



MicroPlan

Bio-DiversitySubCommittee**Shego/Lara VILLAGE**

ProjectforImprovementofHimachalPradeshForestEc

osystemsManagement and Livelihoods

GramPanchayat-----	Demul
B M C-----	Demul
BMC SubCommittee-----	Shego/Lara
ForestBeat-----	Shego
Forest Block-----	Kaza
Forest Range-----	WildLifeRange,Kaza
ForestDivision -----	WildLife DivisionSpiti
Forest Circle -----	Kaza

HIMACHALPRADESHFORESTDEPARTMENT



32°10'41.29" N 78°06'01.77" E

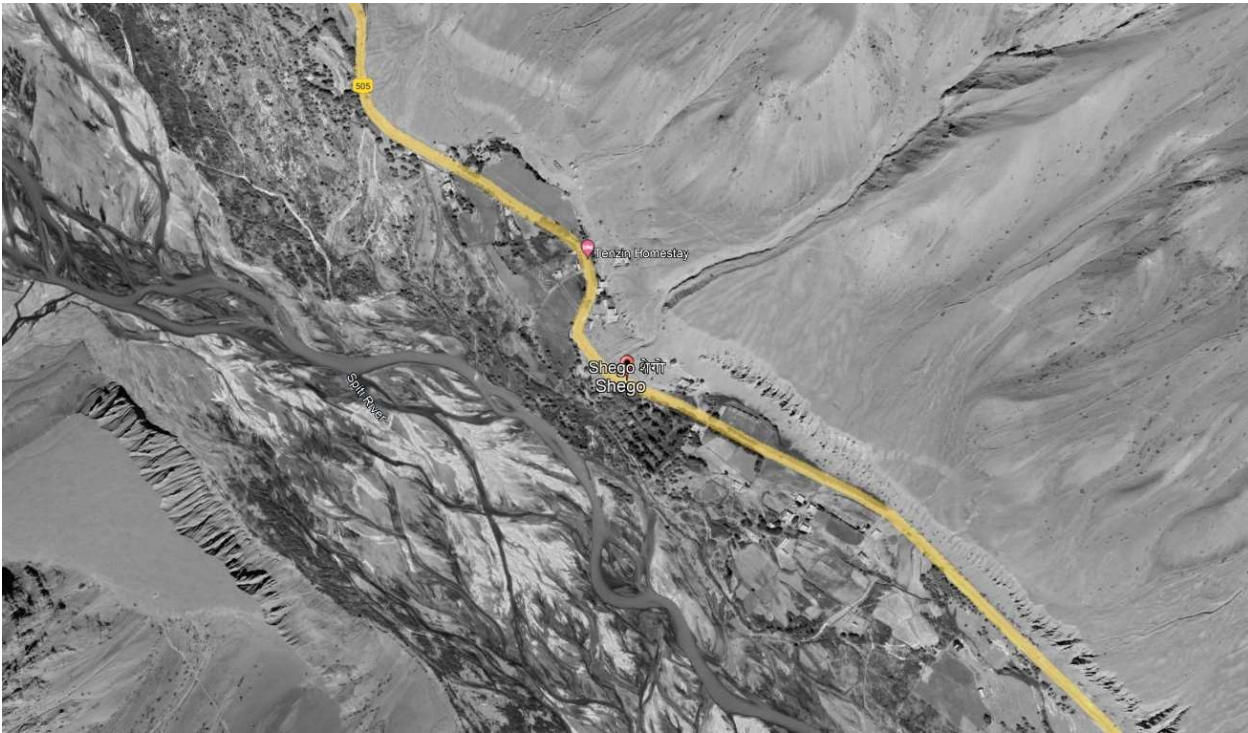


Table of Contents

Sr. No.	Particulars	Page
	Location and project area selected	
	Map of Wild-Life Range	
	Location Map of BMC Sub-Committee	
	Table of Contents	
	Abbreviations & Acronyms	
1	Introduction	
1.1	Project Objectives	
1.2	Project Approach & Strategy	
1.3	Mode of Operations	
1.4	Need for BMC Sub-Committee Level Micro Plan	
2	Basic Information	
2.1	Basic Information sheet on Micro-Plan	
2.2	General Profile of Sub-Committee	
2.3	Details of Executive Committee Members of Sub-Committee	
3	Micro-Planning Process	
4	Socio-economic Status of Shego/Lara	
4.1	General Description of the Sub-Committee	
4.2	Social Composition	
4.3	Population	
4.4	Educational Status	
4.4.1	Educational Status (Adults)	
4.5	Economic Categories	
4.5.1	Wealth ranking as per PRA exercise	
4.5.2	HHs above and below Poverty Line (As per Government Criteria)	
4.6	Access to Basic Facilities/Services	
5	Resource Analysis	
5.1	Land Resources	

5.1.1	Land UsePattern	
5.1.2	Land Ownership Pattern	
5.2	ForestResources	
5.2.1	Forest Area	
5.2.1.1	Site Selection andLocation	
5.2.1.2	DatafromWildlifeDivisionforCommunityBasedBiodiversity ManagementPlan(CBMP)	
5.2.1.3	Descriptionof the Forest	
5.2.1.4	Selectionofinterventionareas,planning andtreatment	
5.2.1.5	OldPlantations/Closureby ForestDepartment (WLWing)	
5.2.1.6	Maps Ofpotentialsitesselected	
5.2.1.7	DataandMapsongrazing,fireandotherrisks	
5.2.1.8	GeneralStatusofregeneration(area,species,damagesetc.)	
5.2.2	TrendsinCommunitydependencyonForests(as perPRA exercises)	
5.2.3	HHsdependingonForests(as perPRAexercises)	
5.2.4	Forestresources oftheselectedarea(asperPRAexercises)	
5.2.5	Biodiversity	
5.2.6	NTFPCollection (asperPRAexercises)	
5.2.7	Fuelcollection& consumption(asperPRA exercises)	
5.2.8	Fuel&fuelwooddeficiency(as perPRA exercises)	
5.2.9	FodderCollection/Consumption(asper PRAexercises)	
5.2.10	FodderDeficiency(as per PRAexercises)	
5.2.11	Timbercollection&consumption(asperPRAexercises)	
5.2.12	Timber Deficiency(asperPRAexercises)	
5.2.13	ForestManagementPractices(as perPRAexercises)	
5.2.14	ForestProtection Practices (asperPRAexercises)	
5.3	Water ResourcesDetails	
5.4	AgricultureResources	
5.4.1	CultivableLand usePattern	
5.4.2	Land HoldingPattern	

5.4.3	CroppingPattern	
5.4.4	Challenges ofCultivableLand	
5.5	Livestock Resource	
5.5.1	LivestockHoldingPattern	
5.5.2	Productionof MainLivestock	
6	LivelihoodStrategies	
6.1	ExistingLivelihoodStrategies	
6.2	Livelihoods-Activity Calendar	
6.3	FoodDeficiency	
6.4	Income Deficiency	
6.5	PotentialLivelihoodstrategies	
7	Institutional Analysis	
7.1	Existing CommunityBasedOrganizations(CBOs)	
7.2	PreferencesforExternalLinkages(Government institutionworking inSub-Committeearia)	
7.3	ProfileofExistingSHGsorCIGs	
8	ProblemAnalysisandSolutions	
8.1	AnalyzedProblemsandScientificSolutions	
8.2	PerceivedProblems andSolutions	
8.3	ImplementationActivities/Interventions	
8.4	SWOTAnalysisofSubCommittee	
8.5	Settingthe objectivesfor Developmentfor theprojectduration	
9	Community BasedBiodiversityManagement Plan (CBMP)	
9.1	GeneralDescription	
9.1.1	DataandMaponinterventionAreas/Treatment plots	
9.1.2	User GroupFormation	
9.1.3	ApprovalofCBMP andOtheractivities	
9.1.4	Memorandumofunderstanding(MOU)	
9.1.5	ProjectSupporttothe beneficiary(sub-committee) for implementationofMicroplan	
9.2	Plantationactivitiesidentified	

9.2.1	Requirement of Planting Materials	
9.2.2	Forest protection, Management/Silviculture /Maintenance Operations for the Plantations	
9.2.3	Plantation activities under PEM mode	
9.3	Soil & water conservation works	
9.3.1	Soil and Water Conservation works (Proposed)	
9.3.2	Soil and Water Conservation works year wise physical Targets	
9.4	Physical & Financial Plan	
9.4.1	Proposed physical & Financial plan for 9 years	
9.4.2	Annual Work plan of CBMP for the year 2020-21	
10	Community Development and Livelihood Improvement Plan (CD&LIP)	
10.1	Community Development Activities	
10.2	Proposed Physical & Financial detail of Community Development Works	
10.3	Livelihood improvement	
10.3.1	Potential Livelihood/Income Generation Activities (IGAs)	
10.3.2	Proposed physical & financial Income Generation Activities	
10.3.3	Formation of new SHGs	
10.4	Annual work plan (2020-21): CD&LIP	
11	Convergence with external agencies	
11.1	Activities identified for convergence	
11.2	Proposed Physical & Financial of Convergence activities	
12	Implementation strategies	
12.1	Implementation guidelines on components and sub-components	
	Participatory forest management Soil & water conservation/landslide control measures Community development and livelihood improvement with gender mainstreaming	
12.2	Formation of common interest groups (CIG)	
12.3	Training and capacity building of community institutions	

12.4	Training and capacity building plan yearwise	
12.5	Proposed yearwise Training	
12.6	Records to be maintained by the Community institutions	
	Annexures:	
	Resolution of Gram Panchayat ----- I	
	Overview Map of Sub-Committee Shego/lara ----- II	
	Social Map III	
	Wealth ranking categories IV	
	Land Use/Resource Map Sub-Committee ----- V	
	Treatment/Planning Map of Sub-Committee Shego/lara ---- VI	
	Detailed description of treatment Plots ----- VII	
	Details of User Group- VIII	
	Proceeding/resolution for MP approval----- IX	
	Memorandum of Understanding ----- X	
	Bye Laws of Sub-Committee ----- XI	
	General House of Sub-Committee Shego/lara ----- XII	
	Sub-Committee Registration Certificate----- XIII	
	Glimpses of micro planning process----- XIV	
	Micro plan Assessment Criteria for Financing and Sanctioning--XV	
	Other relevant information/Maps ----- XVI	
	Total Budget of Shego/lara Sub-Committee at a Glance---XVII	

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

PIHPFEM&L	ProjectforImprovementofHimachalPradeshForestEcosystems Management& Livelihoods
PMC	ProjectManagement Consultant
PMU	ProjectManagement Unit
PRA	ParticipatoryRuralAppraisal
RRA	Rapid RuralAppraisal
RO	RangeOfficer
SHG	SelfHelp Group
SWC	SoilWaterConservation
TOT	Training ofTrainers
BMC	BiodiversityManagementCommittee
YM	YuvakMandal
WHS	Water HarvestingStructure

1. Introduction

1.1 Project Objectives

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

1.2 Project Approach and Strategies

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

Output 1: Sustainable Forest Ecosystem

Management, Output 2: Biodiversity Conservation and

Output 3: Livelihoods Improvement Support are supported

by Output 4: Institutional Capacity Strengthening

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

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

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

Alleviating poverty of the rural poor through income generating interventions.

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

Promoting inter-sectoral convergence (ISC).

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

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

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

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

Institution capacity strengthening of Forest department and its personnel.

1.3 Mode of Operation

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

PFM Mode

Drainage Line Treatment including ex-situ Soil & Water Conservation (SWC) work

Densification of moderately dense forests by Plantation of multi-purpose trees in degraded forests so as to convert open forests into moderately dense forests and moderately dense forests to dense forests; gap plantations should be preferred to be more effective on larger areas.

Afforestation/ Improvement of Open/ Scrub

Forest Rehabilitation of Forest Areas Infested with Invasive

Species

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

Forestry Intervention at Outside of Forest Area

Departmental Mode

Improvement of Forest Boundary Management at Project Intervention

Areas Improvement of Nurseries

Seedling Production

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

Secondary Silvi-cultural Operations for Improvement of Existing Forests Improvement/Densification of Moderately Dense Forest Afforestation/Improvement of Open/Scrub Forest

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

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

1.4 Need for Sub-Committee Level Micro Plan

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

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

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

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

Micro Plan will not only focus on forestry activities and it should be comprehensive so as to include all development activities that may be taken up by other Government Departments and Agencies

through convergence. During the preparation of micro plan the BMC sub-committee shall interact with officials of other departments and after preparation of Micro Plan, it should be shared with other Government Departments and Agencies for dovetailing their activities in BMC sub-committee.

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

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

In the annual planning undertaken during 4th year, a broad action plan shall be prepared for the fourth coming 5 years.

The process of the 2-5 year action plan shall follow the same steps as discussed in the above section.

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

Although Micro Plans shall be prepared for a period of 6-8 years it would be revisited on annual basis.

