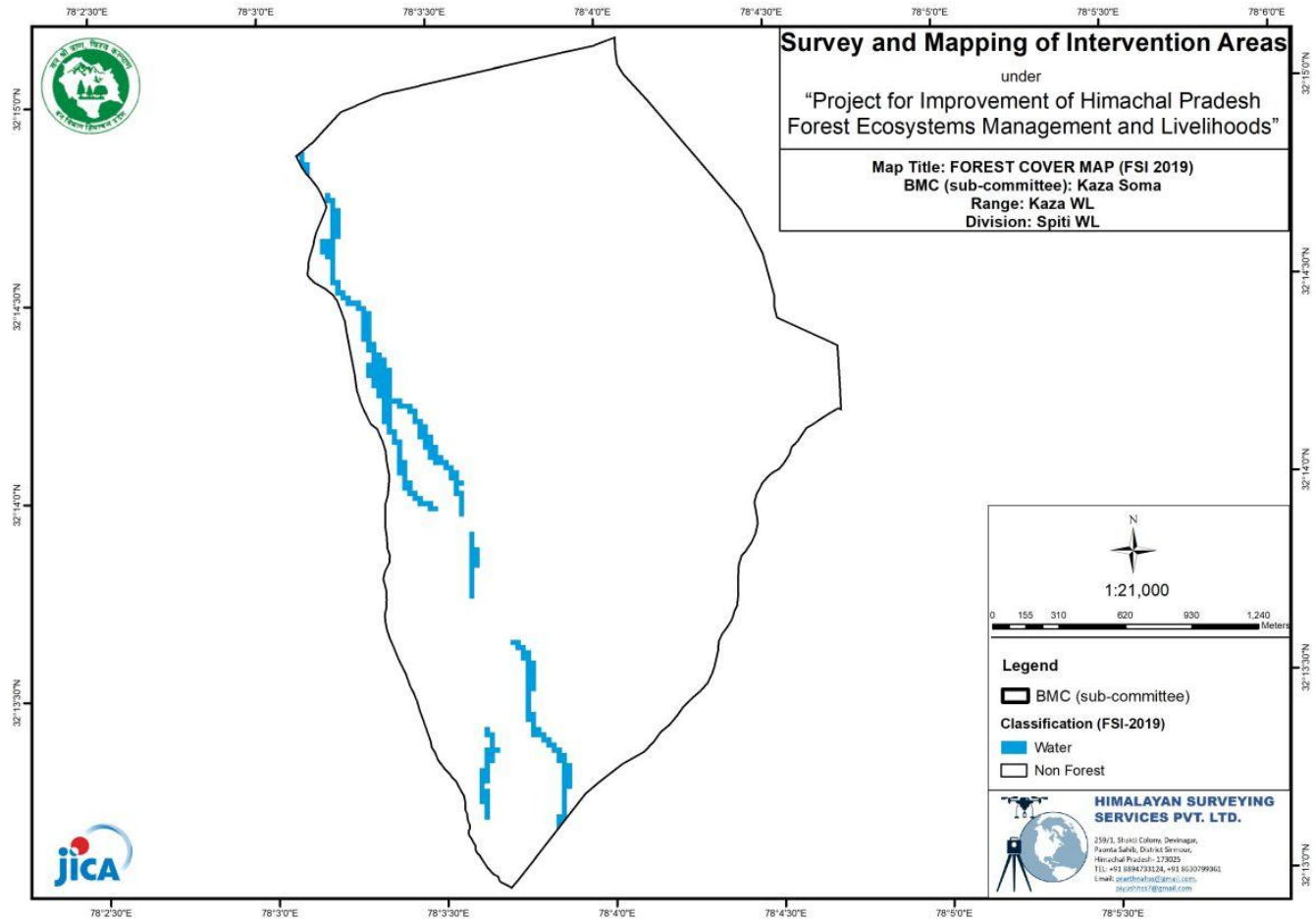
## Annexure-V

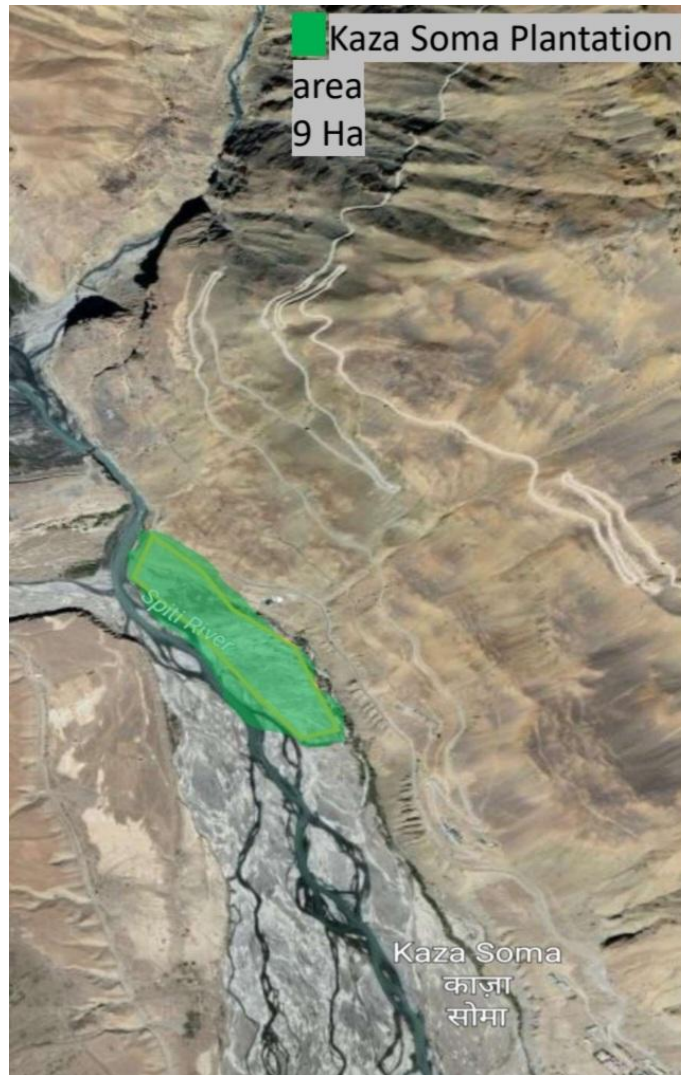
### Land Use Cover Map: Survey & Mapping of Intervention Area



## Annexure VI

### Forest Cover Map: Survey & Mapping of Intervention Area





## Annexure VII

### Copy of the proceedings of the general body:

Proceedings of the First General Body Meeting of the <sup>Kaza Soma</sup> Society held on 28/03/2021 in the forest Officer, forest guard, Gp mobiliser Chhodon Zangmo Panchat Pardhan, Chairmanship of Chhering Chhopal today on 28/03/2021 a meeting of general body of the proposed society was convened in the presence of following persons at Mane with a view to register a society under the provisions of Himachal Pradesh Societies Registration Act, 2006 for performing charitable and welfare activities:

Sr. No	Name	Signature
1	Chhering chhopal	
2	Dolma chhering	
3	Lamo Butih	
4	Kunga Jogney	
5	Tanzin Kapsol	
6	Tanzin Tandup	
7	Chhimet Angmo	
8	Karma dolma	
9	Chhering Dorje	
10	Suresh Kumar	
11	Surya Bhagat	

For the purpose, the members of the proposed society present unanimously elected Chairman/President for day Sh. Chhering Chhopal and thereafter the following resolutions were unanimously passed:

**Resolution No. 1.**

The name of the society shall be BMC Sub-committee Kaza Soma Society.

