



DEVELOPING LIVELIHOOD STRATEGY FOR LAHAUL-PANGI LANDSCAPE - SECURE HIMALAYA PROJECT

Volume - I

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Abbreviations

Abbreviations	
ATMA	Agricultural Technology Management Agency
CAMPA	Compensatory Afforestation Fund Management and Planning Authority
CCE	Crop Cutting Experiment
CEDAR	Centre for Ecology Development and Research
CFP	Centre for Pastoralism
COO	Chief Operating Officer
CSKHPKV	Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya
DPR	Detailed Project Planning
DRDA	District Rural Development Agency
FES	Foundation for Ecological Security
FPO	Farmer Producers Organization
GEET	GIS Enabled Entitlement Tracking
GEF	Global Environment Facility
GHE	Global Himalayan Expedition
GHNP	Great Himalayan National Park
GIS	Geographic Information System
HIAL	Himalayan Institute of Alternatives
ICIMOD	International Centre for Integrated Mountain Development
IEC	Information, Education and Communication
IHR	Indian Himalayan Region
ITDP	Integrated Tribal Development Project
IWT	Illegal Wildlife Trade
KSLCDI	Kailash Sacred Landscape Initiative
KVIC	Khadi and Village Industries Commission
KVK	Krishi Vigyan Kendra
LAHDC	Ladakh Autonomous Hill Development Council
M&E	Monitoring and Evaluation
MAP	Medicinal and Aromatic Plants
MASL	Metres Above Sea Level
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
NABARD	National Bank for Agriculture and Rural Development
NCF	Nature Conservation Foundation
NIFT	National Institute of Fashion Technology
NITI	National Institution for Transforming India
NMPB	National Medicinal Plants Board
RWBCIS	Restructured Weather Based Crop Insurance Scheme
SBI	State Bank of India
TISS	Tata Institute of Social Science
UNDP	United Nations Development Programme
VLE	Village Level Entrepreneur
WASH	Water, Sanitation and Hygiene

Executive Summary

The Indian Himalayan states are characterized by land degradation, deforestation, proliferation of invasive species, loss of biodiversity, landslides, invasion of commercial crops, low productive agriculture, migration etc. In addition, due to varying altitudes, the region experiences diverse weather or climatic conditions, extreme weather events, floods and droughts, along with high current climate variability. The communities in the region have limited livelihood options and experience higher marginalization due to limited physical infrastructure and high dependence on natural resources. Himalayan ecosystem is fragile and highly vulnerable to climate related risks that potentially affect biophysical and economic systems.

Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems (SECURE) is a project undertaken by The Ministry of Environment, Forest and Climate Change (MoEFCC) along with UNDP, and funded by GEF. The project aims to support the Government of India and State Governments to promote sustainable land and forest management in alpine pastures and forests in High range Indian Himalayan Ecosystems that secure sustainable livelihoods and ensure conservation of globally significant biodiversity and threatened species. The assignment '*Engaging an agency for developing livelihood strategy under the SECURE Himalaya Project*' by UNDP intended to hire the services of an expert agency to support state governments in preparing detailed implementation strategy for achieving outcome 2 of the project. This project component identifies the need to develop sustainable livelihoods in the project landscapes. In order to achieve this, the assignment emphasis on improving the existing livelihoods through improved efficiency in the utilization of natural resources, thereby providing improved economic and associated benefits to the community. The assignment was carried out in the Lahaul – Pangi landscape of SECURE Himalaya Project.

Livelihood Situation

Out of the total geographical area of the landscape districts, 35.06% is permanent pastures and grazing lands, 25.5% area is forest area (Land Use Statistics Information System, Ministry of Agriculture and Farmers Welfare, 2017). Irrigated area is 90% in Lahaul and 40% in Pangi. The project works in 34 villages (11 in Lahaul and 23 in Pangi) with nearly 2,283 households and a population of over 10,366 individuals. The census points towards 51 percent of the population consisting of males whereas the remaining, i.e. 49 percent of the population is female. The project villages comprise of a majority of Scheduled Tribes (ST's) where, nearly **88 percent** of the total population belonged to this category and, 6 percent belong the Scheduled Caste (SC) category. Nearly 65 percent of the working population consider themselves as marginal workers. Within working categories, majority of the population are marginal cultivators (nearly 54 percent) signifying that agriculture work is only for near half a year in the landscape.

Present Livelihoods: Agriculture remains as one of the most widely practiced livelihood activities where, all the households primarily own their own land or work as agricultural labourers on lands of other cultivators within their villages. The extreme cold witnessed in the region during the winter months, allows cultivation to flourish for only 6 months of the year. Due to the small landholding sizes, the population focuses on cultivating crops, which bring in high returns such as, peas and potatoes. Cultivation of food crops can be avoided due to the well-functioning public distribution system (PDS) which allows them to stock up on a variety of food grains and other essentials.

Tribes of Pang Valley also depend highly on the wild plants for their livelihood security and medicines for various ailments. There are several types of MAP's (Medicinal and Aromatic Plants) found in the project region, which vary depending on the altitude of the region. Discussions with

various stakeholders revealed how most of these MAP's are extracted illegally and are over-harvested thereby leading to the slow-ruin of the species. The collectors primarily focuses on collecting MAP's with high market value. It was observed that the market prices of these MAP's are volatile and have dropped to half of their price in recent years thereby adding to the vulnerability of the communities. Private contractors collect these from the community and sell these in Amritsar, Delhi with some quantities even being exported.

Presently, tourism is one of the most under developed livelihood activity in the project region. With some presence in Lahaul, this opportunity remains untapped in the Pangni valley. This can be attributed to the remoteness of the region, poor connectivity and the high snow winters that makes the valley hard to reach in the winter months. Poor marketing and unfavourable depiction of the landscape by bikers has aided in tagging the place as remote, inaccessible and dangerous.

The community members in the landscape, especially in Pangni region, are largely dependent on two major social security schemes i.e. MGNREGA and PDS. The present livelihood sources including Agriculture and Horticulture are highly uncertain for community members in Pangni due to external factors like climate variations, market fluctuations, transportation etc. MGNREGA thus ensures an alternative source of income for the community.

Filtering Livelihood Options

The identified livelihood options from the exploration study were assessed and scored (on a scale of 0-10) by a team of experts against each of identified criteria and weighted average method was used for ranking the options. Contribution to conservation, impact on income, investment requirement, possibilities of convergence and gender were some of the considerations under developed criteria. The top-ranking livelihood options considered further for strategy development and detailing. The identified sectors for intervention after the assessment are Tourism, Handicrafts, Agriculture and Horticulture, Animal Husbandry and Dairying and MAPs.

Approach for Livelihood Improvement

Considering the present status of livelihoods and situational requirements, the proposed approach developed for improving the livelihoods is to develop a **landscape level brand and a basket of product and services** around it. The brand is expected to highlight the values of conservation, communities and nature. **Tourism** will be the central focus sector of the proposed approach; the activities around tourism are expected to reinforce interventions in other livelihood sectors and areas. Positive engagement of travelers with local communities will eventually attract target segments that contribute to livelihood development and conservation efforts. Functional areas of interventions for improving livelihood include **communication interventions, awareness creation, supporting government schemes and departments, and market interventions**.

Detailed Implementation Plan

Tourism: The Lahaul-Pangni landscape has huge potential for tourism development given the unexplored natural landscape, biodiversity, and cultural elements, and it can be one of the potential alternative livelihood options for the community members that positively contributes to conservation efforts. The envisaged tourism activities for the project landscape expected to consider livelihood of people, equitable sharing of ecosystem benefits, change in actions of travelers, and importantly landscape conservation. The proposed strategies under tourism sectors are promotion of homestay ecosystem, development of nature tourism initiatives amongst selected clientele and developing low risk high impact adventure tourism. The detailed implementation plan developed under the sector is given consideration to the work undertaken

by TERI in the project landscape and based on it suggests general recommendations for tourism development in addition to the aforementioned strategies.

Handicrafts: Handicrafts can be one of the potential livelihood options in the project landscape given the existing levels of capacities and easy availability of resources including wool. The community members in both Lahaul and Pangi are skilled in making handicrafts items though the process and nature of crafts differs significantly in both the region. This implies that there is no requirement of extensive capacity development of community members but requires small incremental developments in terms of introducing new designs, product, process and functional upgradations, and market level interventions. The proposed strategy is to revive wool-based handicrafts using locally available resources.

Medicinal and Aromatic Plants: it is necessary to make interventions in this sector primarily to engage the community in viable economic activities that compete directly with their difficult ventures into the high Alps. It would be, concurrently, necessary to have strict measures preventing the extraction of endangered and vulnerable medicinal herbs, like *Dactylorhiza hatagirea*, while at the same time encouraging the cultivation of medicinal, aromatic and food plants that do have potential and have existing growing protocols. The strategy recommends the active promotion and cultivation of a variety of medicinal, aromatic and food herbs and spices that either has known cultivation protocols and has marketable value or where there is information that such herbs and spices have been successfully grown in other regions of the Himalaya. The strategies under the sector is also based on the review of work undertaken by WII in the project landscape, especially in identifying the villages for initial implementation of activities.

Agriculture and Horticulture: Agriculture and horticulture are the primary livelihood option for the community members in Lahaul-Pangi landscape. Over the years, the region has witnessed shift from traditional to commercial crops and practices. This makes the communities highly vulnerable to market related uncertainties and price fluctuations. Recently, climate change and related factors are also directly started affecting the agricultural practices. The farmers reported losses due to change in climatic patterns, crop diseases and market failure. Majority of the existing schemes, like schemes related to poly-house farming, solar fencing etc., are less adaptive to local conditions and requires situational adjustments. In this context, it is important to mitigate the risks associated with existing practices and promote alternative and sustainable solutions. The recommended strategy in the sector primarily designed to mitigate the risks associated with existing practices and to Increase livelihood security through alternative and sustainable solutions.

Animal Husbandry and Dairying: Livestock is an integral part of community livelihoods in the landscape. However, influence of policies and shift from traditional practices are resulting in decline of livestock population. In addition, increasing migration and changing aspirations amongst youths are also resulting in low investments in terms of capital and capacities. Majority of the community members are not deriving any direct economic benefits from livestock or dairying. It is important to revive this sector since traditional livelihoods like agriculture and handicrafts are directly dependent on it. Considering the situational requirements, existing policies and available livelihood assets, the recommended strategies for reviving Livestock sector are exploring the market potential of milk products and promotion of backyard poultry as an alternative livelihood option

1. Introduction

The northern part of the Indian subcontinent is bound by Himalaya, the highest mountain chain in this world. The Indian Himalayan region spread across 12 Indian states stretching across a length of 2500 kilometers with a width of 250 to 300 kilometers. Nearly 50 million people reside in the Indian Himalayan region and characterized by diverse demographic, economic, environmental, social and political systems. Himalayan cold deserts primarily consist of sparsely vegetated steppes, small patches of moist sedge meadows near water bodies and vast areas that are barren and under permafrost and glaciers. The Himalayas are home to unique biodiversity including at least 350 species of mammals, 1200 species of birds, 635 species of amphibians and reptiles, and numerous plants including those with medicinal properties (Government of India, 2008).

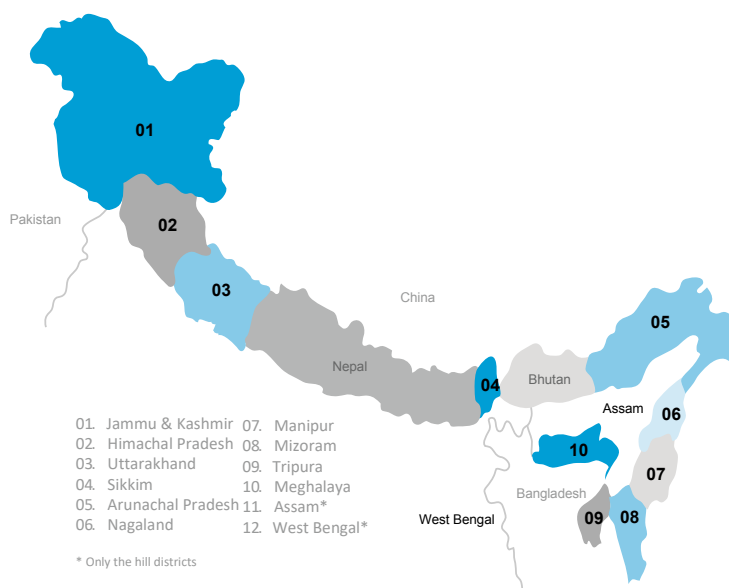


Figure 1: Indian Himalayan region

Although the region represents only 4% of human population of the country, it exhibits great diversity of ethnic groups often inhabiting remote and inhospitable terrains.

The Indian Himalayan states are characterized by land degradation, deforestation, proliferation of invasive species, loss of biodiversity, landslides, invasion of commercial crops, low productive agriculture, migration etc. In addition, due to varying altitudes, the region experiences diverse weather or climatic conditions, extreme weather events, floods and droughts, along with high current climate variability. The human population density in the Himalayan high altitudes is rising hence resulting in increasing human dependency on natural resources. The harsh climatic conditions and topography is relatively less suitable for agriculture and other industries, most of the region is largely dependent on pastoralism. The communities in the region have limited livelihood options and experience higher marginalization due to limited physical infrastructure and high dependence on natural resources. Himalayan ecosystem is fragile and highly vulnerable to climate related risks that potentially affect biophysical and economic systems. Figure 2 represents the vulnerability index of IHR states calculated based on socio-economic, demographic status and health, sensitivity of agricultural production, forest dependent livelihoods, and access to information services and infrastructure (DST, 2019).

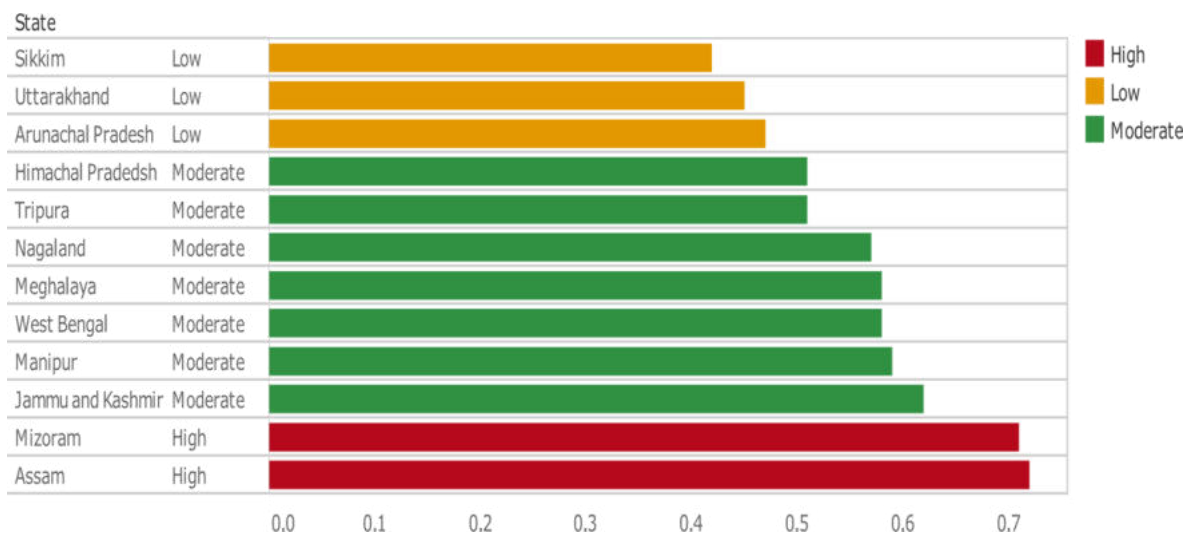


Figure 2: Vulnerability index of Indian Himalayan States
Data Source: Department of Science and Technology

Given the lack of livelihood options for local communities in the harsh Himalayan landscape, most of the protected areas and areas outside them are intensively used for livestock grazing and other forms of resource extraction as a part of local economy. The declining population of wild prey species and related environmental imbalances are resulting in human-wildlife conflict. The harsh, remote, and marginal landscapes provide limited livelihood options for the communities, which further deteriorates the situation. Declining traditional practices and unsustainable uses of natural resources are increasing the pressure on environment and degradation of biodiversity elements. In addition, inadequate general infrastructure, small and underdeveloped markets, inadequate capacities of local communities make livelihood development operationally less viable. Moreover, top-down approaches to livelihood development and natural resource management in the region fail to be effective. Figure 3 represents the problems pertaining to livelihood security and environmental degradation.

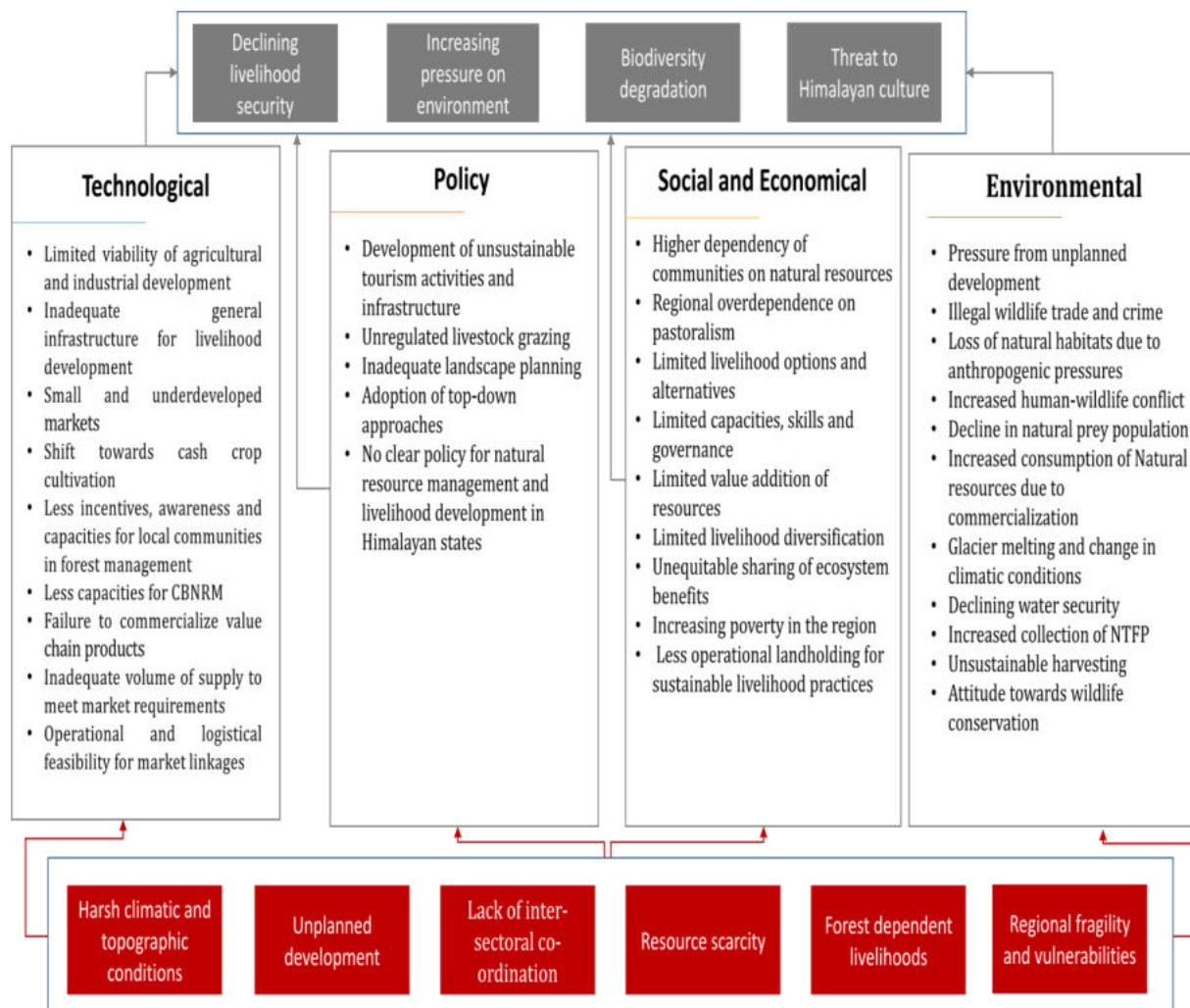


Figure 3: Problems pertaining to livelihood security in Indian Himalayan Region

Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems (SECURE) is a project undertaken by The Ministry of Environment, Forest and Climate Change (MoEFCC) along with UNDP, and funded by GEF. The project aims to support the Government of India and State Governments to promote sustainable land and forest management in alpine pastures and forests in High range Indian Himalayan Ecosystems that secure sustainable livelihoods and ensure conservation of globally significant biodiversity and threatened species (UNDP, 2019). The expected outcomes of the project are,