2. Basic Information

2.1 Basic Information sheet on Microplan

	Name of the BMC Sub-Committee	Shego/Lara
	Name of the Ward	Shego/Lara
	Registration No.	HPCD-5964
	Name of Gram Panchayat/BMC	Demul
	Name of the FTU/ Range	Kaza
	Name of the DMU/Forest Division	Spiti
	Name of the District	Lahaul & Spiti
	Period of Micro Plan	2022-23 to 2028-29
	Date of approval of Micro Plan by Executive Committee of BMC Sub-Committee	(BMC Sub-Committee resolution for approval of Micro Plan attached)
	Date of approval of Micro Plan by Head of DMU	12/11/2021
	Key team members engaged in Preparation of Micro Plan	DFO Pawan Kumar RO DORJE NAMGIAL SMS Tanzin Angrup FTU Kaza Meenakshi FTU Tabo Chhodon Zangmo
	Date of General House conducted & Resolution passed	10/10/2021
	Number of participants	Male:6 Female:8 Total:14
	Voting Pattern followed for formation of BMC Sub-Committee/EC	Nominated: Elected:
	Number of members in EC	Male:6 Female: 8 Total:14

2.2

General Profile of BMC Sub Committee selected.

S.No	Description	Current Status
1	Date & Registration No. of BMC Sub-Committee	HPCD-5964
2.	No. of Revenue Villages/Ward/ Forest Villages Covered	1
3.	Total number of households (HHs) in ward	26
4.	Total No. of household representing BMC Sub-Committee General House	26
5.	Total Population in Shego/Lara Ward	79
6.	Total General Categories HHs in Ward	79
6	Total OBCHHs in Ward Shego/Lara	0
7	Total IIRDP/BPL HHs	20
8	Total Livestock in Shego/lara Ward	158
9	Bank account details	Saving Account
10	Name of the Bank	SBI Kaza
11	Date of account opened	12/05/2022
12	Account number/IFSC	SBIN0003337 40979694145

2.3 Detailsof EC Membersof BMCSUB-Committee

S.No	Name	M/Fe	Designation	Category	Village
1	Norbu Gailsen	M	President	St	Shego
2	Dikit Chhering	F	V.president	ST	Lara
3	Chhering Bakto	M	Secretary	ST	Lara
4	Tanzin Angmo	F	Member	ST	Lara
5	Dechen Dolker	F	Member	ST	Lara
6	Rinchen	F	Member	ST	Shego
7	Dawa Chhering	M	Member	ST	Shego
8	Dolma	F	Member	ST	Shego
9	Suresh Kumar	M Block officer Forest	Member	ST	Kinnaur
10	Surya Bhagat	M FGD	Member	ST	Kinnaur

3. MicroPlanningProcess

Before starting the micro-planning process FTU-Team Conducted the Gram Panchayat Awareness Meeting .In this Meeting, All Panchayat representative, members of Mahila mandals and yuvamandals and other villagers of Panchayat area participated in this meeting. FTU team discussed about Jica Project and its objective with Participants in detail. After this meeting, FTU Team conducted the ward level awareness meeting in Shego/lara ward with the help of Ward members and other sources. The resident of Shego/lara ward agreed for jica project implementation.

Sub-

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

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

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

The perceived problems, solutions and information collected through primary and secondary sources were discussed with General house of Sub-Committee. A refined set of problems and solutions emerged to take it forward for inputs from the technical staff and the experts to finalize the Micro Plan especially the CBMP. Executive Committee of Janaha was also formed in the General house according to the HP Forestry Project guidelines. For Forestry interventions User Group were also formed.

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

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

S.N	Sequential Steps Followed Addition can be made as per locally followed process	date
	Community awareness building meetings/workshops organised at GP & ward Level	10.10.2021
	GP Consent to work with project and	
	BMC Sub-Committee formed/Executive committee constituted/sub-committee Registered.	
	Action plan prepared with Sub-Committee for Micro Plan Preparation	
	Micro planning process started/PRA exercise conducted (From-To)	
	Participatory information analysis carried out (From-To)	
	Negotiation/planning process held (From-To)	
	Participants involved in negotiation/planning process (Male & Female)	55-60 (more than 50% were female)

	Presentation of the draft plan in village/ward assembly for Approval	
	Documenting the micro plan (From-To)	
	MOU signed between DMU and EC of Sub-Committee for undertaking microplanning and implementation	
	Problems/challenges experienced	Gathering of villagers was difficult few were gone for their government jobs.

4.

Socio-Economic Status of Shego/lara

4.1 General Description of the BMC Sub-Committee

4.1.1 History of Area selected:- The Spiti Valley is a mountain valley with cold desert ecosystem located in the Trans Himalayan chain in the North-Eastern part of Himachal Pradesh in India. The word Spiti means "Middle Land" the land between Tibet and India. It occupies an area of 728,023 ha and lies between 31°42' and 32°58' N, and 77°37' and 78°35' E. The planning site Shego/lara village is at an elevation of 3754 meters (12316 ft) and about 16 kilometers from the town of Kaza. Shego/lara is a small Village/hamlet in Spiti Tehsil in Lahul and Spiti District of Himachal Pradesh State, India. It comes under Demul Panchayat. It is located 62 KM towards East from District Headquarter Keylong. Average Sex Ratio of Shego/lara village is 1724 which is higher than Himachal Pradesh. Shego/lara village has lower literacy rate compared to Himachal Pradesh.

In 2011, literacy rate of Shego/lara village was 79.41 % compared to 82.80 % of Himachal Pradesh. In Shego/lara Male literacy stands at 100.00% while female literacy rate was 68.89%.

4.1.2 Location of BMC Sub-Committee Area: - Shego/lara subcommittee falls under Demul BMC/ BMC/Gram Panchayat in Lahaul and Spiti District. The selected BMC Sub-Committee area falls under WL Kaza Range in WL Spiti Forest Division Management Unit (DMU). Location Map is attached on **Page No.3**

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

East= demul

West = kueling

North = kaza

South=lidang

Distance from Forest and other offices:-

Shego/lara BMC Sub-Committee area is located at a distance of 18 km from

WL Range office; Revenue block office, DMU office and 200 km from the district headquarter.

4.2. Social composition

Households(HHs)	ST	OBC	General	Total
Noof HHs	26	-	-	26
%ofHHs	100%	0%	0%	100%

➤ InShego/Lara Sub-Committee 26 HHs

Population

Social category	Population(Number)					
	Male Adults	Female Adults	Total Adults	Male Children	Female Children	Total Children
GENERAL	0	0	0	0	-	0
ST	40	60	100	12	23	35
Total	40	60	100	12	13	35

Total population of Shego/Lara Sub-

Committee is 100. Out of these 40 are male and 60 are female. Male children are 12 and female children are 23.

Out of total population no one belongs to ST Category.

4.3 EducationalStatus

4.3.1 EducationalStatus(Adults)

Level	Number		
	Male	Female	Total
Literate without formal education	19	6	25
Primaryeducation	3	3	6
Middle education(10 th)	7	9	16
HigherSecondary(12 th)	7	9	16
Graduates and above	7	10	17
Professional courses	0	0	0
Totalliterates	23	31	54
Percentage(literates)	29%	39%	68%

68% people are literate. Out of these 22% males are educated while 39% females are educated. Whereas 31.6% population is illiterate.

4.4 EconomicCategories

4.4.1 Wealthranking asperPRA exercise

Category	Criteria/Indicator	Noof HHs	Category code**	CategoryWise	
				Gen	ST
Better off	Govt Job,Agriculture	14	A	-	14
Manageable	Agriculture, home stays	5	B	-	-
Poor	SmallFarmers,Labour in PWD,GRIFF ETC	3	C	-	8
Vulnerable(needim mediate attention)	Labour	4	D	-	4
Total		26		-	26

Vulnerable HHs are those which do labour work, and are supported by relatives financially.Poor category is of small farmers who have less land and also do labour work.

Manageable category includes people involved in agriculture having less land; do milk selling and vegetable growing & selling work

Better off do Govt. jobs, and are having agriculture more land.

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

Households	Total	APL	BPL
No of HHs	26	80	5
% of HHs	100%	25%	75%

During livelihood analysis B category HHs showed 75% dependence on Agriculture, 25% on govt job work for their livelihoods.

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

There is no category A class found in this area

Access to Basic Facilities/Services

Facilities/Services	Availability (% HHs)	Distance (Km)	Current status
Toilets	98%	-	98% of the Toilets are in good condition and are being used. Most of the Toilets are without flush. However, there is erratic supply of water.
Toilets with flushwater	-	-	Very few
LPG	94%	14	Use of LPG is not regular in winter because of tandoor 4 LPG Cylinders are used per year/Per HH
Improved stove/Tandoor	100%	-	100% HH have Tandoor for heating and cooking also
Electricity	100%		100% HH have electricity connection. In winter, snow fall time electricity fails.
Drinking water	100%	100-150mtr	100% HH have Drinking water connections
Health services	100%	07km	Health service is good at Kaza. But maximum villagers go out of distt for Treatment which are not available in kaza.
Veterinary services	80%	07 KM.	Veterinary Services are available in kaza
Banks	100%	07KM.	Villagers go to Kaza for avail Bank Services
Markets	100%	07KM.	Villagers go to Kaza for Purchasing. Shops not available in village for Daily Needs Product
Anganwadi	100%	100 to 700Mtr.	Anganwari available in village with good Service
Primary schools	100%	100 to 1000Mtr.	Primary School available within the village with good Service
Secondary	100%	07Km	Sr. Secondary School available in Kaza.

schools			
PDS	100%	0.5-02 KM.	PDSavailablewithinShego/laraVillagewith betterService
Transport	100%	07KM.	Govt.Bus service and Pvt service (Taxi) available .
Telecommuni cation	100%	nil	All HHhaveMobilePhones

5 Resource Analysis

5.1 Land Resources

5.1.1 Land Use Pattern

Land use	Total land	Land under cultivation	Forest land	Orchard	Waste land	Water body area	Panchayat/ Other-Specify
Area(ha)	767ha	130ha	520ha	Nil	Nil	52ha	65ha
%Area(ha)	100%	26%	60%	0%	0%	6%	8%

5.1.2. Land Ownership Pattern

Land Ownership	Private land	Community land	Panchayat land	Forest land	Waste Land	Total
Area(ha)	182ha	25 ha	40ha	520ha	Nil	767ha
%Area(ha)	23%	3.25%	5.21%	67.7%	0%	100%

Livestock Population Shego/lara

No.	Cow	Sheep/goat	Yak	Donkey	Total
	60	48	30	20	158

5.2 Forest

Resources 5.2.1

Forest Area

5.2.1.1 Site Selection and Location

This site has been short listed by the DMU and his field staff. Bio-diversity Management Committee Shego/Lara had formed by Himachal Pradesh State Biodiversity Board under Biodiversity act 2002. As per guidelines of JICA, three sub-committees had to be formed under each BMC. The Sub-Committee Shego/lara area falls under Demul BMC. The site is approximate 20 Kms from Kaza Range office Spiti. Location **Map is attached Page No.03**

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

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

5.2.1.3 Description of the forests (Sanctuary area)

The entire Spiti region is classified under the 'Trans-Himalayan Cold Desert' biogeographic zone. The vegetation in Spiti is classed as 'Alpine scrub' or 'dry alpine steppe' vegetation. Such areas are characterised by scattered and open bush-land mainly with herbaceous and shrub species such as *Artemisia spp.*, *Lonicera spp.* and *Caragana spp.* The graminoids such as *Festuca spp.*, *Poa spp.* and *Stipa spp.* are found in the area, but by and large their biomass seems to be depleted (Mishra 2001). Today, the two important vegetation formations in the region include open or desert steppe dominated by grasses and sedges (e.g. *Stipa spp.*, *Leymus spp.*, *Festuca spp.*, *Carex spp.*) at altitudes up to 4,600 m, and dwarf shrub steppes between 4,000 and 5,000 m dominated by shrubs such as *Caragana spp.*, *Artemisia spp.*, *Lonicera spp.* and *Eurotia spp.* Mesic sites such as river valleys and areas along springs and glaciers are often covered by sedge meadows (*Carex spp.*, *Kobresia spp.*). Vegetation occurs up to 5,200 m, but becomes sparse above 4,800 m, and is limited to forbs such as *Saussurea spp.* and cushionoid plants such as *Thylacospermum spp.* The important plant families include *Graminae*, *Cyperaceae*, *Brassicaceae*, *Fabaceae*, *Ranunculaceae*, and *Leguminosae*. The Villagers from Shego/lara and Komic and Langcha Sub-Committee have their rights in this Forest area. The Villagers of these areas depend on this Forest area for Fodder, Fuel wood and Timber. The requirement of Fodder and Fuel wood of Villagers does not fulfill from this Forest area so they also go to Sanctuary area for fulfill their requirements.

Geology, Rock and Soil:

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

Terrain:

All of Spiti occurs above an elevation of 3,000 m. The lowest point is where the river flows into the Kinnaur district near Hurling. The river cuts a deep gorge in the lower areas and opens up further upstream near Tabo where the river meanders over a vast valley, at times close to a kilometer wide.

The slopes on the right bank of Spiti are more rugged and have longer streams, while the left bank is less rugged. In fact there is a 40 km plateau from Kibber to Demul on the left bank, which also extends into much of the mid Lingti valley, covering over 500 km². Of the c. 7,600 km² covered by Spiti. There are Shilla (6,132m) which are popular climbing destinations. Apart from the access along the main Spiti River, the important passes are Pir Panjal range, the Parang la (5578m) and Takling la (5575m) with the Pare Chu Valley, on the Zaskar range, and the Kunzam la (4590m) with the Chandra Valley.

Climate:

Spiti occurs on the leeward side of the Pir Panjal branch of the Himalaya that cut off the 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 temperatures can range from -40 in peak winter, to 30 degree Celsius in peak summer, with the minimum temperature remaining sub zero from September to April in most places. Severe winds occur almost every day and are further reason for the desiccated atmosphere and lack of trees. 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 metrological 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 snow melt 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 a threat to standing crop.