**Resolution No. 2.**

The area of operation of the society shall be HP, Lahaul & Spiti District, Sub-Divisional Level 2

**Resolution No. 3**

The Office/Head Office of the society will be situated at V.P.O Kaza Soma in Tehsil Spiti of Lahaul & Spiti district and its address will be C/O Chhering Chhopal S/O Padma Dorje V.P.O Kaza Soma Tehsil Spiti, District Lahaul & Spiti, HP-172114

**Resolution No. 4.**

The Management of the affairs of the Society will be entrusted by the Bye-laws/ Regulations of the Society to the Governing Body unanimously elected by the General body of the society today on 11/10/2020 and whose names, addresses and occupations are given below:

465  
851  
760  
1

898826696

Sr. No	Name	Designation	Address	Occupation
1	Chhering Chhopal	President	V.P.O Kaza Soma Tehsil Spiti, District Lahaul & Spiti, HP-172114	Farmer
2	Butih Lamo	Vice President	V.P.O Kaza Soma Tehsil Spiti, District Lahaul & Spiti, HP-172114	House Wife
3	Kunga Jogney	Secretary	V.P.O Kaza Soma Tehsil Spiti, District Lahaul & Spiti, HP-172114	Farmer
4	Chhering Dorje	Member	V.P.O Kaza Soma Tehsil Spiti, District Lahaul & Spiti, HP-172114	Student
5	Dolma Chhering	Member	V.P.O Kaza Soma Tehsil Spiti, District Lahaul & Spiti, HP-172114	House wife
6	Suresh Kumar	Treasurer	V.P.O Natpateh nichar, Kinnour H.p- 172115	Block officer Forest
7	Surya Bhagat	Member	V.P.O panghi Tehsil Kalpa Kinnour	Forest Guard

**Resolution No. 5**

President, Secretary and Treasurer are authorized to open and operate bank account of the proposed society.

**Resolution No.6**

All the members of the proposed society resolved to register a society under the provisions of H.P Societies Registration Act, 2006 for performing developmental, charitable and welfare activities. For the purpose, the draft Memorandum and Bye-laws have been read over carefully and adopted by all the members. All the members shall abide by these memoranda and bye-laws of the society.

**Resolution No.7.**

It is unanimously resolved to submit the Memorandum along with bye-laws of the society to the Registrar of Societies H.P for registration under the H.P Societies Registration Act, 2006. The President, Secretary and the Treasurer are, hereby, authorized to make any alteration/3 | Page deletion/addition and sign all the relevant documents of registration. The General Secretary of the

society is also authorized to submit all the documents of registration of society to Registrar and received the same after registration from Registrar. Certified that this is the true copy of proceedings passed by the general body meeting held on 28/03/2021 and is in safe custody of the general

  
President

  
Secretary

  
Treasurer

## Annexure VII

### Panchayat resolution copy:

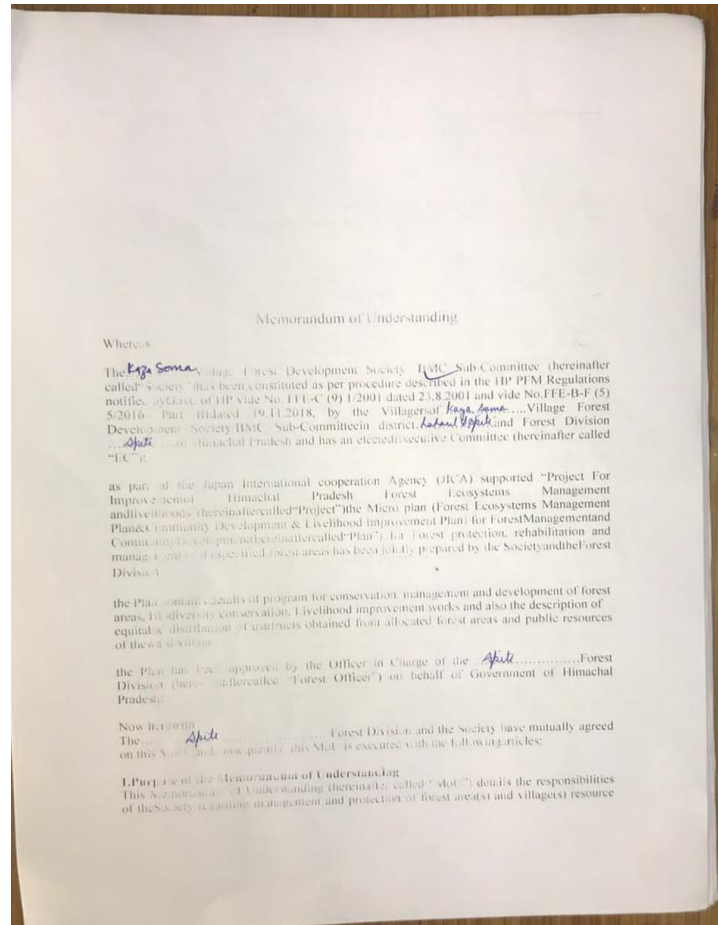
		BMC Sub-Committee Kaza - II (Soma)	
1	Kesang chhotup	M	74593-26336
2	Chharing chhotup	M	60056-20410
3	Lamo Chharing	F	
4	Kunga Jungnay	M	76499-47771
5	Lobsang Chhoda	M	70189-52480
6	Gampa Chharing	M	9418785198
7	Tanzin Kapsal	M	73764-57817
8	Chharing Lamo	F	88828592951
9	Narander Lama	M	9118397760
10	Tanzin Tanduff	M	9118521541
11	Souam	F	-
12	Chonzom	F	-
13	Chimel Angmo P		-
14	Kesang chhotup	M	-
15	Tanzin Kapsal	M	-
16	Souam Juchuu	F	-
17	Kobra Dolma	F	-
18	...	P	-