Improved management of high range Himalayan landscapes for conservation of Snow Leopard and other endangered species and their habitats and sustaining ecosystem services



Improved and diversified livelihood strategies and improved capacities of community and government institutions for sustainable natural resource management and conservation



Enhanced enforcement, monitoring and cooperation to reduce wildlife crime and related threats



Effective knowledge management and information systems established for promotion of sustainable management practices in the High range Himalayan ecosystems

2. Objectives of the Study and Methodology

Objective of the Study

The assignment 'Engaging an agency for developing livelihood strategy under the SECURE Himalaya Project' by UNDP intended to hire the services of an expert agency to support state governments in preparing detailed implementation strategy for achieving outcome 2 of the project. This project component identifies the need to develop sustainable livelihoods in the project landscapes. In order to achieve this, the assignment emphasis on improving the existing livelihoods through improved efficiency in the utilization of natural resources, thereby providing improved economic and associated benefits to the community. The assignment was carried out in the Lahaul-Pangi landscape of SECURE Himalaya Project. Towards developing a sustainable livelihood strategy in the region, the assignment reviewed the socio-economic and demographic data available for villages in the project landscape, and mapped existing livelihood being pursued and their dependency on natural resources and impact. The assignment identified the existing or potential livelihoods that are economically viable and sustainable, and directly contributing to the local economy. Developing a strategy for diversification of livelihoods to reduce the pressure on natural resources is an important objective of the assignment, which in turn expected to help the SECURE Himalaya project to achieve its strategic objectives. In addition, the assignment identified practices and developed a sustainable livelihood strategy to i) ensure equity and women participation in livelihood development in the region, ii) develop innovative community-based livelihood options iii) strengthen the capacities of community members, institutions and associated stakeholders.

In order to achieve the project objective of reducing the impact and burden of resource use in snow leopard habitat, the project would support a three-pronged strategy to enhance existing livelihoods, promote alternate and new options of livelihood and support skill-based employment opportunities, and sustainable natural resources management. The livelihood outcome expected to achieve through three major envisaged outputs of project activities,

- i) Participatory community-based village plans for enhancing and diversifying livelihoods and improving natural resources management are developed
- ii) Pilot projects on sustainable community-based natural resources management, and sustainable livelihood activities are supported
- iii) New and enhanced value chain products and services providing ecologically sustainable livelihood are developed and implemented by local communities

Methodology

Figure 4 represent the framework used for developing a methodology for the exploration study.

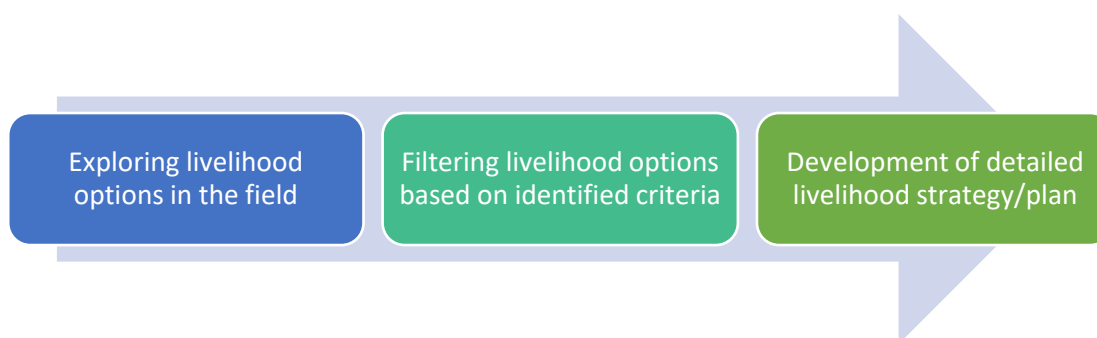


Figure 4: Framework used for developing methodology

Exploring livelihood options in the field

The first stage involved the exploratory field study of different livelihood options present in the project context. The study involved developing an understanding of existing livelihoods including agriculture, horticulture, tourism, handicrafts and other available livelihood options, major problems associated, major resources and processes involved, major stakeholders, and institutional mechanisms in detail with the help of exploration tools. The team of experts visited 15 villages covering all the panchayats in the project landscape and gathered information from community members and other major stakeholders using Participatory Rural Appraisal, Group Discussion, and In-depth Interview tools. In addition, information was also collected from government departments and officials, community leaders and institutions, local organizations, and UNDP officials at the state and landscape level. See **Annexure 2** for the detailed list of villages and stakeholders covered as a part of exploratory study.

Filtering livelihood options based on identified criteria

The livelihoods studied through field visit and interaction with stakeholders assessed further in detail based on certain identified criteria and parameters, and filtered based on the direction of influence of livelihoods in relation to these parameters. Following are the some of the major identified (but not limited to) criteria used for filtering the identified livelihood options,

Contribution to landscape conservation – To what extent the identified livelihoods will help in reducing the environmental stress and for landscape conservation

Operational or experimental – Whether the identified livelihood option is operational or experimental

Potential for convergence – Possibility of convergence of identified livelihood option with various schemes, initiatives and institutions

Potential for replicability – How replicable are the identified livelihood options even in the absence of an external agency

Impact on income/expected livelihood outcome – How positively the livelihood options can influence the expected livelihood outcome

Investment required – Investment requirements considering possible internal and external assets available presently

Sustainability – How sustainable are the livelihood options in relation to various economic, environmental and topographic factors

Enabling environment – How conducive is the enabling environment to support the development of livelihood option in the project landscape

Crosscutting considerations – Cross-cutting considerations includes gender, natural resource management, climate change etc.

Detailed development of livelihood strategy/plans – The livelihoods that positively related to aforementioned criteria studied further and strategies or detailed plans around these livelihoods or value chains developed in consultation with different stakeholders and experts including in-house livelihood experts, UNDP officials, government departments and other agencies. A national level workshop was also conducted to identify improvements in the proposed strategy and revision of implementation plan.

3. Livelihood Situation Analysis

The chapter describes the present livelihood situation in the project landscape. The first section describes the Socio-Economic Profile of the project villages after reviewing data available from various secondary sources and primary information collected from the project villages. The second section details out the present livelihoods in the project landscape, which includes Agriculture and Horticulture, NTFPs and MAPs, Tourism, and other supporting areas. Finally, the chapter describes the livelihood situation analysis taking Sustainable Livelihood Framework as an overarching analytical framework. The section describes three major components of Sustainable Livelihood Approach, which are Vulnerability Context, Livelihood Assets and, Transforming Structures and Processes.

1. Socio Economic Profile

The current section details out the socio-economic profile of the project villages, which lies in the districts of Lahaul and Spiti, and Chamba amongst the snow-capped mountains of Himachal Pradesh. Out of the total geographical area of the landscape districts, 35.06% is permanent pastures and grazing lands, 25.5% area is forest area (Land Use Statistics Information System, Ministry of Agriculture and Farmers Welfare, 2017). Irrigated area is 90% in Lahaul and 40% in Pangi as reported by officials from Agriculture Department during interactions.

	Area ('000 ha)	Percentage of Total Area
Total Geographical Area	1603.6	
Forest Area	409.38	25.5%
Permanent pastures and other grazing lands	562.3	35.06%
Net Area Sown	45.2	2.8%
Irrigated Area	6.9	-

The project works in 34 villages (11 in Lahaul and 23 in Pangi) with nearly 2,283 households and a population of over 10,366 individuals. The census points towards 51 percent of the population consisting of males whereas the remaining, i.e. 49 percent of the population is female. The project villages comprise of a majority of Scheduled Tribes (ST's) where, nearly **88 percent** of the total population belonged to this category and, 6 percent belong the Scheduled Caste (SC) category (Census of India, 2011).

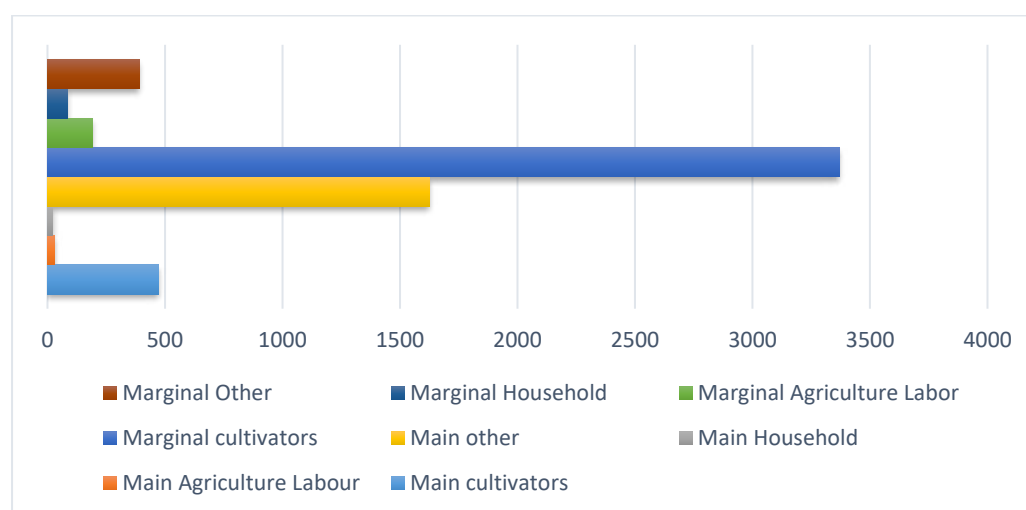


Figure 5: Categorization of working population in the project villages (Source: Census of India, 2011)

Nearly 65 percent of the working population categorized as marginal workers. Within working categories, majority of the population are marginal cultivators (nearly 54 percent as per Census of India, 2011) signifying that agriculture work is only for near half a year in the landscape (See Figure 5).



6 in every ten female members and



*7 in every ten male members are **literate***

With regard to drinking water, on an average, 66.56 percent of houses found their source through treated tap water, 25.12 percent from untreated tap water whereas, on an average, 6.69 percent of the houses sourced drinking water from a river/canal (Census of India, 2011).

The census points towards electricity being the most common source of lighting where, 78.85 percent of the households on an average, relied on this source, 14.32 percent of the households on an average relied on kerosene. It is encouraging to notice that merely 2.08 percent of the households on an average had no source of lighting. Fuelwood is most commonly used for cooking, followed by LPG gas where, 83.25 and 14.41 households on an average relied on these sources respectively (Census of India, 2011). Discussions on field highlighted a similar scenario where, both sources were relied upon for cooking food. However, due to easier access, availability and affordability of fuelwood through the year, most households leaned towards the utilization of this source.

Discussions also brought forth the high utilization of banking facilities by the households, which is also confirmed through census data where, 89.78 percent of households on an average have reported using these facilities. The following table represents village-wise population overview (Census, 2011). See **Annexure 3** for detailed data on village-wise socio-economic profile.

Landscape	Village Name	Panchayat	Total Households	Total Population of Village	Total Male Population of Village	Total Female Population of Village	Total Scheduled Tribes Population of Village
Pangi	Chaloli (13)	Dharwas	53	296	132	164	292
	Rusmas (14)	Sural	41	228	106	122	189
	Tai (15)	Sural	63	319	159	160	313
	Sural Bhatari (16)	Sural	41	216	112	104	209
	Seri Bhatwas (21)	Killar	37	162	84	78	162
	Praghal (28)	Karyas	87	471	226	245	444
	Hughal (25)	Karyas	82	396	190	206	392
	Jhalwas (20)	Karyas	104	573	288	285	569
	Ghangit (27)	Karyas	60	374	185	189	371
	Pre Garaon (3)	Karyas	27	132	70	62	128
	Mahliat (33)	Killar	215	824	442	382	442

	Kupha (23)	Killar	171	617	352	265	506
	Thamoh (34)	Killar	93	433	220	213	382
	Parmas (22)	Killar	101	387	191	196	380
	Sach (47)	Sach	147	608	309	299	558
	Khinan (46)	Kumar	3	11	8	3	0
	Kuthal (48)	Sach	86	456	222	234	266
	Ghisal (49)	Sach	58	276	143	133	276
	Purthi (82)	Purthi	105	517	263	254	508
	Mojhi (73)	Sechu	15	78	47	31	78
	Saichu (65)	Sechu	73	294	149	145	273
	Chasak (66)	Sechu	78	417	216	201	414
	Chasak Bhatore (68)	Sechu	21	121	64	57	120
Lahaul	D.P.F.Urgus (177)	Tingret		0			
	Khanjar (186)	Tingret	15	66	33	33	65
	D.P.F.Khanjar (187)	Tingret		0			
	D.P.F.Bhujund (108)	Tindi		0			
	Bhujund (109)	Tindi	35	180	86	94	173
	Baraur (124)	Tindi	28	113	55	58	113
	D.P.F.Baraur (123)	Tindi		0			
	Tindi (129)	Tindi	101	514	239	275	511
	D.P.F.Lohni (122)	Tindi	28	99	44	55	61
	D.P.F.Harsar (134)	Tindi		0			
	Harsar (132)	Tindi	1	2	2	0	2
	D.P.F.Thanwani (137)	Tindi	7	39	16	23	39
	Kurched (140)	Tindi	15	67	32	35	57
	D.P.F.Salgaraon (144)	Tindi		0			
	Salgaraon (143)	Tindi	55	271	146	125	265
	Udaipur (160)	Udaipur	237	809	430	379	588
	D.P.F.Udaipur (161)	Udaipur		0			

This section describes the summary of socio-economic situation in the project area using Socio-Economic Caste Census (SECC) 2011 on relevant aspects of the project including income, source of income, household type and ownership, and education.

a) Income and source of income

Majority of the households (nearly 66 percent) in the project villages are dependent on cultivation and casual labor as their primary source of income.

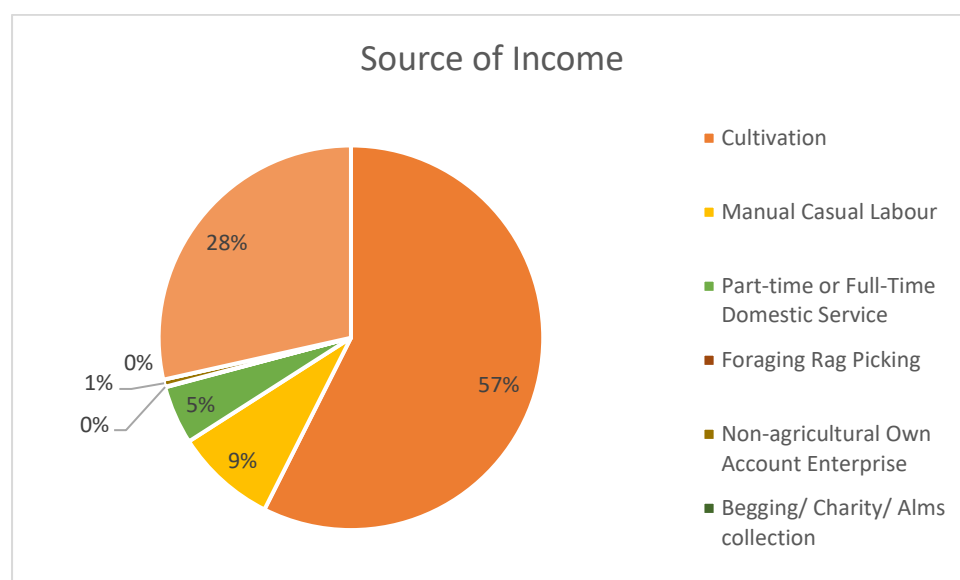


Figure 6: Source of income for project villages (Data source: SECC, 2011)

The monthly income of highest earning member of the households is less than 10000 for 70 percent households in project villages.

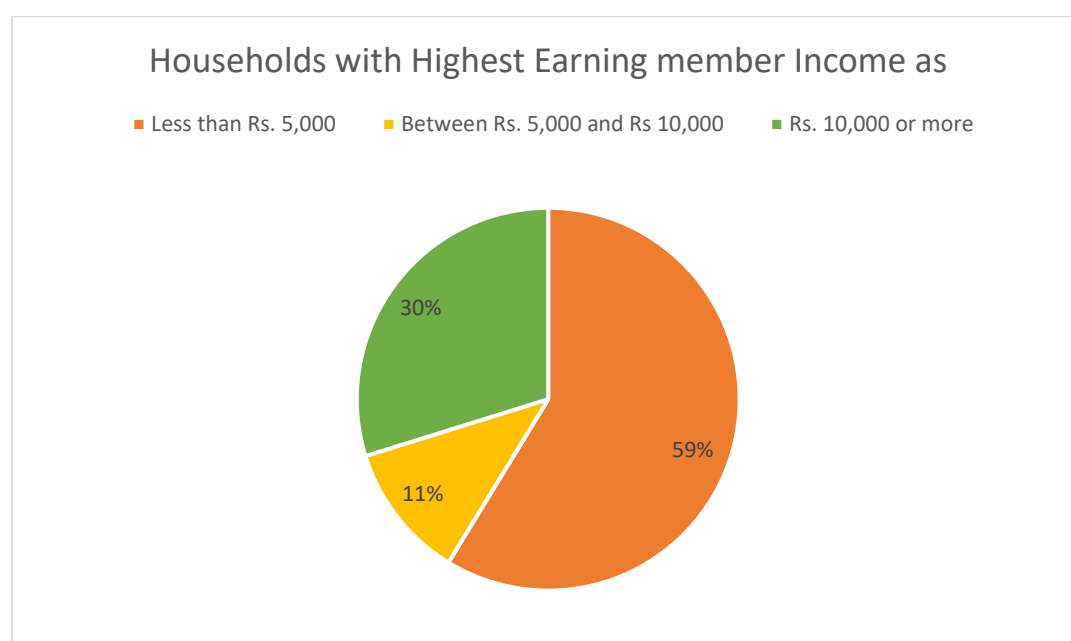


Figure 7: Income of highest earning household member (Source: SECC, 2011)

b) Education

As per SECC 2011 data, nearly 57 percent of the community members in the project villages are either illiterate or completed primary/below primary levels of education. However, the field level study suggests that the community members are investing greater portion of their income for educating their children by sending them to educational institutions outside the landscape. The institutions present in the landscape are also well maintained with proper infrastructure and facilities. The present status of education in the landscape might have changed in opposition to what SECC data suggest, but this gives us some indication on the status of education in the project area.