Water sources:

This area is well drained; and falls under watershed of Spiti River and Pin River.

Range of wildlife, status distribution 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 (*Lerwa lerwa*), Hume's Short-toed Lark (*Calandrella acutirostris*), Rosy Pipit (*Anthus roseatus*), Robin Accentor (*Prunella rubeculoides*), Brown Accentor (*Prunella fulvescens*) White-winged Redstart (*Phoenicurus erythrogaster*), Himalayan Griffon (*Gypshimalayensis*), Himalayan Snowcock (*Tetraogallus himalayensis*), Snow Pigeon (*Columba leuconota*) etc.

C3-15 Alpine Pastures:

The entire Spiti region is classified under the 'Trans-Himalayan Cold Desert' (Zone 1) biogeographic zone with the Province 'Ladakh mountains' (1B) covering most of the southern bank and the 'Tibetan plateau' (1A) covering the northern bank as per the Wildlife Institute of India's biogeographic classification.

The vegetation in Spiti is classed as 'Alpine scrub' or 'dry alpine steppe' vegetation. Such areas are characterised by scattered and open bush-land mainly with herbaceous and shrub species such as *Artemisia* spp., *Lonicera* spp. and *Caragana* spp. The graminoids such as *Festuca* spp., *Poa* spp. and *Stipa* spp. are found in the area, but by and large their biomass seems to be depleted. Today, the two important vegetation formations in the region include open or desert steppe dominated by grasses and sedges (e.g. *Stipa* spp., *Leymus* spp., *Festuca* spp., *Carex* spp.) at altitudes up to 4,600m, 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... The important plant families include Graminae, Cyperaceae, Brassicaceae, Fabaceae, Ranunculaceae, and Leguminosae.

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

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

Animals

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

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

the gorges formed by the Ula, Ratang and Guindi nala. Other animals are Asiatic ibex, Bharal or Blue sheep, Tibetan wolf, Red fox, Himalayan weasel etc

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

5.2.1.4 Selection of Intervention areas, planning and treatment:-

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

One Potential intervention area/treatment plot 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. These selected plots, community and/patches are either open areas or are blank, which would be planted with multipurpose species varying from 200 per hectare.

5.2.1.5 Map of potential Sites Selected (FOREST)

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

5.2.1.7 Data and maps on grazing, fire, other risks
Livestock grazing

Livestock	HH	Average	Total
Cows	26	2	60
Yak	26	1	30
Goats/Sheep	26	3	48
Donkey/Mule	26	1	20

As many as 60 Desicows, 48 sheep/goats, 30 yak and 20 donkey/mule are reported in this village. The local rightholders had been allowed to graze their cattle, sheep and goats in the past as per their rights recorded in the Settlement Report. Grazing cause problems to wildlife such as: Competition for food. Disturbance. Transmission of diseases dogs attack on small animals

Increase in the quantity of unpalatable grasses and weeds.

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

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

Wildfires

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

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

Prescriptions:

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

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

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

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

5.2.1.9 Data and map on intervention Areas/Treatment plots

Cost norms applied for calculation are as per Forest Department approved norms. Plants, pit sizes are accordingly to models prescribed and approved by Forest Department and Project guidelines. The forests have been visited by team again and again and as per the site conditions treatment plots have been prescribed. The soil conservation, soil erosion maintenance and soil regeneration works are applicable in this Sub Committee area. Fencing part has been critically analysed keeping

in view of local conditions as well as biotic pressure and accordingly prescribed. Total 10 Ha community lands have been identified in a JICA map but as per norms of DFO Kazit will be restricted to 7 Ha.

Table 2: Plot wise details of Sub-Committee

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

Criteria	Availability & Access in the Past	Current Availability & Access
Major species available	<i>Trigonella emodi</i> , <i>Cicerarietinum</i> , <i>Festucarubra</i> , <i>Geranium</i> , <i>Cousiniathomsonii</i>	<i>Aconogonum</i> , <i>Trigonella emodi</i> , <i>Cicerarietinum</i> , <i>Festucarubra</i> ,
Major available NTFPs	<i>Aconitum</i> , <i>Arnebiaeuchroma</i> , <i>Codonopsis clematidea</i> , <i>Gentiana</i> , <i>Pedicularis</i> , <i>Dactylorhiza hatagirea</i>	<i>Arnebiaeuchroma</i> , <i>Hippophae tibetana</i> , <i>Dactylorhiza hatagirea</i>
Fodder availability	<i>Trigonella emodi</i> , <i>Cicerarietinum</i> , <i>Festucarubra</i> , <i>Geranium</i>	<i>Trigonella emodi</i> , <i>Cicerarietinum</i> , <i>Festucarubra</i> , <i>Geranium</i>
Fuel wood availability	<i>Astragalus candolleanus</i> , <i>Krascheninnikovia Ceratoides</i> , <i>Ephedra gerardiana</i> , <i>Caragana brevifolia</i> , <i>Loniceraspinosa</i> , <i>Salix</i> , <i>Hippophae Tibetana</i>	<i>Loniceraspinosa</i> , <i>Salix</i> , <i>Hippophae tibetana</i> , <i>Caragana brevifolia</i> ,
Timber availability	<i>Caragana brevifolia</i> , <i>Loniceraspinosa</i> , <i>Salix</i> , <i>Hippophae Tibetana</i>	<i>Caragana brevifolia</i> , <i>Loniceraspinosa</i> , <i>Salix</i> , <i>Hippophae tibetana</i>
Access to open grazing	Easy access	Only sheep & Goat
Access to fuel wood	Easy access forests land being Nearer	Have to move far off

Access to fodder	Easy access forestland being nearer,	Have to move far off, some fodder species have been grown on agriculture fields/bunds/slopes
Access to timber	Easy access forestland being Nearer	There is no tree forest, resulted they depend upon shrub wood species

Access to NTFP	Easy access	Forestland being nearer, but only some people or amchi (local vaid) collect for their personal uses. no commercialization of NTFP
----------------	-------------	---

5.2.2 Households Depending on Forest (as per PRA exercises)

Category	% HHs depending on forest				
	NTFP	Fuelwood	Fodder	Grass	Other
Primary forest users	80%	100%	70%	50%	-
Secondary forest users	80%	15%	15%	10%	-

Primary forest users for fuel wood are 100%, for fodder 70% and for grass collection 50%. Secondary forest users are 80% and for fuel wood it is 15%. People from adjoining villages also visit these forests.

5.2.4 Forest resources of these selected areas (as per PRA exercises)

S. No	Species (local name)	Main uses	Relative Availability (%)	Perceived value of plant (scale of 1-10, 1 being lowest)	
				Men	Women
1	<i>Trigonella Emodi</i>	Fodder	8	6	8
2	<i>Cicer arietinum</i>	Fodder	6	6	6
3	<i>Festuca rubra</i>	Fodder	3	5	7
5	<i>Arnebia</i>	Medicinal	50	10	10

	<i>euchroma</i>				
6	<i>Gentiana</i>	Medicinal	9	9	9
7	<i>Caragana brevifolia</i>	Fuel,Construction	27	10	10
8	<i>Lonicera spinosa</i>	Fuel,Construction	37	10	10
9	<i>Salix</i>	Fuel,Construction	18	10	10
10	<i>Hippophae tibetana</i>	Fuel, Construction Medicinal	11	8	8

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

5.2.5 Biodiversity

Major Habitat	Initiative Taken
Snow Leopard	Developing snow leopard & prey species monitoring protocols <ul style="list-style-type: none"> • Understanding and managing people-wildlife conflicts • Developing models for maintaining socially fenced areas for conservation • Awareness programmes directed at school children, teachers and youth

	<ul style="list-style-type: none"> • Helping in conservation planning and implementation
Bharal	Pasture Development, Banon Hunting, Improvement of wildlife habitat by constructing water pond, water harvesting structure, repair of path bunkers, salt lick etc
Ibex	Pasture Development, Banon Hunting, Improvement of wildlife habitat by constructing water pond, water harvesting structure, repair of path bunkers, salt lick etc.
Blue sheep	Pasture Development, Banon Hunting

Habitat Management:

Habitat management is one of the most important activities of wildlife management. More ideal the habitat is, better it is in terms of availability of food, cover and water to wild animals. It is imperative to analyse the resources that are available in the habitat as this is the main factor which ultimately controls the wild life. Type of habitats available in the sanctuary needs to be thoroughly studied. As this will ensure the future management and all management practices shall be guided by the type of habitat and available resources.

Objectives:-

- To study the habitat with respect to availability of resources and constraints. To assess the suitability of habitat for various kind of wildlife.
- To carry out various activities for habitat enrichment with minimum disturbance.

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

Management Prescriptions:-

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

Improvement of Pastures:

Under pasture improvement not only the quality of bushes is to be improved but in vast extensive thaches/ pastures, planting of bushes like cragana, Goylson, salix sebuckthorn, Ribes sp, Rosa babiyna, Junipis carpus and other species needs to be carried out. This along with increasing variety of forage shall also provide shelter to wild life. The local nutritious grasses need to be encouraged. Every year 7 hectare of area should be tackled under this scheme.

Maintenance of water sources:

The ward is deficient in water. To improve the water availability in the sanctuary, it is necessary to construct some water harvesting structures. These structures should be spread over the entire area. Every year five-six earthen water ponds will be constructed in the sanctuary. The site of proposed water ponds should be identified carefully after visiting/inspecting the area by DFO/ACF with clear objectives. The design will be according to the site available on the spot. The cost of each structure will be as per the estimate and shall vary from site to site.

Protection and maintenance of Physical Features:

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

Understanding and managing people-wildlife conflicts

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

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

5.2.6 NTFP Collection (as per PRA exercises)

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

3	Gentiana sp. (9%)								Availabilityreducing
4	Dactylorhizas p.orsalaam panja(5%)								AbundanceReducing
5	Pedicularis(4 %)								AbundanceReducing
6	Leontopodiu m (6%)								

- NoCollectionofNTFPby primaryusers.
- RattanJotJangli Pyaz usedfor self-consumptiononly.

5.2.7 Fuels Collection/Consumption(as per PRA exercises)

S. No	Type of fuel used	No of HHs involved	Unit	Average HH Consumption /Year	Annual Consumption /year	Sources	Cost involved, if any	Major Problems
1	LPG	26	No.	6	96	Govt.	1100.00/per cylinder	Carriage of kaza to Shego/Lara
2	Fuel wood	26	Cubic Kg.	08qntl	208qntl	Forest depo.	605/-per 1000kg	Carriage of kaza to Shego/lara
3	Kerosene	26	Litre	20 Litre	520litre	Govt.	80per litter	Carriage of kaza to Shego/lara

5.2.8 Fuels/Fuelwood Deficiency(as per PRA exercises)

Fuels deficiency	% HHs with fuels deficiency	Duration (Months)	Coping strategies
Low	--	---	--
Medium	---	--	---

High	26	Nov-March	Depend upon Forest corporation for fuel wood. Planting of Fodder plants in forest & Own Land, if Possible.
------	----	-----------	--

- LPG is partially used for cooking only in 26 HHs. Further Forest Department provides fuel wood at subsidized rates (Rs. 605/- per quintal) to all households up to maximum 1000 kg per household. Apart from it villagers collect woody plants fuel wood of different plant species i.e. Carganasp, Lonicerasp. Salix sp. Constitute over half of the collections from the pastures for fuel wood. Apart from wood, people also collect considerable quantities of cattle, yak and equid dung for fuel.
- During summer, rainy and autumn season fuel wood consumption is less compared to winter. Before winter fuel wood is stored by each household for use during winter.

5.2.9 Fodder Collection/Consumption (as per PRA exercises)

S. No	Type of fodder used	No of HHs involved	Unit	Average HH Consumption/Year	Annual Consumption/year	Sources	Cost involved, if any	Major Problems
1	Green Fodder, Green Grass, Dry Grass from pastureland	26	Kg.	8 qntl	18 quintal	Forest, Pvt. Land	No	Fodder brought from far off forests Quality fodder not available Reducing land holdings due to family division Less veterinary facilities
				/800kg		Forest, Pvt. Land	No	
						Forest, Pvt. Land	No	
2	Agricultural residues from Agricultural field		Kg.	10 quintal /1000kg		Pvt. Land	No	

5.2.10 Fodder Deficiency (as per PRA exercises)

Fodder deficiency	% HH with fodder deficiency	Duration (Months)	Coping strategies
Low			
Medium	16	Oct-March	Fodder (tuddi) purchased from market at the rate Rs. 600 per 50kg from Kazamarket. Planting of Fodder plants in forest & Own Land,
High	-	-	-

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

After September sheep and Yaks are sent to open pastures for free grazing till the snow occurs. In winters they take their domestic cattle back to the houses. Average animal holding is 10 animals (7 cows, 1 donkey, 1 yak/goat/sheep). Fodder species used are mainly agricultural residues such as barley, peas are given as fodder.

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

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

5.2.11 Timber Collection/Consumption (asper PRA exercises)

S. No	Type of Timber use	No of HH demand /year	Unit	Average HH consumption /Year	Annual Consumption /year	Current source of collection/purchase	Cost involved, if any	Major Problems
1	Agricultural equipment, House construction/repair, Furniture	15-12	KG/quintal	700kg /7 quintal	700kg	Timber distribution, purchase from imported wood depots, sale depots		There is no forest they have to pay carriage for fuel wood they purchase from depot.