## Annexure X

### MoU between DMU and President BMC Subcommittee copy:



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, encroachment sand 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/improvement 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 Byelaws notified by Govt. on dated 19-11-2018 for VFDS/BMC under the Project.

### **3. Responsibilities of 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 ear marked 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

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 P/M Regulations of HP, 2001.

#### 6. Monitoring & Evaluation

6.1. Monitoring and Evaluation of project activities will be done at different levels, including by the Co-participatory monitoring committee and an independent third party apart from Project authorities.

6.2. The EC of VIDS BVC (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 panel area 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 norms for inactivity.

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, then it will be kept in mind while evaluating the works of the Committee every year.

I, Chhoring Chhoper President, 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.

*Chhosing Chhazel*

(Name and Signature) President  
On behalf of V.L.D. (Sub-Committee)  
B.M.C. Sub Committee

*[Signature]*

Divisional Forest Officer  
Forest Division  
(On behalf of HPFD)

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

- 1.
- 2.
- 3.
- 4.
- 5.

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

*[Signature]*  
 Divisional Forest Officer  
 On Behalf of Forest Division  
 Division of Forest  
 Himachal Pradesh Forest  
 Department, Lahaul & Spiti (H.P.)

## Annexure XI

### Certificate of Registration of the BMC Subcommittee

03/22, 5:36 PM <https://coophp.nic.in/Registration/ApproveMemo...>

Registration No :   
HPGD-5757

**Certificate of Registration of Societies**



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

This is certified that the **BMC SUB COMMITTEE KAZA SOMA** located at **V. P. O KAZA 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**.



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

[https://coophp.nic.in/Registration/ApproveMemo\\_DA/Print?q=OdISqH0uXNlcJwCB0K6HC%3D%3D](https://coophp.nic.in/Registration/ApproveMemo_DA/Print?q=OdISqH0uXNlcJwCB0K6HC%3D%3D) 1/1

**Annexure XII**  
**Copy of Bylaws**

N/A



## Annexure XIII

### Photos During Micro Planning Process



हिमाचल प्रदेश सरकार





## Annexure XIV

### Micro Plan Assessment Criteria for Financing and Sanctioning

**DMU: Kaza FTU: Kaza Beat: Kaza GP: Kaza BMC Sub Committee: Kaza Soma**

	Assessment Criteria	Achievement	Status at the time applying for approval
<b>Process Related</b>			
1	GP Level and ward level awareness done	28/03/2021	Done
2	GP consent/ward consent to work with project obtained	20/04/2021	Done
3	BMC SUB COMMITTEE formed/Executive committee constituted	03/06/2022	Done
4	BMC SUB COMMITTEE registered	03/06/2022	Done
5	MOU signed between DMU and BMC SUB COMMITTEE for undertaking micro planning and implementation		Done
6	EC 1st meeting held to explain their role and responsibilities	03/06/2022	Done
7	BMC SUB COMMITTEE account opened		Done
8	Percent of households represented in micro planning process (App)	100%	Done
9	Percent of women participants involved in micro planning process (App)	95%	Done
10	Collected information crosschecked and updated in general assembly	YES	Done
11	Women, poor, youth and other communities were involved in micro planning process	YES	Done
12	BMC SUB COMMITTEE involved in information analysis and finalizing key emerging activities	YES	Done
13	Micro plan (FEMP, CD&LIP) approved by BMC SUB COMMITTEE in general assembly and confirmed by executive committee		Done
14	Formats prescribed for MP (FEMP, CD&LIP) used by	YES	Done