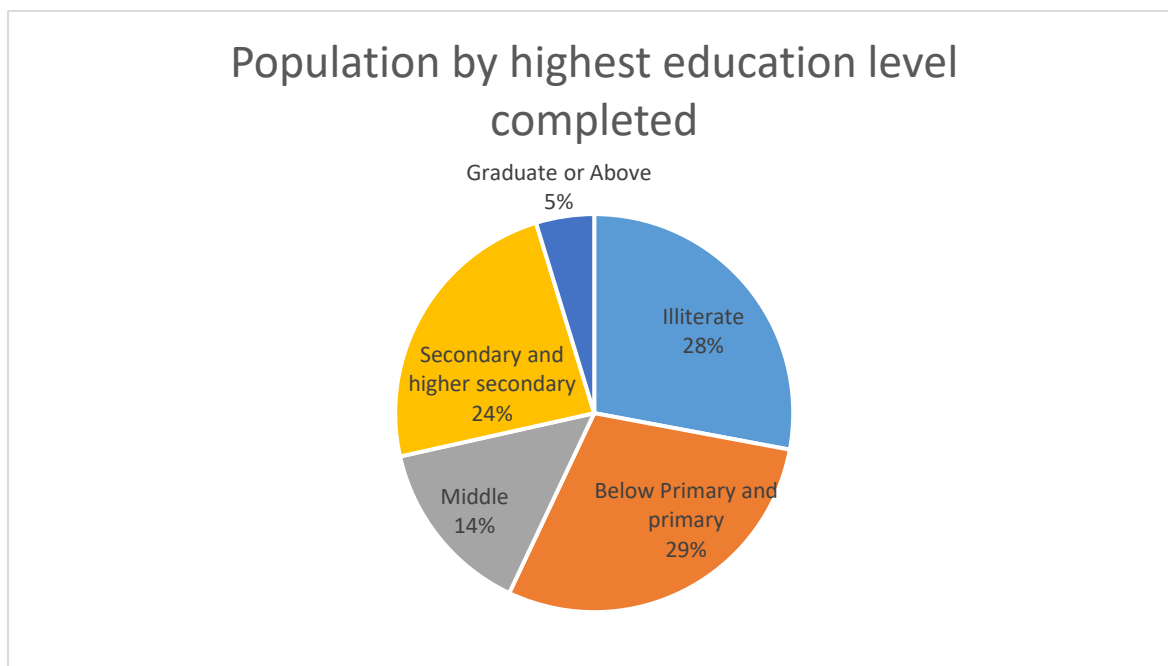


Figure 8: Population by highest education level completed (Source: SECC, 2011)

c) Household type and ownership

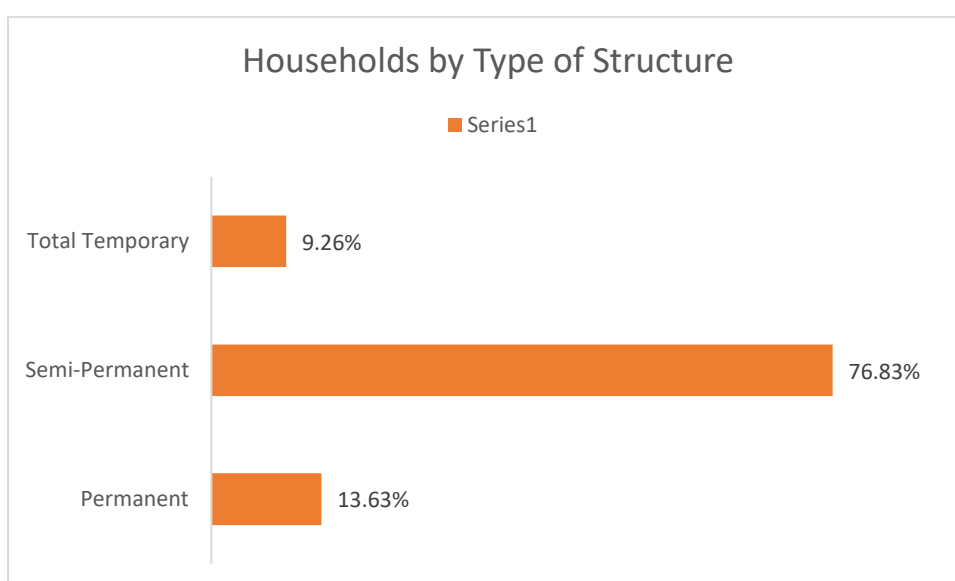


Figure 9: Households by type of structure (Source: SECC, 2011)

The most common house structure was semi-permanent where, 76.83 percent of the houses on an average were made of, a mixture of concrete (cement) and, mud, thatch or other locally available materials. Census 2011 data categorize nearly 85 percent of the households as owned whereas the remaining 15 percent in rented or others category.

2. Present Livelihoods

Ecological problems are essentially the manifestations of over-exploitation of natural resources. There are two key factors involved in this process. First, the attainment of higher living standards and; second, satisfaction of the survival needs of the rapidly growing population. The latter prevails largely among the traditional societies who are still at the early stages of development. Neither has their culture changed significantly nor have they been able to utilise new sources of livelihood. They largely fulfil their needs by exploiting the natural resources to satisfy their basic survival and livelihood needs, which sometimes lead to environmental degradation. Environments, like that of the Himalayas, are quite fragile and the societies living therein are largely traditional. In case of the project region too, the population has remained largely isolated and people depend primarily on the locally available natural resources for the fulfilment of their survival needs as well as their livelihood activities. This was keenly observed through our field discussions, which brought forth the symbiotic relationship between the community and their environment with regard to livelihoods.

2.1 Agriculture and Horticulture

Agriculture remains as one of the most widely practiced livelihood activities where, all the households primarily own their own land or work as agricultural labourers on lands of other

Marginal
Cultivators

54%



cultivators within their villages. The extreme cold witnessed in the region during the winter months, allows cultivation to flourish for only 6 months of the year. Due to the small landholding sizes, the population focuses on cultivating crops, which bring in high returns

such as, peas and potatoes. Cultivation of food crops can be avoided due to the well-functioning public distribution system (PDS) which allows them to stock up on a variety of food grains and other essentials. Villages in the Pangi landscape practice **mono cropping** i.e. cultivation of one crop at a time whereas farmers in Lahaul undertake **multi-cropping** on a single piece of land.

	Lahaul	Spiti
Cauliflower	20,600	280
Green Peas	12,189	2,400
Potato	9,750	
Other vegetables	3,768	25
Cabbage	1,173	200

Figure 10: Comparison of agricultural productivity (MT) in Lahaul and Spiti regions (Source: Department of Agriculture)

The **prevalence of negligible irrigation in Pangi** region hinders the production of fruits, vegetables as well as certain medicinal and aromatic plants (MAPs). Far and few villages in this region had small structures constructed alongside fields which are also known as *kuhl*. However, these were essentially few in number, dilapidated and thus not usable. However, as per discussions with the District Agricultural Officer, **Lahaul experiences 100 percent irrigation**, which was also witnessed during field

discussions where, sprinklers, pipes and *kuhls* were being used to water the fields.

Pangi region's uniqueness essentially lies in the fact that there is almost **no usage of pesticides and fertilizers** thereby making their produce organic by default. The population only uses cow

dung and other natural material as manure on their fields. The interaction with Agriculture Development Officer and other officials revealed that, the farmers in the Pangri region are not willing to use any chemical fertilizers and the efforts made by the Department to provide fertilizers and other chemicals for improving agriculture productivity resulted in almost zero uptake from the communities. In Lahaul, on the other hand, discussions on field highlighted the *high usage* of pesticides and fertilizers such as urea and Diammonium Phosphate (DAP), in the fields of Lahaul. As per one of the officials in Lahaul, **45 tonnes of NPK** was supplied in the district in the year of 2019 itself. The recommended dosage for fertilizers is 20-25 kgs per bigha but farmers increase the dose to get an early flush of crops thereby bringing them a competitive price. However, increasing usage of these foreign sprays are making the soil less fertile due to which the departments are promoting schemes such as, Subhash Palekar Natural Farming (SPNF). Under this, the use of the natural fertilizers are encouraged.



Farmers in Pangri are following natural farming practices though there is a shift to commercial crops. Captured from Chasak, a high-altitude village in Pangri with limited road connectivity and access (Credits: Ramnarayan)

Selling the agricultural produce is heavily dependent upon the region's geographical location and other peripheral impediments. Due to poor road and network connectivity, selling produce outside the project region is difficult. Coupled with this, the absence of a local market forces the population to be dependent upon traders who come and collect produce from individual farmers. Due to this, the local community has to accept prices offered to them and hold no negotiating power. In addition to this, excessive rainfall in the region in the last 2-3 years has directly affected the crop production and quality where, the selling price of the crops plummeted to half their price in 2019 as compared to 2018.

The development of horticulture as a livelihood has been restricted to the cultivation of Apples in both, Lahaul and Pangri. Amongst the villages visited, it was observed that most of them were cultivating apples except for a few exceptions such as Chaloli village in Dharwas, Tai and Sural Bhatori in Sural Panchayat. The number of trees present in the surveyed region varied per village where, the least number of trees present were 50 and the maximum were 1000 trees. Each tree would provide households with around 2-3 *petis* of apple where, one *peti* would consist of 10 kgs.

Some of the most sought-after apple varieties are grown here, such as Royal, Golden and Red Royal. The individuals sell these at Rs. 30-40 to private companies or contractors who come and collect the produce from the villages. Recent years have seen the spreading of scabs and other fungal diseases in apples due to which the apple crop is not being sold or is sold at a much lower price. This was primarily noticed in Pangri region and can be attributed to the negligible use of pesticides as well as the absence of scientific cultivation techniques. In Lahaul, apple cultivation remained unaffected by the spreading of such diseases due to the extensive use of medicines. Other than this, the erratic climate such as, early snowfall has led to crop damage thereby wiping out their apple produce.

Discussions with households revealed how a few households were engaging in the cultivation of some other fruits too such as, pears, cherries and apricots. However, these were being grown on an experimental basis and were primarily kept for self-consumption.

In comparison to farmers in Pangri region, farmers in Lahaul are more progressive with regard to their cultivation techniques, their agricultural equipment (presence of tillers, tractors, sprinklers etc.) which enhances their crop productivity and quality thereby fetching the farmer's better prices. Pangri on the other hand, is more isolated than Lahaul due to which the cultivation techniques are traditional and usage of agricultural equipment etc. are essentially missing. The lack of connectivity makes it tough for technical equipment and advice to reach the remote villages thereby forcing the population to depend upon their own traditional and archaic knowledge.

2.2 Medicinal and Aromatic Plants (MAPS) & Non-Timber Forest Produce (NTFP)

The widespread use of herbal materials for the maintenance of health and treatment of diseases can be traced back to pre-historic times throughout many cultures and regions. In India, the art of herbal healing has very deep roots in tribal culture and folklore. Even today, most of the tribal communities are dependent upon local traditional healing systems for their primary health care. Tribes of Pangri Valley depend highly on the wild plants for their livelihood security and medicines for various ailments. There are several types of MAPs found in the project region, which vary depending on the altitude of the region. Some of the most commonly found MAP's are: *Jungli Lasan, Gucchi, Meethi Pateesh, Kadvi Pateesh, Kaala Jeera, Saalam Panja, Kooth, Gurnoo, Bangdi, chukri etc.* Discussions with various stakeholders revealed that how most of these MAP's are extracted illegally and are over-harvested thereby leading to the slow-ruin of the species. The population primarily focuses on collecting MAP's with high market value.

It was observed that the market prices of these MAP's vary and have dropped to half of their price in recent years thereby adding to the vulnerability of the communities. Private contractors collect these from the community and sell these in Amritsar, Delhi and even foreign nations. Most of these MAPs take at least 2-4 years to mature and found in high altitude areas thereby making their extraction a tough and cumbersome process. Young individuals, individuals living in Buddhist villages also known as *Bhatoris* and migrants from other regions commonly referred to as *Gaddis* are the ones who mostly engage in extracting these. Several discussions revealed the dissatisfaction and resentment towards outsiders who extract these MAP's illegally and in great abundance due to which the locals sometimes lose out on this lucrative income-generating opportunity. Great efforts have been made in promoting cultivation of these MAP's especially *Kooth* however, due to the small landholding and long harvesting periods associated with these plants, most farmers are averse to growing these on their fields. These grown MAPs are collected by traders from Manali and Bhuntar who personally come to the villages and collect these.

Lahaul is not much dependent on the extraction of MAPs as a source of income. The reason for not extracting wild resources in some villages is because of Buddhists traditions and strict laws made by the community institution like Mahila Mandal and Yuva Mandal.

2.3 Tourism

Presently, tourism is the most under developed livelihood activity in the project region. With some presence in Lahaul, this opportunity remains untapped in the Pangti valley. This can be attributed to the remoteness of the region and the frigid winter that makes the valley hard to reach in the winter months. Poor marketing and unfavourable depiction of the landscape by bikers has aided in tagging the place as remote, inaccessible and dangerous.

Case: Urgos Village, Lahaul and Spiti District

The village is near Udaipur (nearly 25 KMs) and the roads are more accessible compared to villages in Pangti. The landscape is suitable for all kinds of travelers where, amenities and infrastructure for tourism already exist within the village and hence, may require less investment for further development. The village already has one house functioning as a homestay, which comprises of 3 rooms where, individuals are charged Rs. 1000/per day/per room. Travelers have also started visiting the location recently. The homestay presently only provides accommodation and food, not any guided tours or packages. The village also has an established and community driven tourist information center and café namely *Menthosa Sangathan Centre*. Though the center was closed during the visits, the villagers said the initiative is active and hence the potential of such interventions can be enhanced further. The Buddhist monastery and cultural practices present in this village can be another factor that may contribute positively to the tourism development. The houses are attractive in **their** design; and the hospitality of community members is appreciable. Another factor that may help the development of tourism is the availability of trained guides. The village is reported to have 4-5 trained trek/tourist guides who currently charge Rs. 5000 per day. The village is active in terms of agriculture, handicrafts, and livestock and hence these activities can be integrated as tourism activities. If more travelers start visiting the location, the village has the potential to derive economic benefits from this opportunity without any external interventions.

2.4 Social security schemes and livelihoods

The community members in the landscape, especially in Pangti region, are largely dependent on two major social security schemes i.e. MGNREGA and PDS. The present livelihood sources including Agriculture and Horticulture are highly uncertain for community members in Pangti due to external factors like climate variations, market fluctuations, transportation etc. MGNREGA ensures an alternative source of income for the community. As mentioned, Lahaul is largely dependent on cash crops with higher productivity hence MGNREGA engagement is limited.



82% households in Pangti completed 100 workdays,
In Lahaul, it is less than 1%

Source: Ministry of Rural Development



Of every 100 plus days allocated...

the enrolled households in Lahaul only completed 34 days

2.5 Sectors/Areas indirectly contributing to community livelihoods

There are different areas/sectors that are indirectly contributing to community livelihoods. Some of these areas are livestock, handicrafts, dairying and bee keeping. Traditional practices around these areas are declining due to overdependence on markets, shift from traditional agriculture and horticulture practices, changing aspirations and increasing migration etc. Influence of various schemes like Himachal Pradesh Cattle Breeding Policy on community livelihoods is also evident in the region. Despite the immense potential of locally made products including handicraft and dairy-based products, it is presently not contributing to income due to limited market accessibility.

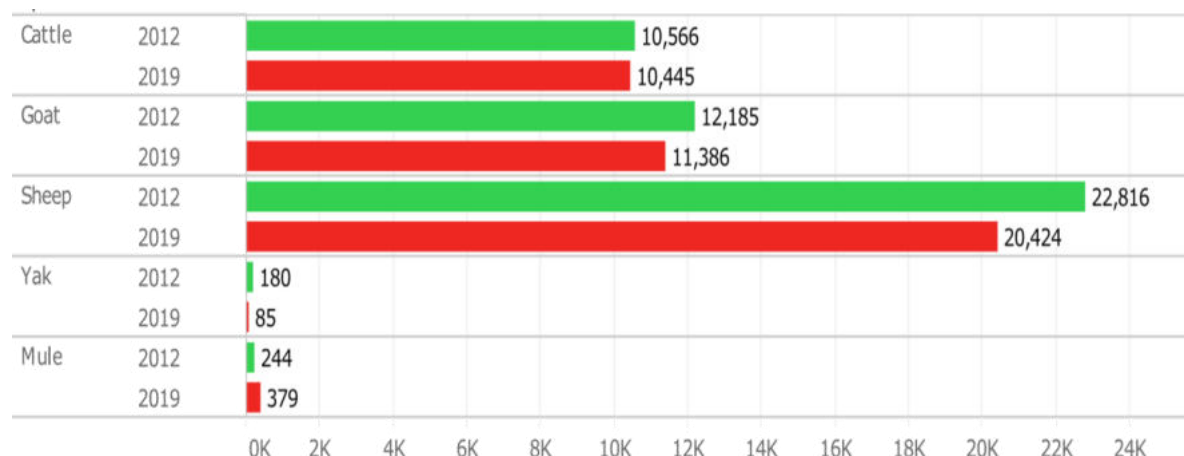


Figure 11: Change in livestock population in Pangri from 2012 to 2019

(Source: Department of Animal Husbandry and Dairying)

3. Situation Analysis

The livelihoods framework is a tool to improve our understanding of livelihoods, especially of the poor and most vulnerable communities¹. This section of the report details out the various components of the structure as mentioned above, in context to the project landscape.