5.2.12 Timber Deficiency (as per PRA exercises)

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

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

5.2.13 Forest Management Practice (As Per PRA Exercise)

Key activities	Traditional practices	Current practices
Nursery development	Natural regeneration was assisted by protecting trees.	Nonursery raising practice of forestry spp.
Plantation Management	Naturally growing spp. are protected Singling if saplings growing naturally Shrub removal	Naturally growing spp. are protected. Singling if seedlings Shrub removal

	Plants grown in sacred places	Plants grown in sacred places
Forest protection	Some forests protected in sacred places, plant best seedlings in these forests. People were directly linked with forests for fuelwood, fodder, timber.	Some forests protected in sacred places, plant best seedlings in these forests. Introduction of chili, monoculture spp.
Development activities	Gram Sudhar Sabha Monastery committee actively participate	Gram Sudhar Sabha Monastery committee actively participate.
Livelihood activities	NA	NA
Illegal Activities	Encroachment	Reduced due to FD actions. Action taken against defaulters

Sub-Committee will be involved in Forestry plantations, soil conservation works, maintenance, and fire protection works. Training for maintaining accounts and records would be given by project.

5.2.14 Forest Protection Practices (As Per PRAP Practice)

Forest disturbances	Traditional practices	Current practices
Forest fire	No forest fire	Villagers protect forest from any type of problems
Landslide	No land slide	

Flood	Very rare because of very low rain and small river	Boundries are made by govt near river
Hunting	Hunting/poaching was prevalent prior to WLPA 1972	Completely banned/controlled
Illegal activities	Hunting	No such activity noticed
Bio-diversity conservation	Ext to a few amchi or local medicine practitioner families in each village. This practice is decline in this area with the advent of modern medicine.	However the extraction from some area continues these day , much of which appears to be commercial for serving outside markets. Arnbia or rattan joti is the most important collection (50%) followed by codonopi ssp. (18%) Gentiana sp. (9%) and Dactylorhiza sp. Or salaam panja (5%). Outsider People extract medicinal plants at early stage, resulting into extinction of many plant due to lack of knowledge.

- Sub-Committee will participate in dry stone check dam construction, brushwood check dams and bio engineering works.
- Take part in NTFP conservation works.

5.3 WaterResourcesDetail

Water resources	No.	Availability of water (Months)	Different uses	Current status	Maintained by whom	Problems	Opportunities
Spitiriver	01	12	Drinking Water	Water Available	By Villagers	Open Source	River can be channelized so there will be no risk for villagers
Glacier water	01	04	irrigation	Not available	Villagers & IPH Deptt.	Roof of water tank needs	Water can be stored in big tanks for irrigation and other uses i.e bathrooms

Water availability from Spiti

River is present only in summers. The natural sources are maximum open sources. After new construction and maintenance of these sources, these will be maintained for Villagers, Livestock and Wildlife also.

5.4 Agriculture Resources

5.4.1 Cultivable Land Use Pattern

	Cultivable land	Irrigated land	Rainfed land	Cultivable wasteland	Total
Area(ha)	450ha	130ha	0	130ha	710ha
% Area(ha)	63.38%	18.30%	0%	18.30%	100%

As per these secondary records an area of 450 ha. is under cultivation. There is no irrigated land in the ward. Therefore, whole cultivable land is under rainfed & cultivable wasteland.

5.4.2 Land Holding Pattern

Category	Number of HHs	% HHs
Landless HHs	-	-
Absentee farmer	-	-
Small & Marginal farmers (1-5 bigha)	12	75
Medium/ large Farmer (6- 15 Bigha)	4	25

No landless

75% of the farmers belong to small & marginal category 25% of farmers are medium farmers. There are no Landless and absentee farmers.

5.4.3 Cropping Pattern

Major Crops	No Of Farmers engaged	Irrigated/Rainfed	Unit of Yield	Average Crop Yield	District/State average Yield	% Deficit Yield	Reasons, if low Yield	Perceived Solutions to improve crop yield
Barley	26	Rainfed	Qtl/hac	14.45	16.72 qtl/ha	2.75	Lack of irrigation Nouse of HY Less use of FYM Poor crop management	Provision of irrigation Provide good quality seeds Soil Testing Nutrient addition accordingly
Green Peas	26	Rainfed	Qtl/hac	65	76.6 qtl/ha	11.6	Unbalanced use of fertilisers Shortage of labour Low use of FYM Powdery mildew disease High seed rate Low germination	Same as above

Potato	26	Rainfed	Qtl/hac	75	86.88 qtl/ha	11.88	Unbalanceduseof	High yieldingvarities
--------	----	---------	---------	----	--------------	-------	-----------------	-----------------------

							fertilizers Untimely application of inputsLack of plantprotec tionmeasuresDifere nces infertilityof soil LowuseofFYM Local seed	
--	--	--	--	--	--	--	---	--

- 26HHsinthe Sub-Committeeareinvolvedin Cashcropscultivation(Barley, pea,potato,).
- Allcropsgrownunderrainfedconditions.
- Averageyieldofcrops isasper primarystakeholder'sinformation.
- Stateaverageyieldofcropsisasper secondarysource(CSKKVPalampur)website.
- Theaverageyieldofcropsgrownislesscomparedtothedistrictaveragebecausethecultivationpracticesaretotallydependentonrains.
- Villagelevel averageproduction isas pervillagers viewpoint.

5.4.4 Challenges of Cultivable Land

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

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

5.5 Livestock

Resource 5.5.1 Livestock Holding Pattern

gPattern

Type	Number of HHs involved	Average HH holding	No. of animals	Problems	Opportunities
Cows	26	3	60	The lack of cultivated fodder, use of low efficiency tools and harsh cold winter make the tasks even more difficult. Less milk production Lack of scientific	Potential area available for fodder plantation Awareness camps by vet. Department Exposure visit to successful areas.
yak	26	1	30		
Goats/Sheep	26	3	48		
Donkey	26	1	20		
/Mule					

				knowledge	of	
--	--	--	--	-----------	----	--

				animal rearing	
Total	26	8	158	-	-

5.5.2 Production of Main Livestock

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

6 Livelihood Strategies

6.1 Existing Livelihood Strategies

Source of livelihood	Number of HH dependent as		Major constraints/challenges
	Primary source	Secondary source	
Agriculture	26	0	<p>Problem of erosion due to serious Topographical and climatic factors and all abiotic Pressure</p> <p>Maximum area is rain fed; therefore the adoption rate of improved technologies and inputs by the farmers is less as compared to irrigated land.</p> <p>Small and scattered Land Holding of farmers</p> <p>Occurrence of natural calamities like drought, Cloudbursts, hail storm, heavy snowfall, storms, unusual rise in temperature are quite frequent causing losses to crops.</p> <p>Squeezing of agriculture Lands because of ancestral property division. Low risk bearing capacity and poor purchasing power of the farmers. Low productivity of crops.</p> <p>Increasing Population of stray animals and wild animals.</p>
Forestry	26		<p>No forest Open razing</p>

			Big pressure on pasture land, new seedling for fodder and fuelwood
--	--	--	--

			Encroachment
Livestock/Animal Husbandry	26	0	Shortage of feeds and Fodder during dry season.Traditionalmethodoffeeding. Scatteredandlowlandholding. Pooranimalproductivityi.e.lowmilkProduction,largenumberofnon-descripttype animal,lackof breeding bull, Poorextensionservice . Wildlifeattacks. Lackofinterest ofnewgeneration
Wagelabour	26		Work is noteasily available
Service/Job		2	ShortageofJobs,lackof quality educationor skilled
Carpenters	2	-	Its wage work dependsuponpeoplerequirement.

6. 2Livelihoods-ActivityCalendar

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

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

6.3 Food Deficiency (related to nutrition)

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

As such there is no food deficiency.

6.4 Income Deficiency

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

Over all there are no income deficiencies. Drudgery load is high; man and women are busy in working in Agriculture, Animal husbandry in summer season whereas in winter season they are involved in handloom, handicraft practices for sustenance livelihood.

6.5 Potential Livelihood Strategies

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

7. Institutional Analysis

7.1 Existing Community Based Organization

CBOs	Age of CBO (Year)	Formal/ Informal	Registered (Yes/No)	Objectives	Membership	Key activities	Credibility of CBO	External linkages	Useful for the project
Sub-Committee BMC	12/10/2020	Formal	Yes	Project/Forest Objective		Participation in JICA Project	Newly Formed	Yet to be established	Yes
Mahila Mandal/SHG	NA	Informal	No	Only collects Monthly Contribution	-	Desired to do upliftment works for female group	-	No	Yes
Kisham Mnadal	NA								
Yuvak Mandal	NA								

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

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

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

Micro Plan (BMCSUB-Committee Shego/lara)

Beat Shego Range WLS Pit

Wild Life Division, Spiti

		ement	
--	--	-------	--

8. Problem Analysis and

Solutions 8.1 Analysed Problems and Scientific Solutions

S. No	Problems identified	Justification of problems identified	Root cause analysis	Recommended solutions
1	High community pressure nearby forestland	100% of the HHs depend upon forestland for fuelwood and 75% for fodder. Timber is a basic need of all Households.	Depleting supply of fodder and fuelwood from the forestland.	Planting fodder & grass species Planting fuelwood trees Planting timber species
2	Increasing soil erosion & moisture loss	Soil erosion is along contour line Soil Erosion is of medium grade	Medium level soil erosion due to glaciers	Contour trenching Dry Stone check dam Masonry check dams Check walls
3	Lack of irrigation coverage	100% percent cultivable land but scarcity of water	Water resources include glacial water used for drinking, domestic and wildlife use	Construction of water harvesting structures at Shilapeak
4	Low crop yield	Average yield of Pea and vegetables is less	Poor soil fertility Lack of information on crop production technology	Organizing farmers' camps IPM, INM at BMCS sub-committee level Linkages for increased information, knowledge & technology

6	Low income	Around 49% (19 HH) of fall in poor BPL category	All HHs are small & marginal farmers Low income from	Promoting entrepreneurship skill development Promoting income
---	------------	---	---	--

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

Community Development Need & Priorities

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

8.2 Perceived Problems and Solutions

S N o	Key Stakeholders	Key problems identified by stakeholders	No of HHs and/or areas affected	Critical causes of the problems	Perceived solutions	Prioritization of problems
1	Women	Mahila Mandal, fuel and fodder availability at far off places, lack of Income	26	Lack of Awareness	Formation of MM Capacity building programme	Formation of MM and its registration, IGA activities, Handloom, cash

		Generation activities (IGA).			s, planting fuel, fodder species if possible.	Crop promotion Planting fuel, fodder, timber spp., If possible.
2	Wage-labour	Lack of wage throughout the year	26	Less land holdings Lack of training	May begin work in project activities training for IGA with tools	Wage in plantation work, Training in rop weaving etc. carpentry, with tools provision.
3	Farmer	1. Rain fed agriculture 2. Lack of awareness of agricultural schemes	26	1 Lack of irrigation facility and less land holdings 2 Agriculture staff less visit	Glacier water harvesting, awareness camps by Agriculture deptt.	1. Excess using water harvesting by constructing water harvesting structure 2. Awareness camps on Integrated nutrient management, Integrated pest management and Agriculture deptt. Scheme etc.

8.3 Implementation Activities/Interventions

Important issues	Priority Rank	Specific activities as per the agreed solutions	Benefitting HHs
Participatory forest management			
Fuelwood and fodder collection from far off areas.	1	<i>Rosamacrophylla</i> (wildrose), species of <i>Hippophae</i> , <i>Myricaria</i> , <i>Salix flabellaris</i> , <i>S. hastate</i> , <i>S. lindeleyana</i> , <i>Juniperus recurva</i> , <i>Ribes orientale</i> , <i>R. alpestre</i> , <i>Lonicera spinosa</i> (<i>Thapp</i>), <i>L. obovata</i> , <i>L. rupicola</i> , <i>Capparis spinosa</i> , <i>Caragana brevifolia</i> (<i>Trama</i>). <i>Rhododendron lepidotum</i> , <i>Colutea nepalensis</i> , <i>Ephedra Gerardiana</i> , <i>Clematis vernayii</i> , <i>Cotoneaster microphylla</i> etc. The scrub and spinycushions are formed by the species of <i>Caragana</i> , <i>Astragalus</i> , <i>Artemisia</i> , <i>Cousinia</i> , <i>Saussurea</i> , <i>Lonicera</i> and <i>Arnebia</i> . Herbaceous element is dominated by the species of <i>Astragalus</i> , <i>Chesneya</i> , <i>Oxtropis</i> , <i>Cicer</i> , <i>Lindelophia</i> , <i>Allium</i> , <i>Rumex</i> , <i>Nepeta</i> , <i>Heracleum</i> , <i>Chenopodium</i> , <i>Artemisia</i> , <i>Lactuca</i> , <i>Gentiana</i> , <i>Gentianella</i> , <i>Hyssopus</i> , <i>Pedicularis</i> , <i>Rheum</i> , <i>Aquilaria</i> , <i>Caltha</i> , <i>Taraxacum</i> , <i>Plantagos</i> , <i>Aconitum</i> , <i>Thymus</i> , <i>Delphinium</i> , <i>Lepidium</i> , <i>Crepis</i> , <i>Mentha</i> , <i>Geranium</i> , <i>Bergenia</i> , <i>Senecio</i> and <i>Mertensia</i>	Whole community
Less fodder, fuel trees in village nearby private area.	1	<i>Willows</i> , <i>Poplars</i> , <i>Chharma</i> , <i>Bhojpatra</i> , <i>Trama</i> , <i>Thapp</i> , <i>Sia</i> (<i>Wild rose</i>) <i>Umboo</i> (<i>Myricaria</i>), <i>Junipers</i> , <i>Ribes</i> etc.	Whole community
Soil & water conservation			

Soil erosion and landslides near Contour line	5	Check walls, Check dams Gabion wire structures Bioengineering works.	Whole community
Water pond construction, Bouri repair	2	Renovation of existing water bodies, Construction of pond, WHS etc.	Whole community
Community Development			
Mahila Mandal Bhawan	6	Construction of Mahila Mandal Bhawan	Whole community
Livelihood improvement			
Lack of IGA (Income generation activities) for women and other young generation at sub-committee level	3	As individual activities Cutting and Tailoring training needed. As Group activity Handloom/Ropeweaving, and herb straining needed.	16 beneficiaries
Miscellaneous activities for convergence			
Foot path construction to hamlets	7	Better accessibility to communities.	Whole community
Fuelwood, Fodder Plants and Medicinal plants	1	Will supplement in day to day local requirements.	Whole community
Farming Camp	4	Will educate villagers in latest scientific knowledge and exchange ideas.	Whole community
Foot path construction to hamlets	7	Better accessibility to communities.	Whole community

8.4 SWOT Analysis Sub-committee

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

8.5 Setting the objectives for Development for the project duration

ObjectivesforForestryDevelopment

- Protectionandconservationofforest Land
- Propagationforestshrubspecies
- Enhancedvegetativegrowth
- Enhancedforestcover
- Overallwatersheddevelopmentbyintroductionofmoistureretention works, soilprotectionworks

Objectivesforvillage/communityDevelopment

- Sustainablelivelihood
- Reductionofpressureonforest resources
- Asset generation
- Convergence of various departments for overall development of the area
- Womenempowerment

9.