	social and technical staff		
15	Total amount of FEMP, CD&LIP and convergence mentioned in MP	<b>36,75,350</b>	Done
16	Days taken to complete MP (FEMP, CD&LIP)	60	
17	Micro plan submitted by FTU to DMU		
18	Micro plan approved by the Head of DMU	24/12/2023	Done
<b>Output related</b>			
19	List of Executive Committee members attached	Yes	
20	BMC SUB COMMITTEE contribution is there	In Progress	
21	Are FEMP and CD&LIP activities in line with project objectives	Yes	
22	Livelihood activities checked for initial technical feasibility and economic viability by micro planning team	Yes	
23	Convergence activities included	Yes	
24	BMC SUB COMMITTEE training and capacity building aspect included	Yes	
25	Costing of FEMP, CD&LIP checked by DMU	Yes	
26	Micro plan includes adversely affected households/group, if any	Yes	
27	PRA tools, wellbeing analysis, BMC SUB COMMITTEE resolution, maps of FEMP and other documents are annexed	Yes	
28	Sources of secondary information mentioned in the micro plan	Yes	

**Assessed by FMU**

**Recommended by DMU**

**Approved by PM**

**Annexure XV**

**Total Budget of BMC Sub Committee at Glance**

S.N.	Activity	Unit Cost	2023-24		2024-25		2025-26		2026-27		2027-28		Total	
			phy	fin	phy	fin	phy	fin	phy	fin	phy	fin	phy	fin
1	<b>Total (Plantation)</b>	68,600/Ha			9 Ha	6,17,400							9 Ha	6,17,400
2	<b>Total (Maintenance)</b>	10,000/ha (1 <sup>st</sup> yr) 6,700/ha (2 <sup>nd</sup> yr) 5100/ha (3 <sup>rd</sup> yr)					9 Ha	90,000	9 Ha	60,300	9 Ha	45,900	9 Ha	1,96,200
3	<b>Total SMC Trenching</b>	15,750/ha			9 Ha	1,41,750							9 Ha	1,41,750
4	<b>Total (Community development)</b>		1	2,50,000		2,50,000							1	5,00,000
5	<b>Total Satoyama Maintenance/Repair of community footpath (Fencing and flooring)</b>	750/Rmt			500Rmt	3,75,000							500Rmt	3,75,000

6	<b>Total Satoyama</b> Waste treatment facility	10,00,000 L/S					1	10,00,000					1	10,00,000
7	<b>Total Satoyama</b> Construction of public toilets	15,000					5	75,000					5	75,000
8	<b>Total Satoyama</b> Public dustbins (Dry and wet)/no.	15,000					5	75,000					5	75,000
9	<b>Total Satoyama</b> Corals for livestock's	15000			7	1,05,000	7	1,05,000					14	2,10,000
10	<b>Total Satoyama</b> Solar Hamam	15000	5	75,000									5	75,000
11	<b>Total Satoyama</b> Feral Dogs Sterilization	100000					L/S	2,00,000					L/S	2,00,000
12	<b>Total Satoyama</b> Incentive to dog catcher	10000					10	1,00,000					10	1,00,000
13	<b>Total Satoyama</b> Orientation workshop on crop damage protection from wildlife	10,000			1	10,000							1	10,000

14	Total (LIP)	1,00,000			1	1,00,000							1	1,00,000
	<b>Total</b>			<b>3,25,000</b>		<b>15,99,150</b>		<b>16,45,000</b>		<b>60,300</b>		<b>45,900</b>		<b>36,75,350</b>