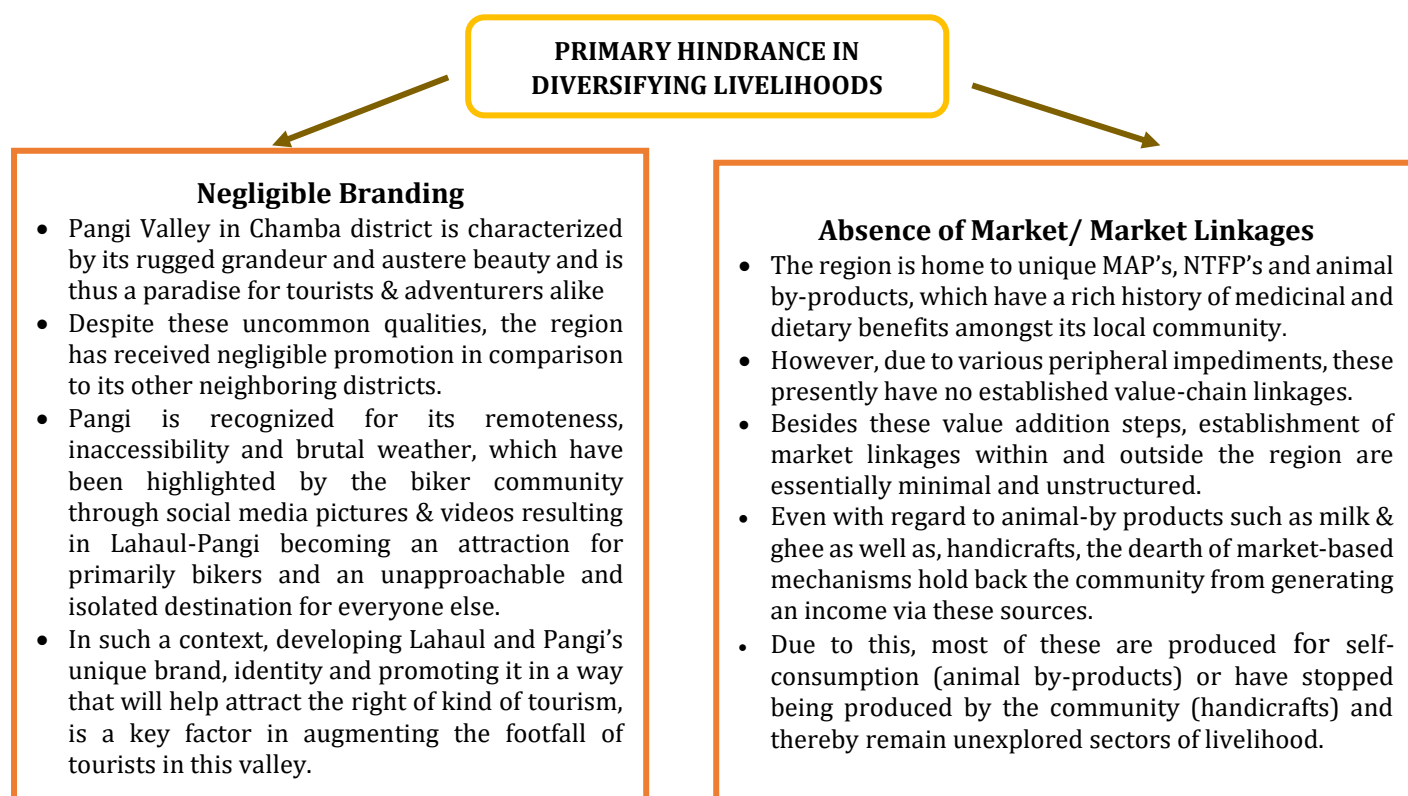
3.1 Vulnerability Context

The Vulnerability Context aids in framing the external environment in which the community exists. People's livelihoods and the availability and access to various assets are fundamentally affected by shocks and seasonality. The community primarily has no control over these. With regard to the project landscape in Himachal Pradesh, the various vulnerabilities as observed through our field data collection have been detailed out below:

1. Absence of a Brand and Marketing

The Pangi-Lahaul landscape boasts of rich faunal diversity and one of the most diverse assemblages in the western Himalayan landscape with regard to wildlife. Besides diverse flora and fauna, the region is famous for its Medicinal and Aromatic Plants (MAP's), Non-timber forest products (NTFP), unique breeds of cattle and other livestock, as well as, striking landscapes, traditional festivals and culture. The prevalence of such distinctive features holds promising income-generating opportunities for the community residing there. Whether it is the sale of various medicinal plants, rare NTFP's such as, hazelnut (*Thangi*), walnut-oil, animal by-product's, handicrafts or even the establishment of homestays for adventurous tourists and wildlife trackers - the region holds an abundance of unexplored and diverse livelihood possibilities.

Although such possibilities have been previously recognized by the state government, the primary impediments in developing these opportunities have been; **negligible branding** of the region in a favorable light and, the **absence of markets or market linkages** for the local resources. These have been elaborated below:



¹ Sustainable Livelihoods Guidance Sheets, DFID

2. Seasonality

Lahaul valley has a low elevation ranging from 2,200 meter to about 5,000 meters. Due its close association with high elevation and snow mountain ranges, the district is characterized by glaciers and ice caves. The valley experiences heavy snowfall throughout winters (6 months of the year) with temperatures dipping up to -20 degree Celsius and sometimes even up to minus 40 degree Celsius.

The community is overwhelmingly dependent on agriculture, livestock rearing and selling of MAP and NTFP's as their primary source of livelihood. Hence, due to the symbiotic nature shared between their natural environment/resources and their livelihood, the weather and climatic conditions have a direct impact on these activities. Thus, the extreme cold and frigid winters witnessed by the region, result in livelihood activities being essentially non-existent during this period. The heavy snowfall also effects the road conditions and availability of electricity which thus has a ripple effect on the ability to transport agricultural produce, MAP's, NTFP's etc.

The main focus of the community during these 6 months are essentially undertaking the various household chores, caring for their livestock, participating in community level meetings and enjoying the local festivals and fairs.

3. Climate Change

The seasons witnessed in this region as reported by the community in the qualitative discussions are essentially; winter, spring, summer and autumn with very less precipitation. However, in the last 2-3 years the region has witnessed extreme events such as; increasing rainfall and rising temperatures.

The excessive rainfall has had a direct impact on the crop production especially for those holding agricultural land in plain areas. These have had devastating consequences on the crop production, crop quality thereby leading to a decrease in the selling price of their produce by almost 50 percent. Other than loss of produce, excessive rainfall holds several consequences for the soil fertility and crop quality. Abnormally high amounts of rain can leach nutrients, especially nitrogen, from the soil. These conditions also provide the perfect environment for fungal growth and other infections amongst the produce due to which, the fields require extra care in the form of herbicides, pesticides and fungicides to be sprayed on the fields, at the correct time. Such a scenario has been increasingly prevalent in the study region as well. Discussions with the community highlighted the increasing prevalence of disease amongst the crops as well as apples in the last 2-3 years. This situation is naturally exacerbated due to the lack of pesticide usage amongst the community, negligible technical knowledge on how to manage fields in such circumstances as well as, missing infrastructure (watershed structures) to combat effects of excessive rain.

The community also discussed how **early snowfall** ruined apple production in 2018 and led to fodder scarcity as well. In such a situation, the department of animal husbandry was mobilized to provide fodder to the communities. The freight rate was taken care of however; the fodder expenses were borne by the households thereby acting as an additional expense. Hence, such extreme events, caused due to the changing climatic conditions that are increasingly relevant for this region, are making the community and their livelihoods progressively vulnerable.

4. Connectivity (Road and Network)

One of the key impediments in the development of livelihoods in Pangri valley remains the poor mobile and data connectivity as well as, the incomplete development of road infrastructure.

Road Connectivity

- Negative impact on the ability to sell agricultural produce, livestock by-products, handicrafts & other income generating products.
- Transport: limited, less frequent, dependent on weather conditions and costly
- Hinders the development of floriculture
- Holds direct consequences on the *physical assets* of the community. It affects their ability to access adequate healthcare in a timely manner thereby holding implications on their physical health and thereby the ability to work effectively
- Holds the community back from exploring any market opportunities outside their region.
- Reliance on contractors who come and collect MAP's, agricultural produce & NTFP's leaving them with reduced negotiating power as they must accept the prices provided by these individuals
- Problem could be partially combated by selling produce during off-season by storing it in cold storages. Unavailability of such infrastructure does not allow them to do so

Network Connectivity

- It affects their ability to access adequate knowledge such as, information on relevant government schemes
- It hinders them from accessing technical skills and training which can aid them in: 1) engaging in, scientific agricultural practices, and, 2) learning how to combat excessive rainfall which has a ripple effect on their crop productivity.

5. Natural Calamities

Due to its geographical positioning as well as climatic conditions, the region is highly vulnerable to natural calamities such as landslides and avalanches, which are a common occurrence in the landscape. These natural disasters directly affect all spheres of the community's lives where, they hold the ability to wipe out; livestock, homes and even entire habitations. Such a situation coupled with; 1) lack of technical knowledge on how to prevent and deal with such disasters and, 2) availability of adequate shelters due to limited road and network connectivity, leave the community in a highly vulnerable situation.

6. Human and Wildlife Conflict

Human and wildlife conflict has also been a consistent concern in the study region. Discussions revealed how increasing temperatures has allowed the infiltration of *rhesus monkeys* at higher altitudes. They are responsible for the rampant destruction of fields in some of the project villages. The communities lack knowledge on how to combat this problem, which holds devastating consequences for them. Other than this, attack of wildlife on livestock is another challenge faced by higher altitude villages, especially *Chasak Bhatori* where, the village faces loss of at least 5-7 livestock every year. The community does not hold adequate knowledge on how to manage this conflict and thus feel the need to protect their livestock, which is essential to their daily living by fatally injuring the wild animals.

In conclusion, we can observe that, the key vulnerability lies in promotion of Pangi in an unfavorable light, which has hampered the infiltration of tourism in this region. Other than this, the unavailability of a local market or of market linkages outside the region adds to the vulnerability of the community and their livelihoods. The peripheral impediments contributing to these main challenges are extreme winters, climate change, connectivity, natural calamities as well as, human and wildlife conflict as stated above.

3.2 Livelihood Assets

The sustainable livelihood approach is founded on a belief that people require a range of assets to achieve positive livelihood outcomes; no single category of assets on its own is sufficient to yield all the many and varied livelihood outcomes that people seek. This is particularly true for poor people whose access to any given category of assets tends to be very limited. As a result, they have to seek ways of nurturing and combining what assets they do have in innovative ways to ensure survival. The five type of livelihood assets viz. social, natural, physical, human and financial capital present in the landscape as found from field level exploration study described in coming sections.

3.2.1 Social Capital

In the context of the sustainable livelihoods framework, social capital is taken to mean the *social resources upon which people draw in pursuit of their livelihood objectives*. They are developed through²:

- **Networks and Connectedness:** either vertical (patron and client) or horizontal (between individuals with shared interests) that increase people's trust and their ability to work together and expand their access to wider institutions such as political or civic bodies.
- **Membership of more Formalized Groups:** which often entails the adherence to mutually agreed upon rules and regulations.
- **Relationships of Trust, Reciprocity and Exchange:** which facilitate cooperation, reduce transaction costs and provide a basis of informal safety nets amongst the poor.

The section below details out the various forms of social capital found in the study region as part of our qualitative discussions with the community and the various department officials.

a) *Praja Mandal*

The ***Praja Mandal*** is a social institution existing in all villages of Pangi valley and unique to this region. These are non-elected democratic village committees that have been functioning for decades, and have been formed by the whole village. They are responsible for formulating all rules, regulations and sanctions for those residing in the village.

1) Membership and Functioning: As per observations on field, it was seen that every village has an actively functioning *Praja Mandal*. To ensure the representation of the entire village community, one member of every household is a part of this village committee. However, it was noticed that women are excluded from this social institution where, the membership comprises of only men. In some cases, where a household only has a single woman residing in it, she is made a member of the *Praja Mandal*. Rotationally, every member of the Mandal represents his/her hamlet/village as the President of the Mandal. The Mandal has an active committee comprising

² Sustainable Livelihoods Guidance Sheets, DFID

of approximately eight members. These eight individuals are all from different households and are rotationally changed every year, where, eight individuals from eight different households take the place of previous committee members. Meetings of the Mandal were seen to be held approximately twice every year essentially when any major decision needed to be taken. Although not every village will comprise of this exact structure, however, it was seen to be more or less similar across the valley.

2) Rules and Regulations: Discussions on field highlighted the importance of this village level committee, which essentially functions to take decisions on most prevalent issues of the village, which affect the lives of the community. Although the institution has an active committee, all the members of the institution take most decisions together, based on mutual consensus. All the household representatives have to follow certain rules framed by the *Praja* such as:-

- attending all the meetings of the *Praja*;
- follow various rules formed by the *Praja* from time to time;
- attending the death-rituals of a deceased in the village;

Failing this, one is liable to be fined the amount of which is fixed by the *Praja* or otherwise face social-boycott. The *Praja* also looks into the matters of conflicts arising within the village and with other villages. Thus, the *Praja* acts as an agency for promoting social-interaction as well as social-harmony. This system has been evolved mainly to overcome the problems faced by the people in the process of their interface with the harsh environmental conditions in the region and very low level of interaction with the outside regions. Some of the common rules and regulations found across villages were: restriction on collection of fuelwood and fodder from the forests, protection of forests to reduce extraction of certain MAP's and, restriction in sale of certain MAP's and crops due to low purchase prices.

In **Sach village of Sach Panchayat**, it was observed that there were certain rules and regulations in place to protect forests where, young boys were given the responsibility to guard these areas and report it to the Mandal in case illegal activity was noticed. These young boys were not paid anything and fines were charged against those who engaged in going against these rules. The *Praja* Mandal of this village even provided loans to household when required and charged an interest rate of 5 percent per month. The loan money was sourced from the penalties charged which was deposited in the *Praja* Mandal's own bank account. Currently, the bank account held an approximate of Rs. 1.5- 2 lakhs.

In **Sural Panchayat**, decisions regarding the sale of *jungli lasan* were taken where, due to low purchase rates of this MAP, the Mandal of Sural Bhatari and Tai village decided not to sell their produce this year.

In **Tindi Panchayat**, the villages had strict rules and regulations pertaining to conservation of their forests and various other natural resources. Interaction with village level leaders revealed that, individuals were not allowed to collect fodder and fuelwood. In Salgaraon village, restrictions on the collection of MAP's were also imposed. Violation of these rules resulted in a fine of Rs. 10,000 as well as exclusion from social institutions and activities.

The exclusion of women from these institutions was observed across villages where, these women were unaware of most discussions taking place as part of these *Praja* Mandal meetings. Female respondents from Sural Village spoke about how issues pertaining to women are not addressed as part of these meetings where, if problems pertaining to alcoholism or domestic violence were prevalent in the village, these would not be acknowledged or addressed.

b) SHG'S and Mahila Mandal

The Self-Help Groups (SHGs) guiding principle stresses on organizing the rural poor into small groups through a process of social mobilization, training and providing bank credit and government subsidy. The SHGs are to be drawn from the BPL list approved by the Gram Sabha wherein about ten persons are selected, one each from a family and focus on the skill development training based on the local requirement. The SHG movement has gathered pace in countryside and is directly or indirectly contributing towards the economic development of rural areas. The main objective of SHG concept is to improve the economic development of women and create facilitating environment for their social transformation in the lift of gender discrimination in work and the household³.

As per the data (See Annexure) received from the Block Development Officer (BDO), Pangi, the list of SHG's currently functioning in the project villages has been presented in the table below:

Despite the data indicating, the establishment of SHG groups almost 6-7 years ago with some even having credit mobilization and an income generating activity, the observations on field remained contrasting. Although at least one SHG was observed in each of the visited the villages, these were essentially defunct and inactive in nature.

As per the discussions conducted with the community, women's groups had been formed several years ago and commonly referred to as **Mahila Mandals**. However, SHGs and *Mahila Mandals* are two separated entities. *Mahila Mandals* had their basic structure in place where, each of them had a committee comprising of a President, Vice President and Secretary. However, as they had received little or no training and capacity building- they were not clear regarding their roles and responsibilities nor did they know the objective or purpose of forming an SHG. This could be attributed to the fact that, these SHGs were formed under the National Rural Livelihoods Mission Scheme (NRLM), which is non-functioning in the region as of now.

Due to this, most SHG's meet rarely i.e. once or twice a year or before an upcoming festival/fair which is essentially during the winter months when household chores are less. Discussions in these meetings are limited to development issues in context of the village where they discuss how they should be conscious about village cleanliness; get their children good education etc. Issues pertaining to personal problems, women's challenges are rarely discussed or resolved. The meetings are conducted in a formal atmosphere and are not serving their original purpose of empowering the women. Although problems of alcoholism and domestic violence are rampant in some villages, discussing these with one another is not viewed favorably. Money is not collected regularly and is only collected occasionally when they all decide to collectively do an activity for a village festival/fair.

The only relatively active SHG was seen in **Chaloli village of Dharwas Panchayat** where, the Mahila Mandal is active in the village to some extent. The women led body is meeting actively and have a savings account with some cash collected from the members.

Even though the SHG's remain essentially defunct and non-active due to the lack of training and awareness amongst the community, these can be leveraged upon to contribute directly towards an additional income as well as the conservation of their surroundings.

³ https://www.rajeshtimane.com/shg_in_rural_devt/

c) Other Community Institutions

Other than presence of SHG's and *Praja* Mandals, some of the villages had other, smaller community organizations existing, which brought the individuals of the village/habitation together. However, most of these were essentially defunct and had no specific responsibility or objective. Some of these smaller community organizations were, **Yuva Mandals**, which were present in very few villages such as, in the village's part of Tindi and Tingret Panchayat. Other than these, the Buddhist monastery and some religious institutions hold a strong influence in the Buddhist i.e. Bhatori villages. These religious beliefs influence the community's daily life and influence how the community interacts with its environment and natural resources.

One of the villages (Salgaraon) of Tindi Panchayat had an established Bio-diversity management council (BMC). As per discussions with the department officials, 16 BMC's were to be established in Pangri alone out of which all have been currently established. However, they are yet to start functioning properly.

In conclusion, we can see that, with regard to social assets, there are various small community organizations existing in all villages. The most common organizations that exert an influence on the daily lives of the people are that of the *Praja* Mandal or Mahila Mandal. Even amongst these two, it is the *Praja* Mandal, which is consistently active and most relevant for the communities residing in the project region. These institutions and especially the *Praja* Mandal can be leveraged upon in the future, to bring in any form of change within the community with regard to their livelihoods.

3.2.2 Human Capital

Human capital represents the skills, knowledge, ability to labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives. The human capital present in the region that can be utilized for improving livelihoods are,

a) Traditional knowledge and skills on agricultural and horticultural practices

The community members in the landscape are knowledgeable and skilled in traditional agricultural practices though there is a shift to commercial crops. The productivity of agricultural crops in the region is significantly higher compared to similar landscapes. Practices including usage of natural fertilizers, utilizing livestock for farm-allied practices, beekeeping for pollination services, drying of produces, irrigation through **Kuhls**, farming in poly-houses etc. are some of the knowledge assets that can be utilized for improving the livelihoods.

b) Traditional knowledge on beekeeping

Beekeeping is a common activity in the landscape and the community members, especially in villages with horticulture production, are skilled in traditional beekeeping practices. However, the community members are not much aware on the importance of pollination services in agricultural productivity and possibilities of deriving economic benefits through beekeeping enterprises.

c) Skills in spotting wild animals, recognizing plants and other wild resources

Traditionally, the communities in the landscape are largely dependent on wild resources for many purposes. Livestock grazing, pastoralist practices, and extraction of wild resources including medicinal plants were essential for the survival of the communities in the past decades due to complete isolation from outside market. Though the present situation significantly changed with the opening of roads connecting to outside institutions and markets, the community members are still knowledgeable on spotting wild animals, recognizing essential plants and

identifying the uses, identifying trekking routes and other wild resources. These knowledge resources if effectively combined may significantly improve community livelihoods by opening up new possibilities like nature tourism.

d) Traditional skills of making handicrafts using locally available resources

Processing of locally available wool and making handicraft items were common practice, especially during winter, in almost all the households in the project landscape. The traditional handcrafted items like *Gogi* are symbols of the community tradition and culture. In addition, the clothing and other items made from the wool were essential since the community dependence on outside market was less. The practices are shifting in the landscape and we can witness wastage of wool and underutilization of resources and skills due to the limited market connectedness. However, handicraft making is still a common activity in all the project villages during winter especially amongst the elder family members.

e) Skills in making dairy based products

The milk production is higher in the landscape but presently the community members are not able to sell the milk in markets due to limited local demand and difficulty in accessing outside markets. A large amount of milk produced in the region converted into products like Ghee and *Churpi* and the products are made following unique processes and traditional practices. The products made from milk in the landscape are not connected to any markets and there is a possibility of value adding these unique resources and knowledge with appropriate interventions.

f) Traditional way and practices of managing guests

Traditionally, the communities in the landscape are welcoming and the warm hospitality is inherent to their culture and way of living. It is usual for the community members to host guests from the community as a part of their tradition, also people from outside who visit the villages for various purposes. The hospitality of community members and the traditional way of taking care of guests can be a livelihood asset for the project to consider in further developments.

g) Knowledge on traditional art and craft forms

Traditional handicraft is not the only element integral to community livelihoods. The region is home to number of community festivals and the knowledge on the traditional art and craft forms, myths, community living and other cultural forms may positively contribute to livelihood development.

h) Formal education of community members

Education is a major investment and an expense area for the community members in the landscape. The educated community members are important human capital for the project to consider in improving livelihoods.