Community Based Biodiversity Management Plan

9.0 What is Biodiversity?

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

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

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

9.1 What is Community Based Biodiversity Management (CBM)?

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

Documenting spatial patterns in biodiversity is difficult because taxonomic, functional, trophic, genetic, and other dimensions of biodiversity have been relatively poorly quantified.

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

9.2 Community based Biodiversity Management Plan (CBMP)

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

Thus communitybasedbiodiversitymanagementplan hastwofacets asmentionedbelow:

- Communitybasedbiodiversity monitoring
- Communitybasedbiodiversitymanagementplanning

9.2.1 CommunitybasedBiodiversityMonitoring

Qualitative biodiversity monitoring:

Communitybasedbiodiversitymonitoringcanbeundertakenthroughbothqualitativeandquantitative approaches. Qualitative monitoring simply depicts the community perceptions on theavailability of resources and its use over a said time period. It is cost-effective and should be usedforsubstantiatingmore affirmativeapproachesof biodiversitymonitoring.

So far, under the PIHPFEM&L project intervening geographies, Himachal Pradesh State BiodiversityBoard has undertaken the application of Peoples Biodiversity Register Exercises in selected 120GramPanchayats¹.The People'sBiodiversityRegister (PBR)isadesignedtoolfortheformalmaintenanceofthelocalknowledgewithpropervalidation.PBRisarec ordofknowledge,perception and attitude of people about natural resources, plants and animals, their utilization andconservation in a village or a Panchayat. PBR is also proposed as a mechanism to create awarenessamong the people about the condition of plants and animals and their conservation and sustainableutilization. This mechanism can bring the people to participate in development planning whichwouldbeecologically sustainable andsocially justifiable.

People'sBiodiversityRegisterisatoolforcollectinganddocumentingbiodiversitydata.Localcommunities need to be encouraged and trained to be the principal participants in this process.Whencommunitiesmaintaintheirregisters,itwillfostergreaterconservationofthisnatural

¹ PreparatorySurveyonHimachalPradeshForestEcosystemsManagementandLivelihoodProjectinIndia,DraftFinalReport,February,2018.

resource base. Despite the provisions within the Biological Diversity Act, 2002, which grants due right to communities, it has not been fully translated into practice.

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

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

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

Quantitative biodiversity monitoring: Participatory Forest Monitoring

Participatory forest monitoring (PFM) is an ongoing process where local forest users systematically record information about their forest, reflect on it and take management action in response

to what they learn. Participatory Forest Monitoring (PFM) for community based Forest Management

supports the Village Forest Development Committees (VFDCs) in Himachal Pradesh for planning and managing their forests. The PFM was planned to develop participatory monitoring of forest resources at local community level which envisages involving local institutions (VFDCs) and other stakeholder groups such as HPFD² staffs, Project staffs³, NGO⁴s if any, youth clubs, Eco Clubs etc in identification of resources, planning for utilization and regeneration of resources, and adaptive management of forests. The basic objectives of PFM is to develop people centric monitoring system, in which local people should have better understanding of resources around, followed by assessing the status and planning for sustainable use of them.

Process of Participatory Forest Monitoring:

Preparation of Resource Map:

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

Sampling of forest vegetation:

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

² Himachal Pradesh Forest Department

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

⁴ Non Government Organisations

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

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

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

Qualitative data

Based on the PBR information following status on flora and fauna could be traced. These statuses of flora and fauna are mentioned in following table—9.2.2 below:

Table–9.2.2: Issues identified based on Peoples Biodiversity Register⁵

Sl No	Major item	Sub-items	Name of the item with scientific names	Issues
	Agro-biodiversity	Agriculture (Crop diversity)	Barley	Present
			Pea	Present
			Potato	Present
			Brassica oleraces var. botrytis	Present
			Cucurbita	Present
	Wild biodiversity	Trees, shrubs, herbs, climbers, tubers, grasses etc		
			<i>Abelia triflora</i>	Present
			<i>Lonicera angustifolia</i>	Present
			<i>Andrachne cordifolia</i>	Present
			<i>Lonicera asperifolia</i>	Present
			<i>Astragalus candollianus</i>	Present
			<i>Lonicera bracteata</i>	Present
			<i>Astragalus rhizanthus</i>	Present
			<i>Lonicera discolor</i> <i>Berberis aristata</i>	Present

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

			<i>Loniceragovaniiana</i>	Present
			<i>Berberisceratophylla</i>	Present
			<i>Loniceraheterophylla</i>	Present
			<i>Berberis chitria</i>	Present
			<i>Lonicerahispida</i>	Present
			<i>Berberis concinna</i>	Present
			<i>Lonicerahypoleuca</i>	Present
			<i>Berberis jaeschkeana</i>	Present
			<i>Lonicera myrtillus</i>	Present
			<i>Berberiskunawurensis</i>	Present
			<i>Loniceraobovata</i>	Present
			<i>Berberis lycium</i>	Present
			<i>Liniceraparvifolia</i>	Present
			<i>Berberispachyacantha</i>	Present
			<i>Lonicieraquinquelocularis</i>	Present
			<i>Berberispetiolaris</i>	Present
			<i>Lonicieraspinosa</i>	Present
			<i>Berberisumbellata</i>	Present
			<i>Lonicierawebbiana</i>	Present
			<i>Bosiaamherstiana</i>	Present
			<i>Myricariaelegana</i>	Present
			<i>Buddleiapaniculata</i>	Present
			<i>Myricariagermanica</i>	Present
			<i>Capparishimalyensis</i>	Present
			<i>Myrsineafricana</i>	Present
			<i>Capparisspinosa</i>	Present
			<i>Osbeckiastellata</i>	Present
			<i>Caraganabrevispina</i>	Present
			<i>Periplocacalophylla</i>	Present

			<i>Caraganagerardiana</i>	Present
			<i>Plectranthusrugosus</i>	Present
			<i>Caraganaversicolor</i>	Present
			<i>Potentillafruticosa</i>	Present
				Present
			<i>Colutea multiflora</i>	Present
			<i>Prinsepiautilus</i>	Present
			<i>Coluteanepalensis</i>	Present
			<i>Prunusjacquemontii</i>	Present
			<i>Cotneasteracuminata</i>	Present
			<i>Rhamnuaprostrata</i>	Present
			<i>Cotneaster rosea</i>	Present
			<i>Rhamnuspurpurens</i>	Present
			<i>Cotneasterthamsoni</i>	Present
			<i>Rhamnustriqueter</i>	Present
			<i>Cotoneasterbacillaris</i>	Present
			<i>Rhamnusvirgatus</i>	Present
			<i>Cotoneasterduthieanus</i>	Present
			<i>Rhododendronanthopogon</i>	Present
			<i>Cotoneasterfalconeri</i>	Present
			<i>Rhododendron campanulatum</i>	Present
			<i>Cotoneastergilgitensis</i>	Present
			<i>Rhododendronlepidotum</i>	Present
			<i>Cotoneastermicrophylla</i>	Present
			<i>Rhuscotinus</i>	Present
			<i>Cotoneasternummularia</i>	Present
			<i>Rhuspunjabensis</i>	Present
			<i>Cotoneasterobovatus</i>	Present

			<i>Ribesglaciale</i>	Present
			<i>otoneasterobtusus</i>	Present
			<i>Ribesgrassularia</i>	Present
			<i>Cotoneasterpruinosis</i>	Present
			<i>Ribesnigrum</i>	Present
			<i>Crataegussonarica</i>	Present
			<i>Ribesorientale</i>	Present
			<i>Daphnemucronata</i>	Present
			<i>Ribes ribrum</i>	Present
			<i>Desmodiumconcinum</i>	Present
			<i>Rosabrunonii</i>	Present
			<i>Desmodiumfloribundum</i>	Present
			<i>Rosaeglanteria</i>	Present
			<i>Desmodiumnatans</i>	Present
			<i>Rosamacrophlla</i>	Present
			<i>Desmodiumoxphyllum</i>	Present
			<i>Rosaminor</i>	Present
			<i>Desmodiumpodocarpum</i>	Present
			<i>Rosawebbiana</i>	Present
			<i>Desmodiumpseudo- triquestrum</i>	Present
			<i>Rubusbiflorus</i>	Present
			<i>Desmodium tilaefolium</i>	Present
			<i>Rubusbiflorus</i>	Present
			<i>Deutziaacorymbosa</i>	Present
			<i>Rubusellipticus</i>	Present
			<i>Deutziaaminea</i>	Present
			<i>Rubuslasiocarpus</i>	Present
			<i>Elaeagnusparfiflora</i>	Present

			<i>Rubuspurpureus</i>	Present
			<i>Elaeagnusumbellata</i>	Present
			<i>Sabiacampanula</i>	Present
			<i>Elsholziapolystachya</i>	Present
			<i>Salixhastata</i>	Present
			<i>Ephedragerdiana</i>	Present
			<i>Salixlindleyana</i>	Present
			<i>Euonymusechinatus</i>	Present
			<i>Salixoxycarpa</i>	Present
			<i>Euonymusfimbriatus</i>	Present
			<i>Salixpycnostachya</i>	Present
			<i>Euonymusmonbeigii</i>	Present
			<i>Skimmialaureola</i>	Present
			<i>Euonymustingens</i>	Present
			<i>Sorbariatomentosa</i>	Present
			<i>Ficus foveolata</i>	Present
			<i>Sorbusaccupania</i>	Present
			<i>Gaultheriatrichophylla</i>	Present
			<i>Sorbuslanata</i>	Present
			<i>Hamiltoniasuaveolens</i>	Present
			<i>Sorbusursina</i>	Present
			<i>Hippophaerhamnoides</i>	Present
			<i>Spireacanescons</i>	Present
			<i>Hippopaesalicifolia</i>	Present
			<i>Spireasorbifolia</i>	Present
			<i>Hippopaetibetana</i>	Present
			<i>Staphyleaemodi</i>	Present
			<i>Hydroangea anomala</i>	Present
			<i>Strobilanthesalatus</i>	Present

			<i>Hypericumcernuum</i>	Present
			<i>Strobilanthes atropurpurens</i>	Present
			<i>Hypericumpatulum</i>	Present
			<i>Strobilanthesdalhousianus</i>	Present
			<i>Incarvilleaarguta</i>	Present
			<i>Strobilanthesglutinosus</i>	Present
			<i>Indigoferagerardiana</i>	Present
			<i>Strobilantheswallichii</i>	Present
			<i>Indigoferaheterantha</i>	Present
			<i>Symplocoscrataegoides</i>	Present
			<i>Inulacappa</i>	Present
			<i>Syringaemodi</i>	Present
			<i>Inulacuspadata</i>	Present
			<i>Tamaricariaelegans</i>	Present
			<i>Jasminumhumile</i>	Present
			<i>Verbascumtraipses</i>	Present
			<i>Jasminumofficinale</i>	Present
			<i>Viburnumcotinifolium</i>	Present
			<i>Juniperuspseudo-sabina</i>	Present
			<i>Viburnumnervosum</i>	Present
			<i>Juniperusrecurva</i>	Present
			<i>Viburnumstellulatum</i>	Present
			<i>.Leptodermislanceolata</i>	Present
			<i>Viscumalbum(Epiphyteon trees)</i>	Present
			<i>Lespedezaeriocarpa</i>	Present
			<i>Wickstromia canescens</i>	Present
			<i>Loniceraalpigen</i>	Present
	Medicinal	Medicinal		

		Plants	
		<i>Allium carolinianum</i>	Present
		<i>A. jaquemontii</i>	Present
		<i>Arnebia euchroma</i>	Present
		<i>Achillea millefolium</i>	Present
		<i>Artemisia brevifolia</i>	Present
		<i>Bergenia stracheyi</i>	Present
		<i>Betula jaquemontii</i>	Present
		<i>Carumcarvi</i>	Present
		<i>Corydalis govaniana</i>	Present
		<i>Dactylorrhiza hatagirea</i>	Present
		<i>Ephedra gerardiana</i>	Present
		<i>Gentiana Kurroo</i>	Present
		<i>Gentanella moorcroftiana</i>	Present
		<i>Colchicumluteum</i>	Present
		<i>Hyoscyamusniger</i>	Present
		<i>Heracleum condicans</i>	Present

			<i>Hyssopus officinalis</i>	Present
			<i>Juniperus communis</i>	Present
			<i>Juniperus macropoda</i>	Present
			<i>Malva rotundifolia</i>	Present
			<i>Onoma hipidum</i>	Present
			<i>Taraxacum officinale</i>	Present
	Wildanimals	Mammals, birds, reptiles, amphibian, insects, others)		
			<i>Ibex(Capraibex siberica)</i>	Present
			<i>Snow Leopard (Pantheraunica)</i>	Present
			<i>Himalayan Blue Sheep(Pseudois nahyaur)</i>	Present
			<i>Tibetan Wolf (Cannislapus)</i>	Present
			<i>Red Fox(Vulpus valpus)</i>	Present
			<i>Wooly Hare</i>	Present

			<i>HimalayanCh ough(Phyrho corax gracumus)</i>	Present
			<i>Brown beer</i>	Present
			<i>Himalayan marmot</i>	Present
			<i>Himalayan serow</i>	Present
	Birds		<i>Snow Pigeon (Columbia rupestris)</i>	Present
			<i>Snow cock (Tetrageallus himalyensis)</i>	Present
			<i>Vulture (Nephron persnopterus)</i>	Present
			<i>Ducks (Avthva ferina)</i>	Present
			<i>Murgabi (Anas crecca)</i>	Present

			<i>Himalayancrow (Corvus tibetana)</i>	Present
			<i>Picca(Ochotona rovlei)</i>	Present
			<i>Raven (Corvus corax)</i>	Present
			<i>Golden Eagle (Aquila chrysaetos)</i>	Present
			<i>Griffan (Gyps himalayansis)</i>	Present
			<i>Red Start</i>	Present

			<i>(Phoenicurus orchruros)</i>	
			<i>HoopeChakor(Alpalect oris chakor)</i>	Present
			<i>DoveHimal ayan Finches(Ca rduelis cardduelis)</i>	Present

9.2.3 Results on qualitative and quantitative data on Community based Biodiversity Monitoring within Shego/Lara BMC Sub-Committee zone

Qualitative data

Analysis of the PBR and corresponding above table reveals that there are 3 major Agriculture crop types namely Pea, Barley, and Potato, which need conservation attention. Other than it, 149 wild plants biodiversity including the Shrubs, herbs, climber, tuber, and grasses are recorded similarly, there are 10 species of wild animal and 157 species of birds are present within BMC Sub-Committee areas.

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

Quantitative data

- The patches are very less in species diversity.

- The density of trees of tree dominance is also very less and quite less than the usual prescribed density
- Trees are very sparsely distributed.
- Anthropogenic pressures on trees are almost absent. This could be a fact as a result of lesser interest of the community on the forest patches and better vigil of Himachal Pradesh Forest Department.
- The age-structure of the trees are very sporadic and it would ultimately loss of a standard population after some years due to inadequate regeneration through seedlings.
- The shrub and herb species are represented well due to open canopy.
- The canopy of the vegetation represents predominantly open category.
- Naturally species are deficient of successful establishments and hence need external support.

9.2.4 Planning on Community based Biodiversity Management within Shego/lara BMCSUB-Committee zone

Gap Plantation with reference to Participatory Vegetation Monitoring:

Plantation of degraded patches with appropriate multiple tree species:

- Plantation of multiple species is a need
- Afforestation/Enrichment plantation under different schemes need to be executed on priority basis. It would be advisable to plant at least 500 saplings / ha model with reference to different land related casualties.
- Plantation and maintenance of the planted species is absolutely essential since natural regeneration is inadequate.
- Shrub species within the tree spacing may be planted with economically important shrub species.

One Potential intervention area / treatment plot and soil conservation works have been identified during Micro planning exercises by technical staff (FGD and feedback from Block Officer and Range officer). The activities to be carried out stand discussed with villagers in detail during PRA

exercises. Theselected plantation plots /patches areeither openareas orare blank, which wouldbe planted with multipurpose trees varying from 200-500 trees per hectare. Being on the southernand southern eastern aspect species selection of plan table species, stock health, and pit size needsto be kept in mind. For soil conservation works estimate will be prepared by FTU and field staffbefore implementation.

BiodiversityManagementwithreferencetoPeoples’BiodiversityRegister(PBR):

The vulnerable species as identified under the PBR Exercises were discussed with the BMC Sub-Committee members and possible management strategies were explored. (Reference: ***SUB-STATESITEBIODIVERSITYSTRATEGYANDACTIONPLAN(LAHAUL&SPITIANDKINNAUR)TRIBALDEVELOPMENTDEPARTMENT,H.P.SECRETARIAT,SHIMLA-2&STATECOUNCILFORSCIENCETECHNOLOGYAND ENVIRONMENT,34SDACOMPLEX, KASUMPTI, SHIMLA-9***)

S. No.	Categories	Nameoftheitemwith scientificnames	Status as per PBR	Management prescribedby theBMC Sub-Committee members
	Agriculture (Cropdiversity)	Pea	Present	Provisioning ofseeds fromgovernme nt sources
		Barley	Present	Provisioning ofseeds fromgovernme nt sources
		Potato	Present	Provisioning ofseeds fromgovernme nt sources
	Horticulture	NA	NA	
	Medicinal Plants			
		<i>Alliumcarolinianu m/Laot, Jangli,Lahasum/ Konche,Pharna</i>	Past – MoreNow– Less	Protection offorest patchestrou ghcommunity participation

			Protection offorests from
--	--	--	---------------------------------

				forest fires Prohibition offorests fromgrazingp ressures
		<i>A. jaquemontii</i> / Khamet,Ratanjot	Past – MoreNow– Less	Protection offorest patchestrou ghcommunity participation Protection offorests fromforest fires Prohibition offorests fromgrazingp ressures
		<i>Arnebiaeuchroma</i> / Khamet, Ratanjot	Past – MoreNow– Less	Protection offorest patchestrou ghcommunity participation Protection offorests fromforest fires Prohibition offorests

				from
--	--	--	--	------

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

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

		<i>Ribesorientale</i>	Past – MoreNow– Less	Provisioning ofwater sourcesforits propagation
--	--	-----------------------	----------------------------	---

		<i>Coluteanepalensis</i>	Past – MoreNow– Less	Provisioning ofnurseries <i>In-situ</i> cultivation
		<i>Ephedragerardiana</i>	Past – MoreNow– Less	Provisioning ofnurseries <i>In-situ</i> cultivation
		<i>Cotoneastermicrophylla</i>	Past – MoreNow– Less	Provisioning ofnurseries <i>In-situ</i> cultivation Provisioning ofwater sourcesforitspr opagation
		<i>Caragana brevifolia(Trama).</i>	Past – MoreNow– Less	Provisioning ofnurseries <i>In-situ</i> cultivation Provisioning ofwater sourcesforitspr opagation
		<i>Caragana</i>	Past – MoreNow– Less	Provisioning ofnurseries <i>In-situ</i>

				cultivation Provisioning ofwater sourcesforitspr opagation
		<i>Astragalus,</i>	Past – MoreNow– Less	Provisioning ofnursery <i>In-situ</i> cultivation
		<i>Artemisia</i>	Past – MoreNow– Less	Provisioning ofnursery <i>In-situ</i> cultivation Provisioning ofwater sourcesforitspr opagation
		<i>Cousinia</i>	Past – MoreNow– Less	Provisioning ofnursery <i>In-situ</i> cultivation
		<i>Hyoscyamusniger</i>	Past – MoreNow– Less	Provisioning ofnursery <i>In-situ</i> cultivation Provisioning ofwater sources

				for its propagation
	Mammals, birds, reptiles, amphibian, insects, others)			
		<i>Ibex (Capra ibex iberica)</i>	Past – Plenty Now – Rare	Prevention of hunting Strong community participation in protection
		<i>Snow Leopard (Panthera uncia)</i>	Past – Plenty Now – Plenty	Prevention of hunting
		<i>Himalayan Blue Sheep (Pseudois nayaur)</i>	Past – Plenty Now – Plenty	Strong protection required in the wild
		<i>Tibetan Wolf (Canis lupus)</i>	Past – Plenty Now – Rare	Strong community participation in protection
		<i>Red Fox (Vulpes vulpes)</i>	Past – Plenty Now – Rare	Prevention of hunting
		<i>Woolly Hare</i>	Past – Plenty Now – Rare	Strong protection

				required in the wild
		<i>Himalayan Chough (Phyrhonorax gracumus)</i>	<i>Past – Plenty Now – Rare</i>	Strong community participation in protection
	Birds	<i>Snow Pigeon (Columbia rupestris)</i>	<i>Past – Plenty Now – Plenty</i>	Protection in the wild is required
		<i>Snow cock (Tetragalus himalyensis)</i>	<i>Past – Plenty Now – Plenty</i>	Protection in the wild is required
		<i>Vulture (Nephron persnopterus)</i>	<i>Past – Plenty</i>	Protection in the wild is required
		<i>Ducks (Avthva ferina)</i>	<i>Now – Rare</i>	Protection in the wild is required
		<i>Murgabi (Anas crecca)</i>	<i>Past – Plenty</i>	Protection in the wild is required
		<i>Himalayan crow (Corvustib eteana)</i>	<i>Past – Plenty Now – Plenty</i>	Protection in the wild is required
		<i>Picca (Ochotonarovlei)</i>	<i>Past – Plenty Now – Plenty</i>	Protection in the wild is required
		<i>Raven (Corvus corax)</i>	<i>Past – Plenty Now – Plenty</i>	Protection in the wild is required

				required
		<i>Golden Eagle</i> (<i>Aquila chrysaetos</i>)	Past– Plenty	Protection in the wild is required
		<i>Griffan</i> (<i>Gyps himalayensis</i>)	Now– Rare	Protection in the wild is required
		<i>Red Start</i> (<i>Phoenicurus orchrurus</i>)	Past– Plenty	Protection in the wild is required
		<i>Chakor</i> (<i>Alpalectoris chakor</i>)	Past– Plenty	Protection in the wild is required
		<i>Himalayan Finches</i> (<i>Carduelis carduelis</i>)	Past– Plenty	Protection in the wild is required

Management strategies matrix:

Gap plantation through AR/A NR (data collected through participatory forest monitoring)	Flora management with reference to PBR	Faunal management with reference to PBR
Plantation of degraded land through AR/ANR <i>Minimum:</i> TB Plantation @ 500 plants/ha ANR Planting @ 200 Plants/ha	<i>Agriculture:</i> Supply of agriculture seeds by Government of Himachal Pradesh on: <ul style="list-style-type: none"> Barley (<i>Hordeum vulgare</i>) – total of 125kg 	<i>Wildlife protection:</i> Though species wise management practices could not be gained from the community members, broad and holistic protection

.....
MicroPlan (BMCSUB-Committee Shego/lara)

Beat Shego Range WLSpiti

WildLife Division, Spiti

	<p>per/Ha Pea (<i>Pisum Sativum</i>) total of 100.58kg/ha</p> <ul style="list-style-type: none"> • Potato (<i>Solanum tuberosum</i>) 20kg/Ha 	<p>modalities were prescribed as below:</p> <ul style="list-style-type: none"> • Prevention of hunting • Strong protection required in the wild • Strong community participation in protection <p>This can be achieved through community mobilisation and their participation in safe guarding the wildlife.</p>
<p><i>Desirable:</i></p>	<p>Provisioning of:</p> <ul style="list-style-type: none"> • <i>Populus cilata</i> and <i>Juniper sp.</i> plantation can be practiced • Cultivation of Seabuckthorn, Rattan Jot and Jugli Pyaz 	

9.4 Approval of CBMP and other activities by General House:-

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

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

Micro planning team RFO WL Range Kaza, BO and Forest Guard discussed in detail the various interventions as incorporated in the draft CBMP of Sub-Committee Shego/lara Forests. Members from hamlets (Shego/lara, lidang Demul) 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 these seedlings in the closed areas. Plots identified were discussed in detail and assigned to two user groups. In addition, the participants suggested itemised conservation measures to be taken for each species.

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

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

9. 5 Memorandum of Understanding (MoU):

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



Pic-7: Meeting of the General House on the consensus building

- All the user group members agreed that they will contribute their Sub-Committee membership beneficiary share into the Sub-Committee account.
- All members agreed for their contribution in project activities, and decided to contribute membership fee of Rs. 200. This has to be paid only once. The amount will be kept in Sub-Committee account and can be used as community share for doing any other development work with other departments or with project, if Sub-Committee members desire so, otherwise they can use it after project completion. This is important because villagers should feel sense of ownership in works and further, they have to maintain and protect forest area/assets for several years even after completion of project.
- The Micro Plan was finally approved by the General House of BMC Sub-Committee on dated 10th. October, 2021 (Details written in proceeding register) and amended further on 12st October 2021.