3.2.3 Natural Capital

Natural capital is the term used for the natural resource stocks from which resource flows and services (e.g. nutrient cycling, erosion protection) useful for livelihoods are derived. There is a wide variation in the resources that make up natural capital; from intangible public goods such as the atmosphere and biodiversity to divisible assets used directly for production (trees, land, etc.). The major natural capital available in the project landscape are,

a) Natural landscape and biodiversity elements

The natural landscape, rich biodiversity, Flora and Fauna are the major natural capital in the landscape. The present ways in which these resources are accessed and utilized are affecting the natural environment and increasing the risks associated with community livelihoods. Extraction of wild plants and resources, usage of chemical fertilizers, unsustainable practices in the form infrastructure development etc. are directly affecting the natural landscape and biodiversity elements. The effect of such practices is visible in the form of changing climatic patterns, declining population of wild species and unanticipated climate events.

The natural landscape and biodiversity elements are most valuable natural resource in the landscape for improving livelihoods if carefully utilized by giving priority for conservation. For instance, the region is home to rare species like *Nucifraga multipunctata* and such elements can attract people from outside for research and tourism purposes that may provide livelihood opportunities for the community members.

b) Climatic and natural conditions suitable for agriculture and allied activities

The climatic conditions in the landscape are most suitable for the production of specific crops like Apple. Sufficient rainfall and snowfall levels, temperature conditions etc. makes the environment most suitable and a reason for higher agricultural productivity. However, the region recently witnessed change in climatic and natural conditions resulting in suboptimal livelihood outcomes.

c) Land and supporting resources for agriculture and horticulture production

Availability of land for agricultural activities and allied practices like livestock grazing along with supporting resources including water and other natural resources are major livelihood asset in the project landscape. Majority of the community members are having access to land, water and other essential natural resources in the landscape.

d) Other Natural resources supporting present livelihoods

In addition to above-mentioned broad natural resources, there are specific natural resources that contributing to meeting the community livelihood requirements. Some of these resources are conditions suitable for the growth of specific livestock breeds, pollinating agents like natural bee population etc.

3.2.4 Physical Capital

Physical capital comprises the basic infrastructure and producer goods needed to support livelihoods. Infrastructure consists of changes to the physical environment that help people to meet their basic needs and to be more productive. Producer goods are the tools and equipment that people use to function more productively. Some of the broad set of physical assets are,

Secure shelter and buildings

A large majority of community members are having secure shelter for living. The traditional houses designed in a way that resist harsh climatic conditions and weather events. However, winters are difficult for the communities due to the difficulty in accessing necessities like health care or transportation facilities. In some cases, the communities are required to relocate to a safe shelter that capable of resisting avalanches and extreme conditions.



Secure shelters are built for relocation in case of extreme weather conditions. Captured from Pregraon, a remote village in Pangri (Credits: Shailesh Nagar)

Accessible roads and transportation

Majority of the villages in the landscape are accessible except for few months during winter, and are having motorable roads. Public buses in the landscape are plying to most of the villages from major centres like Killar and Udaipur for nearly 6 months. The media wrongly portrayed the major roads connecting Udaipur and other regions to Killar as one of the dangerous roads, and this is a major reason for the underdevelopment of sectors like Tourism and Handicrafts that would have significantly contributed to community livelihoods.

Healthcare and Education

The field level study undertaken reveals the presence of adequate health and education infrastructure in the landscape. Majority of the villages are accessible to affordable healthcare facilities and educational institutions. The block level hospital at Killar is having all the modern facilities including tele-health facilities and Ambulance services; the case is same with Udaipur as well. In addition, almost all the villages including high altitude villages like Suraal are equipped with health dispensaries and facilities. Educational institutions well maintained, and senior secondary schools are having facilities including hostel, E-learning infrastructure, library and toilet facilities. However, these facilities are not functional and accessible during winter.



Senior Secondary School in Saichu: The school is having all the facilities including hostel, digital learning and library

(Credits: Nikhil)

Access to energy

Traditionally, fuelwood is the primary source of energy for the community members for cooking, heating and other purposes. However, all the villages including the remotest villages are electrified in the landscape. Some villages are equipped with solar facilities for meeting basic energy requirements.

Access to information and communications

The community members in the landscape are presently having limited access to information and channels for communication. A large majority of the villages are not having network connectivity for major telecom operators. The limited connectivity is largely affecting the community livelihoods since the possibilities of distant communications and access to information are limited. The field level interactions with the stakeholders reveals that, the majority of the community members are not aware of major schemes, like Weather Based Crop Insurance Scheme, and this can be attributed to difficulty in accessing information as one of the reasons.

3.2.5 Financial capital

Financial capital denotes the financial resources that people use to achieve their livelihood objectives. Some of the important financial capital to consider in improving community livelihoods are,

Investments made in renovating houses

House renovation is one of the major investment areas for community members. There are multiple reasons for increased investments in this area including those related to social functions. Large investments on house renovation is common across villages and communities hence it is important to consider these livelihood assets while developing livelihood strategy.

Investments made in education

The community members are investing large amounts in the education of their children. The landscape is having good education infrastructure including colleges but the communities prefer their children to study outside since it can provide better quality education and assured job in most of the cases.

Savings of community members

As mentioned, Agriculture and MGNREGA are two major income sources for the communities in the landscape. Savings of community members from these activities can be utilized for providing alternative and attractive livelihood options. For instance, the community members shown greater willingness to develop facilities of a homestay in their houses during field level interactions. Willingness to make such small investments from savings can be leveraged by the project in improving livelihoods.

Livestock

Livestock is an integral part of community livelihoods due to its close association with major sectors like agriculture and handicrafts. The livestock in the region is a crucial asset to consider since it can open up many possibilities in the areas of handicrafts, dairying, agriculture etc.

Eligible credits

The eligible credits accessible through SHGs, Banks and other financial institutions is another financial capital for the project to consider. The interaction with officials revealed that, credits like agriculture loans are easily available and accessible in the region. Some of the farmers in Lahaul project area are already having Kisan Credit Card and insured under Weather Based Crop Insurance Scheme. It is important for the project to consider how attractive is the livelihood option identified in helping community members to payback the credit availed since this asset can become a liability in some cases.

Social Security Schemes

Some of the social security schemes like MGNREGA, PDS, and Crop Insurance Scheme etc. are also important to consider as an indirect financial capital since it may help community members to increase their income reduce the risks and reducing their expenses.

3.3 Transforming structures and processes

Transforming Structures and Processes are the institutions, organisations, policies and legislation that shape livelihoods. They effectively determine the access, terms of exchange and return to any given livelihood strategy. It can be broadly categorized as Structures, Policies, Institutions and, Culture for the project landscape. The coming section describes some of the major structures and processes in the landscape, how it influences and shape the livelihood assets and possible strategies.

a) Policies

Policies play a vital role in allowing or restricting community access to various livelihood assets. Policies are influencing the community livelihoods at various levels and capacities. The Policies relevant in the landscape in relation to community livelihoods can be broadly categorized into Macro Level policies, Sectoral policies and Regulatory level policies.

Macro Level: Some of the macro level policies like MGNREGA and PDS are active in the region significantly influencing community livelihoods. Public Distribution Systems are well functional

and a major reason for shift to commercial crops and overdependence on markets. MGNREGA ensures alternative source of income and livelihoods for the community members, especially in Pangti. Some of the major policies that may significantly influence livelihood assets and options are not reaching communities due to lack of awareness and other situational factors.

Sectoral Level: Some of the sectoral level policies/schemes like Weather Based Crop Insurance Scheme, Livestock Insurance Scheme, and Backyard Poultry Scheme have positively contributed to community livelihoods though the present reach may be small. Some policies like State Breeding Policy failed to take account for situational requirements and lead to suboptimal livelihood outcomes in the landscape.

Regulatory: The important regulatory act relevant for the project in relation to conservation and livelihoods is the Chamba Minor Forest Produce Exploitation and Export Act, 2003. Under this act, collection and export of minor forest produces are possible for licensed person. The present regulatory act has not taken much consideration for conservation and communities in the landscape. Traders from outside derive majority of the benefits through over extraction of wild resources.

b) Structures

Financial institutions: Financial institutions plays a significant role in community livelihoods in the landscape. The direct benefits from schemes like MGNREGA accessed from banks. Another crucial role related to credit and insurance. Many farmers, especially in Lahaul, presently benefitted through Kisan Credit Cards and Weather Based Crop Insurance Scheme (754 accounts of WBCIS in Lahaul for the year 2019). Majority of these credit and insurance programmes are facilitated through banks and hence an important stakeholder for the project in enhancing community livelihoods.

SHGs, NGOs and other community level institutions: Presence of SHGs and NGOs are minimal in the landscape and the existing institutions are not active. NGOs like CEVA are at initial stage of development and presently not contributing much to community livelihoods as revealed from field level interactions. Some SHGs are performing basic functions such as credit mobilization for members but such activities are very limited.

Private sector: Private sector has very limited presence and influential capabilities on community livelihoods in the landscape. Players like Dabur intervened in some of the areas like beekeeping but such developments are largely restricted to some villages in Lahaul and Spiti district but not in Pangti.

c) Institutions

Community Institutions: Praja Mandal and Mahila Mandal are the two important community institution in the landscape as mentioned in earlier sections. These institutions are capable of restricting access to resources including forest resources. In some villages, strict laws made to restrict some practices like collection of wild resources that are harmful for natural ecosystem.

Market institutions: Majority of the accessible markets for community members not organized presently and highly uncertain in nature. The community members depend on outside markets for selling their agricultural produces. These markets largely controlled by outsiders hence often resulting in less price realization for farmers. Markets for NTFPs and MAPs are highly uncertain with the involvement of many players. Other markets as tourism and handicrafts are underdeveloped presently and not contributing to income and livelihoods.

Informal arrangements: There are various informal arrangements within communities that regulate access to various livelihood resources. Restriction on the usage of grazing land, collection of NTFPs like Hazelnut and Walnuts are some of the informal arrangements in the landscape.

d) Culture

Vulnerabilities and livelihood assets are associated with culture and traditions as well. For instance, the difference in practices and culture of *Bhots* and *Pangwals* in Pangri are also effectively determining vulnerabilities and access to various livelihood assets. The *Bhots* communities are living in higher altitude villages hence their livelihoods significantly differ, also the dependence on natural resources. The influence of differences in culture and practices are visible in two landscape as well. Lahaul landscape much developed compared to Pangri due to the differences in farming practices. The farmers in Lahaul are following modern practices like multi cropping along with the use of chemical fertilizers. These practices are influences of culture and traditions to some extent.

4. Filtering Livelihood Options Based on the Criteria Developed for the Landscape

The field level exploration study resulted in a set of possible livelihood options that can be further developed in the project landscape. However, the methodology adopted for the study suggests the requirement to consider various factors like contribution to conservation before the development of a detailed strategy. The section describes the criteria adopted for filtering possible livelihood options. The section further describes the assessment of livelihood options identified from exploration study and those suggested by the project document based on the criteria.

The livelihood options developed through exploratory study and those suggested by the project document are filtered based on developed criteria relevant for the project. Table 1 **Error! Reference source not found.** represent the criteria relevant for the project and weight assigned to each component.

Criteria	Suggested weight
Relation to conservation (Positive/Negative/Neutral)	5
Nature of identified livelihood option (Operational/Experimental)	2
Potential for convergence (High/Medium/Low)	4
Potential for replicability (High/Medium/Low)	4
Impact on income/livelihood outcome	5
Investment required (High/Medium/Low)	5
Sustainability (High/Medium/Low)	4
Enabling environment (Conductive, Neutral, Non-conductive)	2

Table 1: Criteria for filtering the livelihood options in the project landscape

The identified livelihood options were assessed and scored (on a scale of 0-10) by a team of experts against each of aforementioned aspects and weighted average method was used for ranking the options. The top-ranking livelihood options considered further for strategy development and detailing.

1. Filtering livelihood options in the project document

The livelihood options suggested in the project document was assessed by a team of experts after analyzing the present livelihood situation in the landscape. The livelihood option suggested in the document and the general assessment by the team is given in Table 2.

Activity	General Assessment	Recommendation
Value addition of agricultural produces	<ul style="list-style-type: none"> Resource constraints⁴ and high investment requirement⁵ Working mechanism are already being developed 	Not a recommended option
Supply of high quality <i>Lilium</i> and other flower species	<ul style="list-style-type: none"> Higher investments required Less competitive to existing livelihood options 	Not a recommended option

⁴ Resource constraints include infrastructure requirements for value addition, skill requirements, transportation facilities, markets etc.

⁵ The project expected to work in convergence with existing mechanisms and institutions in order to ensure sustainability of livelihood strategies. Value addition of agricultural produces requires higher investments in terms of external finance as well as human resources. It is recommended to focus on viable livelihood options that can be pursued using available livelihood assets, structures and processes and those identified from field level exploration study.

Planting material for Walnut and cultivation of Mithi Pathish	<ul style="list-style-type: none"> No known viable cultivation protocol Walnut has potential if taken extensively 	Not a recommended option
Expanding product range of Seabuckthorn	<ul style="list-style-type: none"> Study needs to be done on available species Presently harvested from forests 	Not a recommended option but promotion and planting as a horticulture crop may promoted
Livestock insurance and introducing crossbreeds	<ul style="list-style-type: none"> Livestock insurance schemes are already functional well in the region Crossbreeds are already there in the landscape for bovine livestock 	Not a recommended option
Promotion of eco-tourism	<ul style="list-style-type: none"> Homestays has huge potential in the landscape Conservation based adventure tourism can be promoted 	Recommended option
Introduction of new designs and market linkages for handloom	<ul style="list-style-type: none"> Potential option but scale should be taken into consideration 	Recommended option
Dairy improvements	<ul style="list-style-type: none"> Dairy transportation will be an issue Value added milk products has potential 	Value added milk products recommended
Developing value chain for buckwheat	<ul style="list-style-type: none"> Production is happening across Himalayan states Margin will be minimal but further study required for branding and marketing 	Not a recommended option

Table 2: Filtering livelihood options in the project document

2. Filtering livelihood options identified from exploration study

The livelihood options identified from exploration study undertaken in the landscape was assessed and scored by a team of experts. Table 3 represents the livelihood options identified, general assessment and weighted average of score assigned to each component under the criteria for respective livelihood option (See **Annexure 2** for details on scoring and calculations).

Livelihood option	General assessment	Weighted score	Accept/Reject
Promotion of weather-based crop insurance scheme	<ul style="list-style-type: none"> Effective strategy in mitigating risks associated with unanticipated weather events Requires low investment but high impact activity 	9.48	Accept
Beekeeping for pollination services and entrepreneurship development	<ul style="list-style-type: none"> Can significantly improve the productivity of crops Alternative livelihood options through the development of beekeeping enterprises 	8.77	Accept
Reviving wool based handicrafts using locally available resources	<ul style="list-style-type: none"> Requires incremental improvements but capacities and potential already exists 	8.35	Accept

	<ul style="list-style-type: none"> Potential livelihood option during winter 		
Promotion of conservation oriented tourism amongst selected clientele	<ul style="list-style-type: none"> Lot of potential given the natural landscape and biodiversity elements Significantly contribute to conservation efforts and livelihoods if promoted actively 	8.32	Accept
Promotion of homestay ecosystem	<ul style="list-style-type: none"> Alternative option to unsustainable practices Community members are already welcoming and has essential skills required 	7.87	Accept
Promoting backyard poultry as an alternative livelihood option	<ul style="list-style-type: none"> Schemes are already functional but less awareness Markets already exists 	7.87	Accept
Promotion of poly-house farming	<ul style="list-style-type: none"> Help in reducing the market dependency and cultivating off-seasonal produces for sales Requires designs that adaptive to local climatic conditions 	7.67	Accept
Exploring the potential of milk products	<ul style="list-style-type: none"> Community members are already making products like Ghee and <i>Churpi</i> There is a niche market for products like artisanal cheese 	7.54	Accept
Promotion of low risk high impact adventure tourism	<ul style="list-style-type: none"> High potential for low risk and unique events like Ultimate Frisbee, Sky running exists Will contribute significantly to community income 	7.35	Accept
Enhancing irrigation practices	<ul style="list-style-type: none"> Existing schemes can be promoted further In Pangri region irrigation is still an issue 	6.90	Accept
Cultivation of selected MAP, herbs and spices	<ul style="list-style-type: none"> Essential in reducing the dependency on wild resources Experimental but sustainable from a long term perspective 	6.25	Accept
Cultivation of Cherry and similar fruit plants	<ul style="list-style-type: none"> Highly experimental and less competitive to existing options 	5.32	Reject
Exploring products like Natural Dye, Soaps, Hazelnut and Walnut Oil	<ul style="list-style-type: none"> Market development will be investment intensive hence direct interventions are not recommended Resource intensive in terms of capital and capacities 	5.29	Reject (but hazelnut cultivation can be promoted on an experimental basis)
Promoting natural farming	<ul style="list-style-type: none"> Natural farming practices are shifting in the region 	5.29	Reject (but the project may take up

	<ul style="list-style-type: none"> ▪ Less impact on expected outcomes and incomes 		the initiative in convergence)
Establishment of FPO and aggregation mechanism for agricultural produces	<ul style="list-style-type: none"> ▪ May reduce pressure on forest resources but cash crops may lead to the usage of more fertilizers ▪ Mechanisms are already being developed and no need for the project to intervene 	5.25	Reject (but the project may take up the initiative in convergence)
Market development for processed agricultural and horticultural produces	<ul style="list-style-type: none"> ▪ Highly investment intensive ▪ Highly experimental and beyond the project capacities for direct interventions 	4.67	Reject

Table 3: Filtering livelihood options identified from exploration study

5. Approach for Livelihood Improvement


The chapter describes the general approach developed for livelihood improvement in the project landscape. The approach was developed after exploration study and detailed analysis of livelihood situation in the project landscape. The approach is described with the help of a conceptual diagram and some relevant illustrative samples from similar landscapes are given towards the end of the chapter.

Considering the present status of livelihoods and situational requirements, the proposed approach developed for improving the livelihoods in the project landscape is given in Figure 12.



Figure 12: Approach for livelihood improvement

The approach is to develop a **landscape level brand and a basket of product and services** around it. The brand is expected to highlight the values of conservation, communities and nature. **Tourism** will be the central focus sector of the proposed approach; the activities around tourism are expected to reinforce interventions in other livelihood sectors and areas. Positive engagement of travelers with local communities will eventually attract target segments that contribute to livelihood development and conservation efforts. Functional areas of interventions for improving livelihood include **communication interventions, awareness creation, supporting government schemes and departments, and market interventions.**



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22nd to 25th May



HIMALAYA CHALLENGE RUN
19th & 20th May



MESAR FOREST FAIR
Sunday, 27th May

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THE COMMUNITY OF SARMOLI
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JUNGLE SCHOOL

IN COLLABORATION WITH
KALPAVRIKSH
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Landscape branding: The proposed approach involves developing a landscape level brand, and a basket of products and services around it with tourism as central focus sector. The picture above shows the branding efforts by various initiatives in similar landscapes (Credits: Ramnarayan, Darima Farms and Early Bird)

6. Detailed Implementation Plan

This chapter describes the detailed implementation plans for the livelihood options selected based on the set criteria mentioned in previous chapters. The section first describes the sector wise plans and then the plans for general strategies developed that cut across all the sectors. Implementation plan under each of the sectors contains general perspectives, proposed strategies, steps/process involved, proposed roles and responsibilities of major stakeholders' involved, expected risks and responsiveness of livelihood option to climate change. Some of the relevant information including useful resources, timeline for implementation, expected outcomes and financials are included in the Annexures.

Tourism – Detailed Implementation Plan

The Lahaul-Pangi landscape has huge potential for tourism development given the unexplored natural landscape, biodiversity, and cultural elements, and it can be one of the potential alternative livelihood options for the community members that positively contributes to conservation efforts. Similar landscapes like Spiti and Ladakh derived economic benefits for local communities through tourism development. However, it is important to consider the conservation and protection of landscape as a major priority area while designing a strategy and activities. The envisaged tourism development (see Figure 13) should consider,

- a) **Improvement of livelihoods and wellbeing of people** – The positive engagement of travelers with local communities through various initiatives and activities are expected to improve the livelihoods and wellbeing of people
- b) **Equitable sharing of ecosystem benefits for the communities** – Experience from similar region suggests that, a large majority of the benefits from tourism are derived by few players through unsustainable practices. The tourism development should consider local communities as the major stakeholders and the benefits should be shared equitably with communities giving consideration to aspects like gender
- c) **Change in perspectives and actions of travelers** – Tourism development with suitable clientele may change the perspectives and encourage travelers to take actions that contributes conservation and livelihoods
- d) **Landscape conservation and protection** – Landscape conservation and protection should be the cross-cutting focus in tourism development along with the potential benefits for the communities and travelers

Considering these aspects, the identified livelihood options in tourism sector are,

- Promotion of homestay ecosystem
- Development of nature tourism initiatives amongst selected clientele
- Low risk high impact adventure tourism



LANDSCAPE CONSERVATION AND PROTECTION

Figure 13: Envisaged tourism development for the landscape

a) Policies/Schemes related to tourism

Many of the existing schemes that are directly related to tourism are presently not active in the region. However, various schemes (See **Annexure 1** for details and possibilities of convergence) can be leveraged by the project for tourism development in the landscape. Some of the important schemes are,

- Mukhya Mantri Swavlamban Yojana
- Mukhya Mantri Yuva Ajeevika Yojana
- Himachal Pradesh Eco-tourism Development Scheme, 2017
- Himachal Pradesh Homestay Scheme

b) Livelihood assets in relation to tourism

The major livelihood assets that can be utilized for the development of tourism in the landscape are given in Table 4.

Assets	
Physical Capital	<ul style="list-style-type: none"> ▪ Traditional houses that can potentially converted into homestays ▪ Limited electricity and solar facilities available ▪ Limited mobile network coverage ▪ Landholding ▪ Existing village level infrastructure including health facilities, schools, accessible roads etc.
Human Capital	<ul style="list-style-type: none"> ▪ Knowledge on traditional and cultural practices ▪ Hospitality of community members ▪ Unemployed youths, Idle youths and educated members during winter ▪ Skills in making unique foods and Cuisine ▪ Knowledge on practice of spotting wildlife ▪ Educated community members ▪ Skills in making handicraft products ▪ Skills in making milk products
Financial Capital	<ul style="list-style-type: none"> ▪ Investments made in house construction and renovation ▪ Loan that can be availed for renovation of houses and toilets and purchase of requirements for setting up homestays

	<ul style="list-style-type: none"> Funds that can be availed through various schemes for infrastructure development
Social Capital	<ul style="list-style-type: none"> Panchayat level institutions Praja Mandal, Mahila Mandal and Yuva Mandal SHGs Religious institutions and leaders
Natural Capital	<ul style="list-style-type: none"> Natural landscape with high potential for different tourism activities Natural flora and fauna Conducive natural environment that support complementary sectors to tourism including agriculture, horticulture and handicrafts

Table 4: Livelihood assets that may support tourism development in the project landscape

c) Expected Outcomes and Target/Indicators

Expected outcomes	Indicators	Targets
<ul style="list-style-type: none"> Increase in direct incomes homestay families Service Providers – Nature Guides, Muleteers, Vehicle owners and other suppliers are directly benefited by increase on tourist footfalls in the vicinity of homestays Link to ancillary activities - New and Traditional goods and services – Crafts, local foods and new valued added products will find a ready market Reduced extractive stress on the physical landscape as families would be gainfully engaged in Homestay Activities Conservation value of the landscape and its specific elements - "nature" is highlighted Creation of a common forum for homestay owners/operators to work together Primacy to Women - as head of homestay households Emphasis and reiteration on the values of the culture and bio-diversity of the landscape Alternative to mass tourism Increased tourism traffic would attract both regulation and eyes in the forests 	<ul style="list-style-type: none"> X no of households increase income from homestays and tourism No. of new local products produced and sold Reduced collection of NTFPs from the wild Well-functioning association of homestay owners/operators 	<ul style="list-style-type: none"> 10 villages for initial homestay ecosystem development and 3 - 5 households per village (total of 30 - 50 households to target) Initially, 3 to 4 people to get trained beneficiaries from 10 villages to be trained initially on nature and adventure tourism. (hence a total of 30 - 40 beneficiaries to get trained) 10 households from each of the selected villages to be benefited by providing various services (homestay, nature guide, handicrafts etc.). Hence, nearly 100 households increase income from homestays and tourism for initial years

Strategy 1: Promotion of homestay ecosystem

Rural homestays are intended to be the fulcrum around which community-based Eco-tourism would be based. Rural homestays are differentiated from the generic homestays by being small (one or two rooms), run directly by families, located in remote mountain villages and being part of a community of local homestays rather than competitors. Crucially the plan envisages that these “genuine homestays” would capitalize on the existing innate and warm culture of hosting guests and the genuine warmth that families provide in a safe environment for both the guests and the hosts.



Figure 14-Traditional Home in Chasak: Culturally the communities in the landscape are welcoming (Credits: Ramnarayan)

Homestays, run in clusters, in chosen villages have the capacity to bind the community together, pool resources and enhance linked livelihoods. It is envisaged that a circuit of homestays is developed in the Landscape. Culturally the communities in the landscape are welcoming and already have the essential know how to begin hosting. Basic facilities of washrooms, electricity is in place while investments will need to be made in additional one and two room facilities. Training would be required in Guest

Management, Basic Hospitality Skills, Safety, record keeping and billing.

One of the significant advantages of this activity is that it can begin with minimal initial investments. There is a profile of guests who would be willing to be hosted in homes (student groups, cultural tourists, nature observation groups etc.), which would provide an initial boost in income.

Steps/Process for Implementation

The major steps/process involved in the promotion of homestay ecosystem in the project landscape is given in Figure 15.

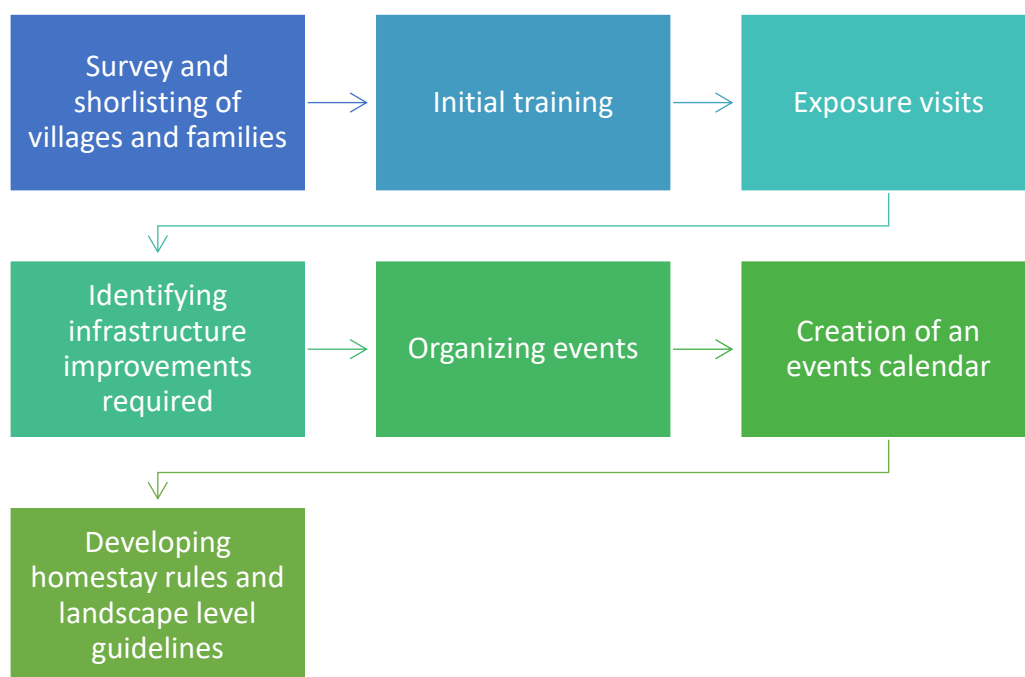


Figure 15: Major steps/process involved in the promotion of homestay ecosystem in the landscape

1. Survey and shortlisting of villages and families

The first stage involved is to survey and shortlist villages and interested families. This can be outsourced to a resource organization (recommended organizations that can be contacted by the project given in **Annexure 1**). The villages and families are required to identify based on identified criteria for the project landscape. Key considerations under the criteria are,

- Willingness and readiness of households to participate in the activity
- Possibility of formation of cluster of 3-5 households per village
- Landscape compatibility
- Availability of basic resources including toilet, water, beds etc.

While the SECURE programme has a well-defined landscape and prioritized villages it is required to assess potential and help finalize the village clusters that are suitable for this programme. The criterion could be

- a) Effective value for conservation – homestay clusters close to landscape of high conservation value to both take advantage of the bio-diverse and geographically beautiful landscape as well as help plough resources into conservation-oriented tourism
- b) Promoting new locations – especially those away from road heads and urbanized clusters in order to avoid competition with large tourism players and to generate economic activity in remote locations

This stage also involves the identification and selection of new homestays. The current policy, in Himachal Pradesh, allows for places with up to four rooms to be categorized as homestays. However, such homestays are possible to be created and run by those already well endowed. This programme seeks to promote one and 2 room homestays enabling people with less resources to benefit and at the same time incorporating new additions without drastic changes in the existing home structures which are often both beautiful and appropriate to the landscape. An indicative list of villages and criteria for selection is given in **Annexure 1**.

2. Initial training in hosting, guest management, basic record keeping, safety protocols (food/allergies/cleanliness)

The community members are already having basic skills of hosting a guest. However, these capacities needed to be further enhanced for the effective development of homestay ecosystem as desired. The selected resource organization can train the community members on essential skill including hosting, guest management, basic record keeping, safety protocols etc. The funding requirements for conducting these training can be mobilized from the Forest Department under Himachal Pradesh Ecotourism Development Scheme, 2017 or through CAMPA funds. The training and capacity building activities are expected to,

- a. To help upgrade skills in guest management, basic record keeping, safety protocols (food / allergies), space management
- b. Help upgrade skills in distance communication, and promotion / display of homestays via social media. Including email, social media tools, normal phone calls and text messaging
- c. Organize exposure visits to other successful homestay enterprises
- d. Organize in location training and visits by sectoral experts
- e. Developing homestays that offer a variety of budget ranges & facilities without compromising cleanliness or guest security

3. Exposure Visit to existing “Community-based” homestay enterprises

The community members in the landscape are having misconception of homestays as something that is established by individual community members that requires intensive capital. To establish difference between clusters of homestays versus individual capital-intensive homestays, it is recommended to conduct exposure visit for the community members to community-based homestay enterprises in similar landscapes.

4. Identifying infrastructure improvements required

Himachal Pradesh Homestay Scheme, 2008 provides guidelines for minimum infrastructure requirement for homestay registration. Many villages in the project landscape are already having houses that may not require any major infrastructure improvements. In some cases, if the community members are interested, it may require that some additional facilities like rooms needed to be constructed. The community members are already willing to make small investments for improving their household level facilities. They also mobilize additional financial requirement through small loans that can be availed from banks at lower interest rates or through subsidies from various schemes. The resource organization under the project required to identify the necessary improvements in infrastructure and help the community members in accessing financial resources.

At present, very few homes have specific places suitable for hosting guests, while only some homes have access to external restrooms. The project would need to work with the chosen families to develop and / or retrofit homes to make them suitable for hosting guests. Under ideal circumstances, attached washrooms would be a critically important feature for these homestays.

Further, if feasible, financial support for homestay development may be leveraged through schemes available for such household level enterprise.

At the functional level, without changing the character of the home homestays, the amenities and services will need to be on par with those provided by the hospitality sector. Some of these would

include helping access standardized clean linen, basic furnishings and accessories for rooms and washrooms (Kettles, glasses and other such related material).

Some of the facilities developed in the homestays would also enable their categorization under the State and Central Homestay registration practices. There exist standardized forms and formalities for the registration of homestays through the Himachal Pradesh Eco-tourism Wing. The programme-implementing agency would need to work with the State Tourism Board, Forest Department and the community to support and accelerate the process of registrations. Such registrations make the homestays visible online through Government Websites and will help in profile the region.

5. Organizing Events which focus on utilizing existing homestay services

Organizing various events can help the project in providing initial exposure to community members; it can also help in initial promotion for the communities and landscape. Conducting these events not requiring large financial investments and it can be mobilized through various schemes and organizations. One such financial source is NABARD funding that can be availed for organizing nature, crafts and rural livelihood related activities.

6. Creation of an Events Calendar and promotional materials

Creation of an events calendar will help in the destination marketing and promotion of homestays in the landscape. SECURE Himalaya project can promote an eco-tourism calendar with an emphasis on homestays. The Pangri and Lahaul landscape are blessed with an extraordinarily beautiful landscape and a warm and welcoming society. The following promotional activities can be undertaken for the promotion of landscape,

- a) Homestay and facilities brochure with map for the area and contact details
- b) Supporting the development of a Pangri level website in conjunction with other SECURE livelihood activities
- c) Promotion of the homestays locally and in appropriate locations through posters and other display
- d) Help link with Rural Tourism initiatives that exist through the many tourism service aggregators

The tourism season, especially in Pangri, is a short one – a few months in late spring and summer (Mid-May to Mid-July) and then in autumn (Mid-September to early November). Therefore, in order to maximize the available season developing a homestay activity calendar would be beneficial – this would need to be in consonance with the larger Pangri landscape-level Tourism activity calendar.

7. Developing homestay rules (for guest and hosts) and landscape level and landscape specific eco-tourism guidelines

Developing rules and guidelines are important for the smooth functioning of homestays as well as in the development of homestay ecosystem envisaged giving importance to conservation and livelihoods. Concurrently clear expectations need to be laid out for the guests as well as to what are the cultural norms to be followed along with clearly laid out homestay norms. - Which could include aspects like

- a) Protection from bargaining for services and rates (fixed rates and fixed services)
- b) Not everything is for sale (Souvenirs may be sought from specific locations)
- c) Waste disposal and carry in carry out policies

- d) Guidelines that prevent the sourcing and demand for intoxicants and other dangerous or illegal substances
- e) Pricing Guidelines – The implementing agency is expected to help homestays develop a standardized and appropriate price range matched with services and facilities but importantly one that does not undervalue home based workers and their contribution to the Homestay Enterprise.

Institutions/stakeholders and responsibilities

Institutional mechanism: The major institutions/stakeholders and their roles and responsibilities for implementation of the plan is given in Table 5.

The few successful community homestay enterprises are founded on the basic principle of community together and community first. In the gig economy method of working, the service provider is left vulnerable to both market influences, and the whims of the broad clientele. In order to secure the enterprise it would be essential to have a strong community of homestay owners who plan and act together – offering services as a group as well as being able to host larger groups and events.

It is suggested that the entire landscape be under one-homestay enterprise federations with individual village clusters forming their own cluster level unions. At present, within the landscape, there exist no such institutions. It is required to support the ground up creation and building of the appropriate cluster and landscape level institutions.

The recommended institutional mechanism for the development of homestay ecosystem in the landscape would comprise of,

1. **Union of Community-based Enterprises:** Union of Community /Nature Based Tourism Enterprises at the landscape level which includes Homestays, Nature Guides and other community-based service providers
2. **Sub-Valley Cluster Forum / Cooperative:** Cluster forum or cooperative at Sub-valley level (Sechu Valley, Suraal Valley etc.)
3. **Community run online portal:** Online Portal specific to the region that provides information and access

Stakeholder	Roles and Responsibility
UNDP SECURE Himalaya Project	<ul style="list-style-type: none"> ▪ Eco-tourism branding for the Landscape which incorporate small & rural homestays as the focus ▪ Identifying and contracting resource agencies ▪ Promoting an Eco-tourism events calendar with an emphasis on homestays ▪ Support for Homestay Trainings and exposure
UNV's	<ul style="list-style-type: none"> ▪ Facilitate introduction of Resource Agencies to the landscape and the communities ▪ Awareness of schemes and services available through various Government and Non-Government Agencies
Resource Organizations	<ul style="list-style-type: none"> ▪ Creating a Landscape level Homestay Development and Promotion plan. Which would include <ol style="list-style-type: none"> a) Identifying Houses and Communities for Homestay b) Developing Training Calendar c) Support Infrastructure development and resource allocation

	<ul style="list-style-type: none"> d) Organization of events that utilize existing homestay services e) Creating a Circuit Map of the homestays f) Supporting creation of homestay guidelines in accordance with principles of equity and eco-tourism
Himachal Pradesh Eco-tourism	<ul style="list-style-type: none"> ▪ Promoting the SECURE landscape as a “unique” Eco-tourism Destination with an emphasis on ▪ Promoting specific events as developed in the Eco-tourism ▪ Supporting events that are centered around the SECURE landscape homestays
Himachal Pradesh Forest Department	<ul style="list-style-type: none"> ▪ Generating Awareness ▪ Supporting Eco-tourism events and highlighting homestays
Industries Department and the Rural Development Department	<ul style="list-style-type: none"> ▪ Supporting homestays through the two schemes launched in 2018 for providing livelihoods through enterprise.
Himachal Pradesh Tourism Development Board	<ul style="list-style-type: none"> ▪ Registration of homestays ▪ Possible creating a sub-genre of genuine small rural homestays
SRLM	<ul style="list-style-type: none"> ▪ Operational assistance in the formation of Cluster forum or cooperative at Sub-valley level
Fellows	<ul style="list-style-type: none"> ▪ Helping the implementation of landscape level activities by coordinating with resource organizations, UNDP, various departments, communities and other stakeholders

Table 5: Institutions/stakeholders and their responsibilities in developing homestay ecosystem

Expected risks, problems and assumptions

Risks	<ul style="list-style-type: none"> ▪ Initial returns may be low ▪ Markets may get saturated with other tourism players
Problems	<ul style="list-style-type: none"> ▪ Existing Homestay Policy is weighed in favour of large capital investments rather than small / low capital homestays ▪ Homestays may follow the mass tourism norms and ignore eco-tourism guidelines ▪ Single homestays would not have the capacity to negotiate
Assumptions	<ul style="list-style-type: none"> ▪ It is possible for individual homestays to make small scale investments that can be supported by existing Homestay Development Schemes / Loans ▪ Possibility of formation of a federation / Union of Homestay operators within the landscape that subscribe to one set of norms and afford a safety net to the homestay operators

Table 6: Expected risks, problems and assumptions in the development of homestay ecosystem

Further research requirements

Homestays are the fulcrum of the Landscape Level Nature / Eco-tourism Initiative. Detailed synchronization is needed with existing cultural activities and any new events created / to be created through the SECURE Himalaya programme. Further investigations are required in the following areas,

- a) **Winter Homestays and Winter Tourism:** Winter Homestays and tourism activities are one of the possible livelihood options for the landscape. A study on access and safety of tourism activities will help in the further development of tourism in the landscape
- b) **Cultural tourism:** Tourism centered around traditional food and craft activities that are homestay based

Responsiveness of livelihood option to climate change and contribution to conservation efforts

Homestays are part of the Nature Tourism ecosystem. Weather events like floods, landslides, outages in communication may impede seasonal tourist inflow – however Homestays have the capacity and facility to adapt to changes in long-term climate change. Further, since the overall investment in one / two room homestays is lower than large capital-intensive hotels and lodges they would be better prepared for vagaries in tourist inflows. Finally, homestays run by home entities and the space available will always be useful to the family. This will also provide an alternative income earning opportunity for community members, which is sustainable and resilient to changing environment.