- The MoU was also signed by the president of Sub Committee and DFOWL Kaza on dated 12.11.2021 (Signed MoU annexed as Annexure-X)

9. 6 Project Support to the beneficiary (Sub Committee) for Implementation of Microplan

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 microplan (*ALL WAGES ARE TO BE PAID BY THE Sub-Committee by CHEQUE OR BY BANK TRANSFER. NO CASH TRANSACTIONS PERMITTED*).
- **CDAs:** The Community Development Activities as identified by the Sub-Committee and in conformity with the Project guidelines will be decided and implemented by the Sub-Committee through a consultative process.
- **Maintenance:**
Beating up operations, weeding mulching in MP plantations for years. Maintenance of fence for 5 years.
- **Stock and material:**
Stock: quality nursery raised plants
Material e.g. B. wire, U. nails, fence posts, Tar/black Japan etc.

- **Stationary of Sub Committee**

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

9.7 PlantationActivitiesIdentified:

Sr.NO	Activity	BenefitingHHS	Areatobecovered(Ha)						
				2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
1(a)	ANR with gap planting (Fuel and FodderPlantation@200 tall plants/ha Tall block plantation @500 tall – plants/hasuch asIntroduction of <i>Populus cilaitasuitable</i> grasses and legumes in CommandAreas for improving soil fertility <i>Geranium,AconogonumCaraganaLoniceraS alixHippophae,GentianaArnebia,Pedicularis Arnebia euchroma,Gentiana Caragana brevifolia,Loniceraspinosa,Salix,Hippopha e tibetanainprojectcommandareasandpriva telands.</i>	26		7					
TOTAL		26		7(Ha)					

9.7.1 Requirement of Planting Materials

Year	Number of Sampling Required (New Plantation)										Source of Planting Material
	Geranium sp.	Cicer Sp.	Aconogonum sp.	Caraganasp.	Lonicera Sp.	Salix Sp.	Hippophae Sp.	Gentiana Sp.	Arnebia Sp.	Populus cilaita.	
2022-23	2600	1300	900	880	1400	1180	760	780	780	780	nursery
Total	2600	1300	900	880	1400	1180	760	780	780	780	
Year	Number of Sampling Required (Maintenance)										Source of Planting Material
2023-24	0	0	0	0	0	0	0	0	0	0	nursery
2024-25	780	280	270	264	420	354	228	234	234	234	
2025-26	520	260	180	176	280	236	152	156	152	152	
2026-27	280	195	135	132	210	177	114	117	114	114	
2027-28	260	130	90	88	140	118	76	78	76	76	
Total	2210	1105	765	748	1190	1003	646	663	576	576	

9.7.2 Forest Protection/Silviculture/Maintenance operation for the Plantation

Years	Activities to be taken up Site/Model Wise		Responsibility	
	Shego/lara		Project	Sub-Committee
2022-23	ANR Planting @200 Plants/H a.	TB Planting Fuel, Fodder and Wild Fruit Plantation @500 Normal Plants	Yes	Yes
2024-25	Maint.	Maint.	Yes	Yes
2025-26	Maint.	Maint.	Yes	Yes
2026-27	Maint.	Maint.	Yes	Yes
2027-28	Maint.	Maint.	Yes	Yes

9.7.3 Plantation Activity under PFMM Mode

Years	Activitiestobetaken upSite/ModelWise		Responsibility	
	Shego/lara		Project	Sub-Committee
2022-23	ANR Planting @200Plants/H a.	TB Planting Fuel,Fodder andmedicinalplants Plantation @500 NormalPlants	Yes	Yes
2023-24	Maint.	Maint.	Yes	Yes
2024-25	Maint.	Maint.	Yes	Yes
2025-26	Maint.	Maint.	Yes	Yes
2026-27	Maint.	Maint.	Yes	Yes
2027-28	Maint.	Maint.	Yes	Yes

9.8 Soil and Water Conservation

9.8.1 Soil and Water Conservation Works (Proposed)

S No	Land	Type of SWC work	Name of the site	Unit of work	Quantum of work	HHs beneficiaries	Responsibility		
							Project	Sub-Committee	Convergence
	Shego/Lara Ward community land forest land	Dry stone c/wall /C dams	Shego nalla	No.	6	-	Yes	Yes	
Nasushg nalla				5					
Lara nalla				7					
Lungba nalla				5					
		Total		No	23		Yes	Yes	

9.8.2 (B) Soil and Water Conservation works (Yearwise Physical Target)

S No.	Land	Type of SWC work	Name of the site	Unit of work	Quantity of work	HHs beneficiaries	Physical target for SWC activities					
							2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
	Shego/Lara Ward community land forest land											
1		Dry stone c/wall	Shego nalla Nasushg nalla Lara nalla Lungba nalla	No.	10 10 10 10	-		5 5 5 5	5 5 5 5	0 0 0 0	0 0 0 0	0 0 0 0
		Total		No	40			20	20			

9.7 Physical and Financial Plan (CBMP)

9.7.1 Proposed Physical and Financial Plan

S. No	Proposed activities	Unit	Total		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1																
a)	TB planting @ 500 normal plants	Ha	6	80000/per ha			0	0	0	0	0	0	0	0	0	0
b)	ANR Planting 200 plants /Ha)	Ha	4	60000/per ha			0	0	0	0	0	0	0	0	0	0
A	Total (New Plantation)	Ha	10	140000			0	0	0	0	0	0	0	0	0	0
2																
a)	TB Planting @ 500 normal plants			Maintenance												
i)	1st. Year Maint. (6250/Ha.)	Ha	6	37500	0	0	6	37500	0	0	0	0	0	0	0	0
ii)	2nd. Year Maint. (4250/Ha.)	Ha	6	25500	0	0	0	0	6	25500	0	0	0	0	0	0
iii)	3rd. Year Maint. (3200/Ha.)	Ha	6	19200	0	0	0	0	0	0	6	19200	0	0	0	0
iv)	4th. Year Maint. (2200/Ha.)	Ha	6	13200	0	0	0	0	0	0	0	0	6	13200	0	0

v)	5th.Year Maint.(2200/H a.)	Ha	6	13200	0	0	0	0	0	0	0	0	0	0	6	13200
SubTotal				474606	0	366006	0	37500	0	25500	0	19200	0	0	0	13200
S. No	Proposedactivities	Unit	Total		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
c)	ANRplanting200plants/Ha)		Maintenance													
i)	1 st .Year Maint.(4600/H a.)	Ha	1	4600	0	0	1	4600	0	0	0	0	0	0	0	0
ii)	2 nd .YearMaint.(3100/Ha.)	Ha	1	3100	0	0	0	0	1	3100	0	0	0	0	0	0
iii)	3 rd .YearMaint.(2400/Ha.)	Ha	1	2400	0	0	0	0	0	0	1	2400	0	0	0	0
iv)	4 th .YearMaint.(1650/Ha.)	Ha	1	1650	0	0	0	0	0	0	0	0	1	1650	0	0
v)	5 th .YearMaint. (1650/Ha.)	Ha	1	1650	0	0	0	0	0	0	0	0	0	0	1	1650
SubTotal				13400	0	0	0	4600	0	3100	0	2400	0	1650	0	1650
B	Total(Maintenance)			488006		366006		42100		28600		21600		14850		14850
S. No	Proposedactivities	Unit	Total		2022-23		2023-24		2024-25		2025-26		19800			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
4	SMCTrenching															



a)	SMC works(Preparationofstaggered GradonialTrenches1mx0.3mx0.3m)500trenches/Ha @ 12375 /Ha	Ha	6	74250	6	74250	0	0	0	0	0	0	0	0	0	0
D	TotalSMC			74250		74250	0	0	0	0	0	0	0	0	0	0
	Total(A+B+C+D)			562256		440256	42100	28600	21600	14850	14850					
S. No	Proposedactivities	Unit	Total		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin		
5																
a)	Soil & WaterConservation(CBM P) Drystonecheckdams	No.	5	100000	0	0	5	100000	0	0	0	0	0	0	0	0
E	Total(S&WC)			100000	0	0	100000	0	0	0	0	0	0	0	0	0
6	WildLife Habitat Improvement															
a)	Cons.Of WaterPond	No.	6	180000	2	60000	2	60000	2	60000	0	0	0	0	0	0
b)	Maint.OfWater Pond	No.	4	40000	0	0	2	20000	2	20000	0	0	0	0	0	0
F	Total(Wildlife Habitat Improvement)			220000	60000	80000	80000	80000	0	0	0	0	0	0	0	0
	GrandTotal(A+B+C+D+E+F)			882256	500256	235900	108600	21600	21600	21600	21600	21600	21600	21600	21600	21600



9.7.2 Annual Work Plan CBMP For The 2020-21 year wise

Proposed Activity	Benefitting HH	Unit of Work k	Quantum Of Work	Unit cost (R s)	Proposed Budget	Financial Source		
						Project	Convergence	Comm. Contribution
TB Planting@500 normal Plants	6	Ha						Management
ANR Planting@200 Plants	4	Ha						Management
Sub-Total								
Soil & Water Conservation								
Dry Stone Checkwall	40	No		25000	25000			
Sub-Total					25000			
Habitat Improvement								
Construction Of Water Ponds								
Sub-Total								
Total					1000000			

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

Table 10.1-Community Development Activities

S. No	Activity	Purpose of the activity	HHs to be benefitted
1	Consternation of Kakshoi path	Requirement of local people	Whole community
2	Stone Fancing	Requirement of local people	Whole community
3	Sheds For animals	Requirement of local people	Whole community

5	Groundwater handpump	Must be installed, mostly they get glacial water in particular season, water crisis can be overcome by handpump in summer season	Whole Community	10%
---	----------------------	--	-----------------	-----

Table 10.2-Livelihood Improvement Activities & Plan

S. No	Activity	Purpose of the activity	HHs to be benefited	Community contribution (%)
1	Three month s early variety seeds e.g. Pea	Often they face climate fluctuation; most of the crops get spared lead to huge Economic loss.	26	10%
2	Carpet Making, yak wool rope making	In winter outdoor activities are about null, they want sustained winter season in making such items helping in	26	10%

		boosting livelihood		
3	Introduce Koda(<i>Fagopyrum esculentum</i>)	Lack water, to avoid soil degeneration due to monoculture, with nutrition value	26	10%
4	Modified polyhouse	For off-season vegetable, old structure polyhouses are not durable	26	10%

Under Community Development works

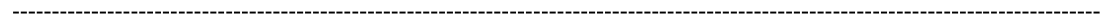
Activities

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

Table 10.3- Showing estimated amount for path

S.no.	Particulars of work	Length	Breadth	Amount Rs.
	Path	2km	1m	100000/-
500rmt	Stone Fancing		1.5	600000/
	Sheds For animals	-		1000000/

Hight 1mtr
 Length 500rmt
 Breadh .1 fit



Solar Installation: As we know the present ward is situated on the height of 3700m the ward does not have proper supply of electricity, which makes the barrier for the working habit of people including their outdoor activities, children education, people working in fields etc. Solar installation can be the immediate solution of the irregular power supply. People opting for grid connected rooftop solar panels/power plant are being given 70 percent subsidy, and surplus power would be further sold to HPSEBL at the rate of rupees five per unit, which would also add to the income of the individual, besides using free solar power.

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

Table 10.5-Showing estimate for installing fencing

S.No.	Particulars of work/ Models	Protected Area/acre	Perimeter for fencing/ meter	Unit Cost/Rs	Cost per Running meter/Rs
	Model1	1	300	161907/-	540
	Model2	2.5	500	210793/-	422
	Model3	5	700	259679/-	371
	Model4	10	1000	407716/-	408
	Model5	20	1400	505489/-	361

The average cost per running meter of 7 rows fence comes to be Rs.286/Meter. This practice will be implemented by the Deputy Director through Project Implementing Agency (PIA) in the development block i.e Subject Matter Specialist .In Tribal district, the District Agriculture Officer, Spiti & Assistant Project Officer, Kaza of Lahaul & Spiti District will act as Project Sanctioning Authority as well as Project Implementation Agencies (PIA's). The PIA shall be responsible for identification and selection of the potential beneficiaries.

As Project assistance @80% is available for individual farmers and 85% for a group of three or more farmers for installation & Commissioning of Solar Electric Powered Fencing Systems in the Farmer's Fields on the actual work done by the Firm/Company .Project assistance shall be released to the beneficiaries directly or through bank, in case the farmer avails loan. The assistance for the



Installation of Solar Electric Powered Fencing can be released to the company after obtaining satisfactory report from core team and farmers/ a group of farmers. The payments shall be worked out on actual work done and its measurement basis in view of prevailing site need and requirement duly verified by the Core Team concerned.

LivelihoodImprovementActivities& Plan

- **Three months early variety seed e.g Pea:** As they have monoculture for agriculture productivity followed by few months i.e from April to the September month .The farmers told if they get early snowfall which makes transportation blocked their crops get spared and they get huge loss .So if they have early varieties of seeds such as of Peas they can make it harvest as soon as to get snowfall .And somehow monoculture can be avoided. The required seeds they can get from Agriculture department of Himachal Pradesh. Where it can be subsidized for farmers.
- **Carpet Making, yak wool ropemaking:** The community traditionally makes the carpet of Yak wool and also other ropes. If the people make it on large scale and get it to be commercialized its surely going to make the people benefitted. As they do not require any raw material for this activity ,it would fit better with livelihood uplift component without much money.
- As the most of households rear the Yak so the availability of raw material i.e yak wool is there for practices of carpet and yak wool ropemaking.
- **Introduce Koda (*Fagopyrum esculentum*):** The village grows only the Barley ,Peas ,Potato .As per the geographical and climatic conditions Introduction of Koda (*Fagopyrum esculentum*) can be experimented as this is served as staple food and being rich in amino acids. This can be also commercialized as other food crops.
The requirement of the koda crop seeds can be fulfilled by the agriculture department as the seeds can be provided at suitable subsidy or prices for the farmers.