Strategy 2: Promotion of conservation-oriented nature tourism activities amongst selected clientele

A series of activities that heighten awareness and re-iterate the values of the landscape and the bio-diversity among the local community and through Nature-based tourism seeks to enhance livelihoods and achieve conservation goals. The activities proposed are low investment (in terms of capital resources), high impact in accelerating revenue through tourism. The programme envisages working with local communities to upgrade nature-guiding skills, identify nature trails, producing natural history documentation and local guidebooks/ pamphlets and eventually hosting an annual series of nature-based events. These events are conceived to be linked to the homestay programme with nature guides being drawn from the same communities where homestays are being run.

Currently a fair number of individuals from the local communities explore the landscape for medicinal plants collection, as non-technical support crew for treks (porters, cooks etc.) and as graziers. Their exposure to the landscape, knowledge of a variety of flora and fauna and their traditional outdoors skills makes them ideally suited to be trained as nature guides.

One of the important advantages of this set of activities is that these can begin with minimal initial investments. There are large constituencies of nature lovers, school and college groups who would be ready to participate in well-guided nature watching events and trips. Nature festivals would draw multiple constituencies of people together, boost the profile of the landscape and



Large Spotted Nutcracker found in Pangri region: These unique biodiversity elements make the landscape suited for nature tourism activities (Credits: Ramnarayan)

highlight the various livelihood and conservation measures that are both underway and those that are required to be undertaken. The goodwill and the positive feedback from such organized events would create the environment required to strengthen the values on which tourism should be undertaken.

Steps/Process for Implementation

The major steps or process involved in the promotion of conservation-oriented nature tourism activities amongst selected clientele given in Figure 16.



Figure 16: Major steps/process involved in the promotion of conservation-oriented nature tourism

1. **Selecting agencies and resource people:** Selecting agencies and resource people to develop curriculum relevant to the area, undertake the training, and help with setting up the nature trails and nature festivals. The recommended agencies and resources for implementation is given in **Annexure 1**
2. **Setting up training programme:** Setting up short term and long-term training programmes for the community members. The selected agencies or resource personnel can provide these training programmes and the expected duration is 6-12 months
3. **Workshops and training events:** Holding short workshops and training events in cluster of villages and educational institutions will help to promote the activities around nature tourism in the landscape. Bird watching camps and plant trails are some of the activities that can be conducted during initial stages
4. **Identifying circuits and trails:** This stage involves the identification of circuits and trails with the community members by the resource organization
5. **Selection of community members for training**

Of the few keystones for a successful Nature Tourism initiative, the first and most significant are the people. Innately strong, in tune with the landscape and seasons and aware of their natural surrounding the community is already in a good position to take the next and critical step of becoming actively engaged Nature Guides.

The project needs to work closely with communities initially to promote nature tourism activities and then to identify people suitable for long-term training under specific nature and outdoor guide training programmes.

Along with this, it will be required to develop landscape specific training programmes the curriculum for which should incorporate developing professional skills, active nature observation engagements and inputs in the serious and scientific method to document nature observations. The use of available citizen science tools may be promoted through these workshops.

Professionals from specific sectors – like butterflies, mammals, nature soundscapes, and flowering plants may be recruited to conduct skill upgradation sessions and such groups or individuals may also be recruited to design short and long-term training programmes.

Finally, the training programme should include outreach programmes with local educational institutions and at small community events – allowing the new guides to show case their skills and promote nature conservation and nature tourism.

Over the programme period of 2 to 3 years the project may seek to upgrade the skills of the Nature Guides by helping arrange for higher skill level training either on site or in other appropriate locations.

One example would be to seek the support of Cornell University's Bird Sound Recording and Analysis workshops conducted for advanced Birding enthusiasts and guides. Other similar advanced skill programme may be identified and supported for implementation.

Combined with other low risk high impact adventure tourism activities it may be possible for Nature Guides to also upgrade skills as Trip Leaders or in essential Wilderness Emergency response. Such skill sets are more than just tourism multipliers and have a positive impact in regular and daily community actions as well.

An indicative list of villages for conducting activities and criteria for selection is given in Annexure 1.

- 6. Conducting training events:** Involves conducting training event for the selected community member by resource organization/personnel. These trainings are of duration 12-18 months including the winter period. Some of the key areas that presently requires capacity enhancement are,
 - a. Initial Training in bird, plant, butterfly and moth and natural history guiding
 - b. Training in use of digital tools (ebird, inaturalist, seasonwatch) and in some social media tools (Instagram, YouTube etc.)
 - c. Training in guest management, planning, Advanced training in Wilderness Skills – First Aid, Outdoor Leadership
- 7. Identifying nature trails and documentation:** Documenting various elements with photographs, seasonal calendars, checklists etc. and production of brochures, posters and other literature for both science and promotional uses.

Good and accurate documentation of the nature trails and nature circuits would be essential in promoting Nature Tourism. The implementing agency would be required to use current and accessible tools and conduct trail surveys, which may constitute part of various training protocols. Outputs may be in the form of Checklists incorporating seasonality, photo pamphlets, Citizen Science documentation (ebirds, bird count India, ifoundbutterflies are some examples).

The Nature trails surveys must capture seasonal variations and provide inputs into feasible nature tourism activities across the year. Through informative pamphlets, posters, social media tools and through various government programmes and information dissemination the programme is expected to highlight the high biodiversity and natural heritage values in conjunction with pro conservation based livelihoods

- 8. Documenting Natural History:** Documenting Natural History folklores including myths, stories and art forms that can help in the promotion of tourism activities.

A culmination output of the trail surveys and the nature guide training programmes and the visits by professional nature educators is expected in the form of various Natural History Guides. Along with Natural History, the programme also seeks to document the rich cultural heritage of folklore related to the natural landscapes. Such records could be through documenting names of different flora and fauna, stories, artwork, songs and music. These cultural elements would find space alongside the publications on Natural History.

The ideal form could be field handouts, photo guides, multi fold pamphlets, and posters. Such outputs should be designed to inform and educate and must at the ideally be bi-lingual – suitable for the local community as well and incoming nature tourists.

The outputs are also expected to be part of the SECURE Himalaya landscape branding exercise. Finally, the programme-implementing agency would need to support the community in putting in place processes and procedures that will allow the required regular updates to the documentation.

9. Exposure visits: Exposure visits for the community members to existing community-based nature tourism festivals and allowing local guides to work as shadow guides in larger/other events. While the specific SECURE Himalaya programme makes ready to host travellers it is essential that the hosts -i.e. the service providers – the guides experience new landscapes and other methods of work. Ideas and experiences from similar habitats but difference landscapes or from altogether different regions will help the landscape community grow in both thought and action.

10. Organizing nature festivals: The promotion of nature tourism activities for the project landscape involves conducting series of nature festivals. These events and festivals can be broadly categorized as,

a. Series of small events – at the culmination of the training programmes and workshops where the participants / attendees are mostly local communities, schools and other local institutions

One of the lacunae in the slow uptake of tourism in the region is a dearth of positive information and a lack of appreciation for the cultural and nature values of the landscape. The implementing agency would be required to address this through a series of small events that broad base Nature Tourism and highlight the positive values that exists in the landscape. It would also be an occasion for the SECURE Himalaya Programme beneficiaries to show case their skills and create active and positive engagements with the larger communities. These events are expected to lead up to the marquee landscape level Nature Tourism Nature Festival

b. One marquee festival – This will be a highlighting event for the landscape Eco/Nature tourism initiative. This would highlight the skills of the Nature Guides through guided tours where the audience is a mix of local community and fee-paying guests. Homestays would play the hosts for the various guests and events while the Culminating “Fair” would provide an opportunity to promote the landscape and provide space to annual and other craft / farm-based livelihoods would have an opportunity to highlight their wares. The event would also help link conservation groups with community tourism ventures

The Pangri landscape suffers from bad press arising from a lack of awareness and paucity of accurate information at the national and global level.

The programme implementing agency would be expected to collaborate with other SECURE Himalaya Partners and co-organize large and unique events bringing together the local community and the new nature tourism service providers, various Government Agencies, nature loving tourists and amateur and professional nature observers, scientists, and students.

The festival could be designed to have a series of nature trail events (bird walks, tree walks, nature treks), outdoor activities, visits by schools, talks by experts, short duration training programmes and the publication and release of nature related literature and information (Bird Checklists, Posters on flora and fauna etc).

The culminating events would be centered on a fair bringing together cultural activities, local craftspeople, nature tourism and homestay service providers, SECURE Himalaya partners, and concerned Government agencies. The fair is expected to focus on an accessible by non-typical location that is planned and is being promoted as a hub for Nature tourism. Sechu Nallah (with a large school ground and proximity to a variety of tourists trails and activities is one example.)

- 11. Selecting iconic species:** A set of iconic natural emblems that represent the SECURE landscape and have both cultural and biodiversity heritage used as Banner species to promote the conservation and livelihoods landscape

The Lahaul and Pangri landscape were chosen for the presence of one of the most enigmatic, elusive and iconic Himalayan beings – the Snow Leopard. However, its elusiveness while providing mystery and indications of high altitude drama will both hard to see and requiring of serious physical endeavours.

However, the landscape already also have a variety of flora and fauna unique but not necessarily out of reach. The project expected to work with the community to identify such iconic species and design nature events and trails that promote these species and their conservation. While some species may remain static, the programme should plan for seasonal and temporal changes in the chosen set of species across as many of the visible and accessible living groups as feasible.

One example is the Kashmir Nutcracker (Large-spotted Nutcracker) *Nucifraga multipunctata*. Globally on the citizen sciences portal of ebird (there are only 81 observations of which 78 are from India and only 8 observations from Himachal Pradesh. This species has a limited global presence but is very easily seen in the Pangri Landscape – which is also home to the famous Chilgoza Pine (*Pinus gerardiana*). The Chilgoza pine and the Kashmir Nutcracker have an intense ecological link and are just one of the many stories waiting to be explored in the landscape.

- 12. Developing an events calendar:** Development of an event calendar and help to draft rules and landscape level/landscape specific Eco-tourism guidelines with specific reference to Nature Guides and Guiding.

If one of the keystones is a foundation of skilled resource people, the next key is an active and exciting publicity and promotion programme. One that reaches and engages the focussed clientele – the discerning nature traveller, the people who are seeking and willing to engage with communities and the exciting but remote landscape.

Material drawn from the trail documentations and active social media presence highlighting cultural and natural heritage values combined with a steady mix of planned events through an established nature calendar would go a long way in promoting the right kind of tourism in the landscape.

General recommendations and activities in the promotion of conservation oriented nature tourism

Following are some of the recommendations to consider under the strategy for the promotion of conservation oriented nature tourism (based on the insights from the study undertaken by TERI in the landscape)

1. **Promotion of Nature Treks and Homestays through Invitational tours** of the region for Nature Educators / Nature Citizen Scientists and for people who are at the cross section of communities, conservation , nature and tourism
2. **Social media training for community members especially youths in destination marketing**
3. **Treks** - There is a need for the trek routes to be re-explored mapped and then established for trekking. Currently there is no clarity on route conditions and evidence is based on historical and not recent visits
4. **Setup and encourage long-term research projects with a few well renowned Nature Sciences Institutes and Non-Government Organizations.** This will effective since,
 - a. Researchers have a quadruple impact on the landscape
 - b. Long term presence hence long term earnings for service providers and research assistants
 - c. Skill Building of local community
 - d. Documentation and building of bio-diversity profile
 - e. Word of mouth publicity - Researchers bring in more researchers, guests and others assuring a steady inflow of “guests of the landscape”
5. **Working with Drivers, and Tour Operators from outside the landscape** – Such people are both the first point of contact for many potential tourists. More so drivers who become guides for visitors to the landscape. Hence essential to work with this constituency
6. **Adopt and Promote Leave No Trace Principles** - <https://lnt.org/>
7. **Detailed Tourism Map for the region** - As part of the various recommendations trail maps, maps with facilities and road networks are sought as outputs. SECURE Himalaya should plan for such a map to be both artistic and informative making it a souvenir while providing a value service to the traveler

Institutions/stakeholders and responsibilities

Institutional mechanism: The major institutions/stakeholders and their roles and responsibilities for implementation of the plan is given in Table 7. The recommended institutional mechanism for the promotion of community-based nature tourism in the landscape would comprise of,

1. **Union of Community-based Enterprises:** Union of Community /Nature Based Tourism Enterprises at the landscape level which includes Homestays, Nature Guides and other community-based service providers
2. **Sub-Valley Cluster Forum / Cooperative:** Cluster forum or cooperative at Sub-valley level (Sechu Valley, Suraal Valley etc.)
3. **Community run online portal:** Online Portal specific to the region that provides information and access

Stakeholder	Roles and Responsibility
UNDP SECURE Himalaya Project	<ul style="list-style-type: none"> Supporting Nature Tourism Trainings and Festival Events Identifying and contracting resource agencies Promoting a Nature Tourism events calendar that links homestays and nature watching events Support for Nature Guide Trainings and exposure
UNV's	<ul style="list-style-type: none"> Facilitate introduction of Resource Agencies to the landscape and the communities Awareness of schemes and services available through various Government and Non-Government Agencies Provide information on key bio-diversity elements that are valuable for nature watching and have conservation value
Resource Organizations	<ul style="list-style-type: none"> Creating a Landscape level Homestay Development and Promotion plan which would include, <ol style="list-style-type: none"> Identifying Natural History elements, trails and values appropriate for promotion Developing Training Calendar Support Infrastructure development and resource allocation Organization of events for Nature Guide Training Organizing local (mini) festivals and the Marquee Annual Festival Creating a Circuit Map of the homestays, Nature trail map and producing Natural History brochures and guides Helping develop and ratify Nature Tourism guiding principles
Himachal Pradesh Eco-tourism Department	<ul style="list-style-type: none"> Promoting the SECURE landscape as a “unique” Nature-tourism Destination with an emphasis on the unique landscape and bio-diversity Supporting events that are centred around the SECURE landscape homestays and Nature Tourism Events
Himachal Pradesh Forest Department	<ul style="list-style-type: none"> Supporting through CAMPA programmes Generating Awareness Supporting Nature-tourism events and highlighting nature trails Nature Trail Development – Signage, Rest Areas, Washrooms Facilities
Himachal Pradesh Tourism Development Board	<ul style="list-style-type: none"> Registration of Nature Guides Nature Trail Development – Signage, Rest Areas, Washrooms Facilities Providing infrastructure facilities to Nature Guides
SRLM	<ul style="list-style-type: none"> Operational assistance in the formation of Cluster forum or cooperative at Sub-valley level
Fellows	<ul style="list-style-type: none"> Helping the implementation of landscape level activities by coordinating with resource organizations, UNDP, various departments, communities and other stakeholders

Table 7: Institutions/stakeholders and their responsibilities in the promotion of conservation oriented nature tourism

Expected risks, problems and assumptions

Risks	
	<ul style="list-style-type: none"> Initial returns may be slow Market may be influenced by other non-nature tourism-based activities like mass camping and motorcycle tourism

	<ul style="list-style-type: none"> ▪ Change in seasonality may affect nature watching
Problems	<ul style="list-style-type: none"> ▪ Lack of trained pool of nature guides ▪ Lack of Natural History Information
Assumptions	<ul style="list-style-type: none"> ▪ The small-scale Investments made by the individual Nature Guides is supported by existing Enterprise Development Schemes / Loans ▪ Possibility of formation of a federation / Union of Nature Guides within the landscape that subscribe to one set of norms and afford a safety net to the Nature Guides while preventing activities detrimental to conservation and Nature Tourism

Table 8: Expected risks, problems and assumptions in the promotion of nature tourism for the project landscape

Responsiveness of livelihood option to climate change and contribution to conservation

Nature is observable at all times. Climate change is predicted to have varying impacts on different categories of flora, fauna and even on the physical landscape, it is of utmost importance to have as many observation points as possible. Science and Ecology based Nature watching would initially provide these observations and would in future form the basis of mitigation and prevention strategies. Nature Tourism overall is low investment with the greatest capital gift being provided by the biodiversity and biogeography rich landscape itself. Promotion of nature tourism will also reduce the overdependence of community members on agriculture and allied sectors, which are highly vulnerable to climate change and hence improve their resilience to adapt to the changes. Nature tourism also expects to imbibe the values and practices of conservation amongst the community members.

Strategy 3: Low Risk High Impact Adventure Tourism

The Pangi-Lahaul Landscape is ideally suited for a variety of adventure activities – ranging from the serious and extreme sport of mountain climbing and skiing to safer and less-extreme activities like trekking and camping. Many of the activities, while being high-risk activities also require significant infrastructure and a large pool of highly skilled support crew. However, there are other high impact, low risk sports and activities that are in a position to take advantage of the conducive landscape and environment.

The programme proposes to introduce the sports of Marathon, Trail and Sky Running to the landscape. The temperate to cool climates, the beautiful and accessible altitudinal zones and the innate physical prowess of the community make these an ideal activity to show case the landscape. Along with this Yoga is sought to be promoted – to tie in essentially with the running activities and to promote positive health through yoga among the hard-working people of the landscape.

The last activity being recommend is Ultimate Frisbee – one of the world’s fastest develop non-contact mixed gender sport. This has the advantage of being innovative, requiring very few resources and possessing of the ability to enthuse young people.

All these activities have a few common features – They can be deployed without significant infrastructure development; are low on personal resource requirements; they can be partaken of by anyone within the landscape; and finally have a very short turnaround time from initial planning and training to final deployment. Some of the specific livelihood asset that support the development of high impact adventure tourism activities are,

- i) Landscape has extensive tarred road, dirt road and horse trails that extended from the river to the alpine (2150 meters above sea level / MASL) to 3600 MASL
- ii) Temperate temperature profile makes it ideal for long distance running
- iii) Residents are familiar with long distance walking and are ideally suited to take up these sports both as participants and as trainers and event organizers
- iv) Small grounds make Ultimate Frisbee an ideal sport to be taken up

Steps/Process for Implementation

The major steps/process involved in the development of Low Risk and High Impact adventure tourism in the project landscape are given in Figure 17.

1. Selection of agency

The first stage involves the identification and selection of an expert agency and resource people to develop curriculum relevant for the area and for undertaking training activities and help with setting up the running trails and a series of sporting events. The hired agency will be responsible for creating a landscape level Low Risk High Impact Adventure Sport plan (See Annexure 1 for the list of recommended agencies)

2. Setting up training programmes

The agency hired is expected to set up short-term and long-term training (6-12 months) programme in the landscape and incorporating wilderness medicine as an essential component in the training curriculum. The project can look for convergence with programmes like CAMPA for supporting the design and in conducting training programme.