Modified Poly house: For off season vegetable growth the modified poly houses can be durable and effective .As few farmers have triedgrowing squashes, carrots, tomatoes, cucumber, cabbage and coriander etc. The only issue with the old poly houses infrastructure is thatthese dome shaped don't go with heavy snowfall for long duration .While the roof topped like poly houses are more compatible than domeshapedone. Therooftopped onemustbewiththe CoveringofPoly ethylenesheetforlongduration.



HimachalGovt80-85%subsidy.StateGovernmentgetsapproximately50%subsidyfromCentralGovt.inreturn.Guidelinesforimplementing the Mukhya Mantri Greenhouse Renovation Scheme (MMGRS) through Deptt. of Horticulture, H.P. 1. Under this scheme,70% assistance for the replacement of poly sheet subject maximum to Rs. 44.80/- per sq. mtr. as back-ended subsidy would be available tothe individual beneficiaries (i.e. Farmers) who are engaged in greenhouse cultivation of high value flowers and vegetable crops.cost Rs 900-1200/- persquaremeter.

Summary of Human Capacity Building

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

Table 10.6: SHG Livelihood Improvement: Training Budget (two workshops a year)

S. No.	Particulars	No. Of Group	No of Person	Rate Rs.	Amt. Rs.
1	Refreshment/lunch	10	15	160	22500
	Stationary	10	15	30	4500
	Resource person (Honorarium & Travel)	2	4	2500	20000
	Banner & Photography	2	2	250	1000
	Total for one workshop				48000/-



	Grand Total for 4 Workshops				1,92,000/-
--	-----------------------------	--	--	--	------------

Monitoring and Evaluation (M&E) Framework

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

- Monitoring and Evaluation by the Forest Department (in-house/outsourced infrastructure support): This system will timely evaluate vegetation and other related ecosystem service flow through GIS –based map of JFM areas, with village boundaries.
- Participatory Unit: This will be instrumental in providing ground truthing of vegetation growth and related improvement of the ecosystem service flow appropriate protection measures in a frequency of every two years. This will also assess the commensurate improvement in livelihood through socio-economic survey. The participatory unit will do the monitoring and evaluation based on clearly agreed protocol on rights and responsibilities of all stakeholders parties.

Monitoring and Evaluation Plan with Indicators are provided in Table 10.7

Table 10.7: Monitoring and Evaluation Plan

S.No.	FES	Measure to be Monitored	Baseline value	Target Value	Indicator	Means of Verification	responsibility
-------	-----	-------------------------	----------------	--------------	-----------	-----------------------	----------------

	Water in crease of waters supply	Availability of water flow and seasonality especially during Summer	ND	Sufficient water availability during summer	Crops don't dry due to lack of irrigation during Summer	Record keeping by Monitoring team	Monitoring Team of Village Committee
	Fuel & Fodders supply	All the banks are fully stocked with plantation	No plantation	At least 10% increase in fodder & fuel	Continued availability of fuel & fodder	Record keeping of the number of head loads of fuel & fodder	

Table 10.8-Annual Work Plan CBMP for The 2022-23 year wise

Proposed Activity	Benefitting HH	Unit of Work	Unit cost (Rs)	Proposed Budget	Financial Source
Solid fencing & Solar fencing	16	1	286/meter	1400x286 554400/-	80% subsidy on solar fencing
Path	1	2km	0	100000/-	

10.9 proposed physical & financial Income Generation Activities (IGA)

Sr.No	Proposed Activities	Total	Finance Contribution	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
1.	SHG Livelihood Improvement: Training Budget (Carpet Making, yak wool rope making)	192000/-	JICA with help of RD Dept & Tourism	96000/-	96000/-	0	0	0	0
2.	Three months early variety seed e.g. Peal Introduce Koda	1500/- max. x 28	Agriculture Deptt. 60% subsidy	58500/-	58500/-	0	0	0	0

3.	<i>Populus cilata</i> and <i>Juniper sp.</i> plantation can be		Forest Deptt. & HPS Biodiversity Board	0	0	0	0	0	0
----	---	--	--	---	---	---	---	---	---

	practiced								
4.	Modified poly house, Minimum 25 square meter	900-1200 /- persquare meter 15H	From Agriculture Deptt. 70% subsidy 10% beneficiaries , 20% JICA	300000/ - 20% JICA (60000/)	300000/	300000/	0	0	0

11 ConvergenceswithExternalAgencies

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

11.1 Activities identified for Convergence

S.No	Activities	HHs to be benefitted	Department/Agency for convergence
1	Repair of Mahila Mandal	26	Panchayat/Block
2	Foot Path	26	Panchayat/Block
3	Drain	26	Panchayat/Block
4	Training/Farming Camp	26	Agri/Horti/Animal Husbandry
5	Silage (Demonstration basis)	26	A/Hexposure Visit
6	Medicinal plants	26	Forest/Horticulture Department
7	Training on Eco-Tourism Activities	10	Forest /Tourism Departments

11.2 Physical and Financial Plan for Convergence Activities

Activities identified for convergence																
S. No	Proposed activities	Unit	Total		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	DryStoneCheckDam	No.	5	100000	0	0	3	60000	0	0	2	40000	0	0	0	0
2	DryStoneC/Wall	No.	1	15000	0	0	1	15000	0	0	0	0	0	0	0	0
TotalConvergenceActivity				115000				75000				40000				

12 Implementation Strategies

12.1 implementation guidelines on components and sub-components

Participatory forest management

Soil & water conservation/landslide control measures

Community development and livelihood improvement with gender mainstreaming

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

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

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

12.4 Year wise detail of training and capacity building plan

S. No	Year & Month	Community institution	Subject of training	No of Participants	Duration	Resource person/group
1	2022-2023	EC training Exposure visit CIG SHG	Proceeding writing Account main taining Role & responsibility of EC Gender	7-15 EC Representative	2 days 5 days	1. Master trainer, FD accountants 2. Successful projects inside and Outside state.
2	2022-2023	1. EC Training 2. CIG	M&E/Social audit	3-5	2 days	FTU-coordinators

Micro Plan (BMCSub-Committee shego/Lara

Beat Shego Range WLSpiti

Wild Life Division, Spiti

		3. SHG				
--	--	--------	--	--	--	--

3	2023-2024	1. EC Training 2. CI G 3. SHG	Assets created	3-5	1day	FTU coordinators
---	-----------	---	----------------	-----	------	------------------

Sr. No	ProposedActivities	Unit	Total		2022-23		2023-24		2024-25		2025-26		2026-27	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
TrainingandCapacityBuildingofCommunityInstitutions														
I	Sub-Committee(EC)Training													
a)	Proceedingaccount Maintain	No	2	0	1	0	0	0	1	0	0	0	0	0
b)	Role Responsibility, Gender, Assets crated	No	3	0	1	0	1	0	1	0	0	0	0	0
c)	M&E and Social Audit	No	4	0	0	0	1	0	1	0	1	0	1	0
	Sub-Total		9	0	2	0	2	0	3	0	1	0	1	0
II	CIG Training													
a)	ProceedingWriting, AccountMaintaing	No	2	0	1	0	1	0	0	0	0	0	0	0
b)	Value addition	No	4	0	1	0	1	0	1	0	1	0	0	0
	Sub-Total		6	0	2	0	2	0	1	0	1	0	0	0

12.5 Proposed Year Wise Training

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

12.6 Records to be maintained by the community institutions

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

ANNEXUREs

बिना दिनांक 11-10-2020 की श्रेणी में-काय के-काय
 के-काय की समिति व BMC Sub-Committee का
 नाम है। In the presence of officials of
 Forest Department. वृत्त काय सहायक
 के-काय के-काय काय के-काय के-काय

क्र.सं.	नाम	पद	विवरण	संकेत
1	श्री. राजेश कुमार (M)	अध्यक्ष		अध्यक्ष
2	श्री. राजेश (F)	उपअध्यक्ष		अध्यक्ष
3	श्री. राजेश (F)	सदस्य		अध्यक्ष
4	श्री. राजेश (M)	सदस्य		अध्यक्ष
5	श्री. राजेश (M)	सदस्य		अध्यक्ष
6	श्री. राजेश (M)	सदस्य		अध्यक्ष
7	श्री. राजेश (M)	सदस्य		अध्यक्ष
8	श्री. राजेश (F)	सदस्य		अध्यक्ष
9	श्री. राजेश (F)	सदस्य		अध्यक्ष
10	श्री. राजेश (F)	सदस्य		अध्यक्ष
11	श्री. राजेश (M)	सदस्य		अध्यक्ष
12	श्री. राजेश (F)	सदस्य		अध्यक्ष
13	श्री. राजेश	सदस्य		अध्यक्ष
14	श्री. राजेश	सदस्य		अध्यक्ष
15	श्री. राजेश	सदस्य		अध्यक्ष

अध्यक्ष
 Name

Annexure-I

Annexure-IV

Registration No :



HPCD-5964

Certificate of Registration of Societies



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

This is certified that the **BMC SUB COMMITTEE SHEGO/LARA** located at **VILLAGE SHEGO POST OFFICE LARA TEH SPITI DISTT LAHOUL&SPITI** 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 Lahaul & Spiti
Himachal Pradesh

Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihoods

Memorandum of Understanding

Between

The Shego/Lara BMC Sub Committee

And

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

Whereas

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

Now herewith

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

1. Purpose of the Memorandum of Understanding

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

2. Responsibilities of the Society

AnnexureXIII

Micro Plan Assessment Criteria for Financing and Sanctioning

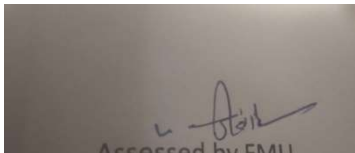
DMU: Wildlife Division SPITI FTU:Wildlife Range KAZA Beat:KAZA

GP: DEMUL BMCSUB-Committee: SHEGO/LARA

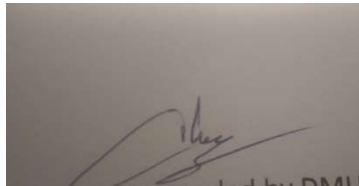
S.NO	AssessmentCriteria	AchievementD D/MM/YY	Statusatthetime Applying forApproval
	ProcessRelated		
1.	GPLevel and WardLevelawarenessdone	10/10/ 21	DONE
2.	GPConsent/WardConsenttoworkwith ProjectObtained	13/09/21	DONE
3.	BMCSUB-CommitteeFormed/Executive CommitteeConstituted	14/09/21	DONE
4.	BMCSUB-CommitteeRegistered	03/06/22	DONE
5.	MOUSignedbetweenDMUandBMCSUB- Committeeforundertakingmicro- planningandimplementation	21/11/22	DONE
6.	EC1 st meetingheldtoexplaintheirrole andresponsibilities	02/11/21	DONE
7.	BMCSUB-CommitteeaccountOpened	30/11/22	DONE
8.	Percentofhouseholdsrepresentedin micro-planningprocess(App.)	50-60%	DONE
9.	PercentofWomenParticipantsinvolvedin micro-planningprocess(App.)	60%	DONE
10.	Collectedinformationcrosscheckedand updatedinGreenAssembly	30/10/22	DONE
11.	Women,Poor,Youthandother	YES	DONE

	communitieswereinvolvedinmicro-planningprocess		
12.	BMCSUB-Committeeinvolvedin informationanalysisandfinalizingkey mergingactivities	YES	DONE
13.	MicroPlan(CBMP,CD&LIP)approvedbyBMC Sub-CommitteeinGeneralAssembly andconfirmedbyexecutivecommittee	30/11/22	DONE
14.	FormatsprescribedforMP(CBMC,CD&LIP) usedbysocialandtechnicalstaff	YES	DONE
15.	TotalamountofCBMP,CD&LIPand convergencementionedinMicroplan	07	
16.	Daystakentocomplete MP(CBMP,CD&LIP)	03MONTHS	DONE
17.	MicroplanSubmittedbyFTUtoDMU	19/11/22	DONE
18.	MicroplanapprovedbytheHeadofDMU	21/11/22	DONE
	Outputrelated		
19.	Listofexecutivemembersattached	YES	DONE
20.	BMCSUB-Committeecontributionisthere	YES	DONE
21.	AreCBMPandCD&LIPactivitiesinline withprojectobjectives	YES	DONE
22.	Livelihoodactivitiescheckedforinitialtechnicalfeasibilityandeconomicviability bymicroplanningteam	YES	DONE
23.	Convergenceactivitiesincluded	YES	DONE
24.	BMCSUB-Committeetrainingandcapacity	YES	DONE

	building aspect included		
25.	Costing of CBMP, CD & LIP checked by DMU	YES	DONE
26.	Microplan includes adversely affected households/group, if any	YES	DONE
27.	PR tools, well being analysis, BMC sub-committee resolution, maps of CBMP and other documents are annexed	YES	DONE
28.	Sources of secondary information mentioned in microplan	YES	DONE



Assessed by FMU



Recommended by DMU

Approved by PMU