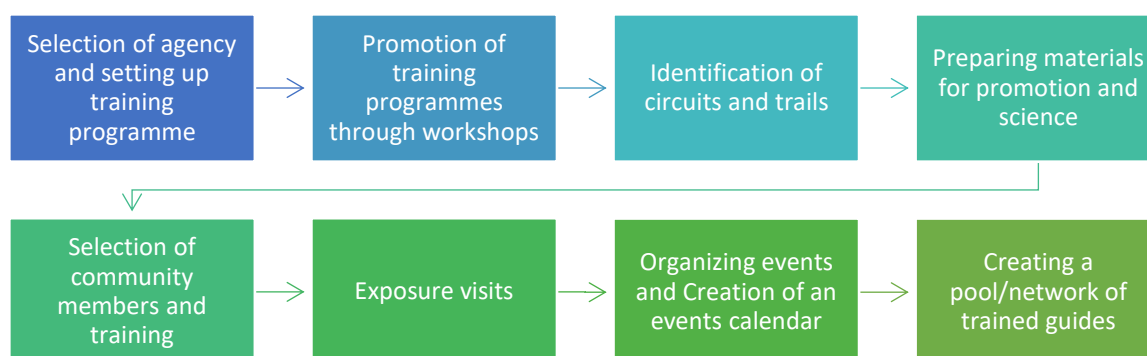


Figure 17: Steps/process involved in the development of Low Risk High Impact Tourism

3. Promotion of training programmes through workshops

This stage involves holding short workshops and training events in cluster of villages and educational institutions for the promotion of the programme. Some of the training events can be running and Yoga camps and Ultimate Frisbee events.

There is little history or organized sporting and adventure activity in the regions. Schools and youth groups follow the popular and standard activities with little or no exposure to professional support for training. The programme-implementing agency would be required to design and organize a series of events that demonstrate the sports and encourage participation. This outreach programme would provide the first look at candidate suitable for selection as trainees under the programme. The programme-implementing agency should also use this opportunity to work with schools and other educational institutions to both promote the sports as well as encourage a culture of “well-being” through sport and Yoga.

4. Identification of circuits and trails

The selected agency expected to identify the relevant circuits and trails with the community members for undertaking recommended activities. The project can seek assistance from Himachal Pradesh Tourism Development Board and Forest Department in trail development in some areas including signage, rest areas and washroom facilities. This stage also involves creating a running trail map of the area with degree of difficulty, length, and seasons appropriate for running, and available facilities, along with other trail map features.

The adventure trails surveys must capture seasonal variations and provide inputs into the range of adventure activities that a feasible across seasons.

Through informative pamphlets, posters, social media tools and through various government programmes and information dissemination the programme is expected to highlight the unique and conducive landscape values and its correlated high biodiversity and natural heritage values in conjunction with pro conservation based livelihoods

5. Preparing materials required for promotion and science

This stage involves the documentation of landscape through relevant photographs and preparation of important materials including seasonality calendar and checklists. These resources can be used for the production of brochures, posters and other literature for both science and promotional uses.

6. Identification and selection of community members

The selected agency expected to identify suitable candidates within the community who are interested to take long-term training programmes to become nature guides/running guides. The short workshops held for promotion of the training programme expected to help the agency in identifying suitable candidates

Based on interest, willingness to explore, and talent the programme-implementing agency would be required to draw up a list of candidates suitable for training. The selection process itself could be through a series of initial outreach programmes, specific trainings and visits to other locations outside the landscape.

A select group should also be supported to undertake Trip Leader and Wilderness First Response trainings to upgrade their skills and to provide the clientele with a body of highly skilled and confident professionals.

7. Training events

A secure, confident and knowledgeable community would be one of the foundation blocks for a successful adventure tourism programme. To achieve this the programme implementing agency would be required to organize a series of cluster level events across the landscape. This will achieve three important goals

1. In-depth survey of the trails and locations with valuable advice from the community
2. Allowing communities to grow and learn how to manage such events
3. Community participation would mean a buy in to the activities thus ensuring a possible long-term future

This series of mini events would provide the basis and the personnel that would be needed in order to arrange a larger and professional organized landscape level marquee event.

In this stage, the selected candidates are expected to undertake training for a period of 12 to 18 months including during winters. Some of the major components of training include,

- i) Basics, techniques of the various sports
- ii) Training in rules and ethics of the sport
- iii) Advanced training in Wilderness Skills – First Aid, Outdoor Leadership,

The Atal Bihari Vajpayee Institute of Mountaineering and Allied Sports, Manali can help the expert agency in providing relevant training for outdoor event guides. The project can look for convergence with various programmes under Forest Department as mentioned earlier. The training programmes can also be supported by Himachal Pradesh Tourism Development Board or Himachal Pradesh Eco-tourism Department through ongoing schemes and provisions.

8. Exposure visits

Providing necessary exposure is important since the community members are expected to be aware about the difference between community-based tourism activities and private interventions that benefits less to local communities. The proposed strategy recommends exposure visit and participation by trainees from the area in existing “Community-based” Ntrail Running, Ultimate Frisbee and Yoga events.

9. Organizing events

This stage involves organizing of running, Ultimate Frisbee and Yoga events preferably in consonance with planned nature festivals under nature tourism plan proposed. The proposed events can be broadly categorized into

- i. **A series of small events:** At the culmination of the training programmes and workshops where the participants / attendees are mostly local communities, schools and other local institutions
- ii. **One marquee trail run** that is the annual highlight of the Low Risk High Impact Sporting Event Calendar. This would showcase the landscape and the pool of trained personnel; encourage local and global participation; and promote the hosting skills of the community curated events where the audience is a mix of local community and fee-paying guests. The marquee run would be one of the events in the “Culminating “Fair” which would provide an opportunity to promote the landscape and provide space to annual and other craft/farm-based livelihoods. The event would also help link conservation groups with community tourism ventures

10. Creation of an events calendar

This stage involves the creation of an events calendar and the project can help in promoting adventure tourism events calendar that links homestays, nature tourism events with adventure sports.

Based on the two years (or more) of surveys trainings, and organization of various events the programme implementing agency would be required to help identify iconic trails and locations and help promote such locations.

This would be concurrent to helping create an annual events calendar, which would require to be promoted through various popular means and through established Government protocols and setups.

11. Creating a pool/network of Trained Running Guides

The training programmes and events and other activities proposed are expected to create a pool/network of trained running guides from the local communities. The activities proposed will give an alternative livelihood option for the trained guides, and benefits the local communities through various products and services like homestay they offer to travelers.

Institutions/stakeholders and responsibilities

Institutional mechanism: The major institutions/stakeholders and their roles and responsibilities for implementation of the plan is given in Table 9. The recommended institutional mechanism for the development of homestay ecosystem in the landscape would comprise of,

1. Union of Community /Nature Based / Adventure Based Tourism Enterprises at the Landscape Level Community (which include Homestays, Nature Guides, Trained Running Guides and other community-based service providers)
2. Online Portal specific to the region that provides information and access

Stakeholder	Proposed Roles and Responsibility
SECURE Himalaya	<ol style="list-style-type: none"> 1. Supporting Low Risk High Impact Adventure Tourism Events and Training 2. Identifying and contracting resource agencies 3. Promoting Adventure Tourism events calendar that links homestays, nature tourism events with Adventure sports 4. Support for Guide Training and exposure
UNV's	<ol style="list-style-type: none"> 1. Facilitate introduction of Resource Agencies to the landscape and the communities

Stakeholder	Proposed Roles and Responsibility
	<ol style="list-style-type: none"> 2. Awareness of schemes and services available through various Government and Non-Government Agencies 3. Provide information on the landscape – connectivity, seasonality
Resource Organizations	<ol style="list-style-type: none"> 1. Creating a Landscape level Low Risk High Impact Adventure Sport plan. Which would include <ol style="list-style-type: none"> 1. Identifying trails and values appropriate for promotion 2. Developing Training Calendar 3. Support Infrastructure development and resource allocation 4. Organization of events for Guide Training 5. Organizing local (mini) festivals and the Marquee Annual Festival 6. Creating a Running Trails Map of the area with degree of difficulty, length, seasons appropriate for running, and available facilities, along with other trail map features 7. Helping develop and ratify ethical Tourism principles
Himachal Pradesh Eco-tourism Department	<ol style="list-style-type: none"> 1. Promoting the SECURE landscape as a “unique” Adventure Sport-tourism Destination with an emphasis on the unique landscape. 2. Supporting events that are centered around the SECURE landscape homestays and Nature & Adventure Tourism Events
The Atal Bihari Vajpayee Institute of Mountaineering and Allied Sports, Manali (ABVIMAS)	<ol style="list-style-type: none"> 1. Supporting the events proposed 2. Providing relevant training for Outdoor event guides
Himachal Pradesh Tourism Development Board	<ol style="list-style-type: none"> 1. Promotion of events 2. Making a Policy for Running Events – focus on involving communities 3. Supporting Infrastructure development and resources in the landscape and supporting the running guides 4. Registration of Adventure Sport Guides 5. Trail Development – Signage, Rest Areas, Washrooms Facilities 6. Supporting events that are centered around the SECURE landscape homestays and Nature & Adventure Tourism Events
SRLM	<ol style="list-style-type: none"> 1. Operational assistance in the formation of Cluster forum or cooperative at Sub-valley level
Himachal Pradesh Forest Department	<ol style="list-style-type: none"> 1. Supporting through CAMPA programmes 2. Generating Awareness 3. Supporting Nature-tourism events and highlighting nature trails 4. Nature Trail Development – Signage, Rest Areas, Washrooms Facilities

Table 9: Proposed roles and responsibilities of major stakeholders involved in developing Low Risk High Impact tourism

Responsiveness of livelihood option to climate change and contribution to conservation efforts

The activities proposed, with the exception of Yoga, are outdoor based and hence are vulnerable

to extreme weather events. Climate change is predicted to have varying impacts on different categories of flora, fauna and even on the physical landscape however these activities, as with most sport based on low “technical and infrastructure” requirements have the ability to adapt to changing climates and would not greatly be affected by climate change. The low risk high impact adventure tourism is suitable for the natural environment due to the sustainable use of natural resources. It gives an opportunity for community members to understand the value of conservation and how important it is for their livelihood, at the same time providing an opportunity for travelers to fund sustainable livelihoods in the landscape and for mutual learning.

Expected risks, problems and assumptions

Risks	<ul style="list-style-type: none"> ▪ Initial Returns may be slow ▪ Market may be influenced by other non-nature tourism-based activities – Mass Camping, Motorcycle Tourism etc. ▪ Change in seasonality may affect organization of events
Problems	<ul style="list-style-type: none"> ▪ Lack of a trained pool of guides ▪ Lack of information on trails, facilities and health services ▪ For professional events professionally qualified medical crew would be a requirement for the long-distance high-altitude events
Assumptions	<ul style="list-style-type: none"> ▪ Possibilities of small-scale Investments that can be made by the individual Nature Guides is supported by existing Enterprise Development Schemes / Loans ▪ Possibility of formation of a federation / Union of Guides within the landscape that subscribe to one set of norms and afford a safety net to the Guides while preventing activities detrimental to community and the landscape

General Recommendations and activities under tourism component

Following are some of the general recommendations and suggested activities based on the insights from the study undertaken by TERI in the project landscape, which may further strengthen the strategies developed under tourism component at various stages of development.

- 1. Conduct carrying capacity exercises:** The project would need to incorporate this component into the Tourism Component – establishing what kinds of tourists suitable for entering the landscape and the sectoral capacity. Based on this, appropriate policy measures may implemented. The carrying capacity exercises carried out by TERI should be contextualized since presently it take less account for the importance of various local aspects
- 2. Regulating tourists to fragile landscapes:** Based on current use regimes, and the status of vulnerability of landscapes the project may seek to make part of landscape conservation policy for the regulation of tourists entering into certain landscapes. This may be done through self-regulation, annual / seasonal permits and widely disseminated information. Relevant Government agencies and concerned cluster units would need to work closely to implement these regulations
- 3. Waste management:** A significant new load on the system will be the increase in solid municipal waste, non-biodegradable waste and toxic waste apart from recyclables and compostable. The SECURE Himalaya Project would need to make **waste management and waste treatment** as an important component of the tourism sector implementation plan. The project should consider supporting waste treatment facilities for the sorting, recycling and dumping
- 4. Primacy of local community:** The SECURE Himalaya project must promote the primacy of the local community – who are both the first and the last line of defence of the landscape – as owners, managers and the primary entities in the Tourism Sectors
- 5. Road routes:** Detailed documentation of road conditions across all seasons especially winters and monsoons must be undertaken. Bus routes – their timing and frequency along with private jeep services must be accurately documented and such information made easily and publicly accessible
- 6. Seasonality:** Currently information about seasonality is based on evidence from short visits and from observations of visitors. Interviews conducted by NRMCC have indicated that while winters do cause significant hardship and an almost total shutdown in vehicular traffic to many of the remoter villages the roads into the main valley remain open for varying periods via the Kishtwar route. SECURE Himalaya must plan for authentic and verified information about winter conditions and must make this information a part of the information brochures and guides. The Winter's itself could be one of the focal points for tourism in the region
- 7. Rescue teams:** Emergency and rescue services are a highly skilled service needing years of training, practice and regular recertification. While basic first aid services and wilderness first response trainings are incorporated into the SECURE Himalaya tourism programme, caution must be exercised in the creation of "Rescue Teams". Currently this role and responsibility lies with State and Central DRF's
- 8. Tourist information centers:** Along with the development of Homestay Clusters and Nature tourism circuits the SECURE Himalaya programme should support the creation of Tourist Information centres – primarily within the landscape at key entry points and junctions, and also at Himachal State level locations
- 9. Regulations of homestays and hotel construction:** Hotels may be encouraged in the larger (urbanizing) settlements while homestays are to be encouraged at village cluster levels. Current policy for homestays allows reserving four rooms for guests. Through the SECURE Himalaya programme a revision in, at least landscape policy, must encourage one and two

room homestays – these are both conducive to the existing space available and are within the financial reach of average families

10. Management of water and other resources: While, undoubtedly, tourism will accelerate and sustain livelihoods they will also bring in a highly consumptive group. Water, fuelwood, local delicacies like Hazelnut, Chilgoza Pinenut etc will be in high demand and often to the detriment of local communities. The SECURE Himalaya project must help put in place policy and plans for the conservative, sustainable and equitable use of Water and other natural resources

11. Sustainable tourism: Adopt, Adapt and promote sustainable tourism through the Sustainable Tourism Criteria for India (STCI) The criteria are based on the five key principles

- a. Demonstrate Effective Sustainable Management,
- b. Design and construction of buildings and infrastructure,
- c. Maximize social and economic benefits to the local community and minimize negative impacts,
- d. Maximize benefits to cultural and historical heritage and minimize negative impacts, and
- e. Maximize benefits to the environment and minimize negative impacts. Environmental impacts are to be minimized through the following –
 - i. Conserving Resources
 - ii. Reducing Pollution
 - iii. Conserving biodiversity, ecosystems and landscapes

Handicrafts – Detailed Implementation Plan

Handicrafts can be one of the potential livelihood options in the project landscape given the existing levels of capacities and easy availability of resources including wool. The community members in both Lahaul and Pangri are skilled in making handicrafts items though the process and nature of crafts differs significantly in both the region. This implies that there is no requirement of extensive capacity development of community members but requires small incremental developments in terms of introducing new designs, product, process and functional upgradations, and market level interventions. Handicrafts development in the project villages is crucial from a livelihood perspective since it is amongst the few livelihood options that can be pursued during winters and make the idle hours more productive and incentivizing. The success stories of handicrafts initiatives in similar geographies like SHEN in Spiti and LENA in Ladakh are encouraging and show the potential of small-scale community driven interventions in contributing to local economy and conservation.



The region not economically benefitted from handicrafts: We can witness wastage of wool and shift from traditional practices in the region (Credits: Shailesh Nagar and Ramnarayan)

Success Story: Project SHEN by Nature Conservation Foundation (NCF), Spiti

Project SHEN is a handicraft development initiative of Nature Conservation Foundation and Snow Leopard Trust in Spiti, Himachal Pradesh. The project started in 2013 with initial piloting by involving local women artisans from two villages. There were majorly two reasons for the initiation of the project as a part of conservation, one was the realization that women are more affected with the loss livestock since it may lead to increased working hours and stress and secondly, direct engagement of women in conservation was minimal in the NCF project. SHEN ensured women participation in conservation efforts; it also served as a platform for women empowerment and provided alternative livelihood options during winter. NCF provides necessary training for women through various workshops, and provide designs and raw materials for making handicrafts products. The initiative encourages women to participate in different exhibitions, like Dastkar festival in Delhi, to show case their products and thereby providing a platform for knowledge transfer and increased exposure. SHEN project leveraged the potential of online platforms also for sales along with exhibitions. *“There should be two aspects for livelihood development in relation to conservation, one is for engagement and participation of community members and another is to meet actual livelihood requirements, and SHEN ensures increased engagement and participation”*, says Dr Yash Veer Bhatnagar from NCF.

a) Policies/Schemes in relation to handicrafts

Presently, there are no functional and active policies or schemes exist in relation to handicrafts in the project landscape. However, some schemes (See **Annexure 1** for details and possibilities of convergence with the project) that are related to handicrafts or can contribute to handicraft development can be leveraged for livelihood development through the project. Some of the important schemes are,

- Chief Minister's Startup Scheme
- Mukhyamantri Swavlamban Yojana
- Integrated Tribal Development Project under Tribal Sub plan

b) Available livelihood assets in relation to handicrafts

The livelihood assets that are available and can help the project in developing handicrafts as an alternative livelihood option is given in Table 10.

Livelihood Assets	
Human Capital	<ul style="list-style-type: none"> ▪ Skills in processing the wool and making handicraft items ▪ Human resource availability during winter – Skilled artisans especially women are not involved in any economic activities from October onwards, once the agricultural harvesting period is completed. The idle hours of women and artisans can be utilized and converted to productive hours ▪ Unemployed and educated youths looking for opportunities ▪ Local people who can help in transporting the materials from outside and products to markets ▪ Inherent entrepreneurial skills of community members to adapt to changes like learning new technologies designs or selling the products to visitors
Physical Capital	<ul style="list-style-type: none"> ▪ Traditionally used equipment for wool processing and making handicraft products such as spindle and carding equipment ▪ Traditional looms in the villages ▪ Houses or community level physical spaces for making handicraft products
Natural Capital	<ul style="list-style-type: none"> ▪ Livestock and wool availability in all the project villages due to the supportive environmental conditions ▪ Conducive climatic conditions for nearly nine months for handicraft development
Financial Capital	<ul style="list-style-type: none"> ▪ Small loans that SHGs or individual community members can avail from Banks ▪ Savings of SHGs or Praja Mandals if any ▪ Savings of community members to make small investments if any ▪ Funds that can be availed from existing schemes
Social Capital	<ul style="list-style-type: none"> ▪ Praja Mandal, Mahila Mandal and Yuva Mandal ▪ Active SHGs in the villages ▪ Local organizations and community level institutions like CEVA, Menthosa Sangathan Centre ▪ Government departments and officials who can help the community members in accessing various schemes and resources ▪ Community leaders and institutions

Table 10: Livelihood assets in relation to handicrafts

c) Additional resource requirements

Human capital: In addition to human capital available at the community level, the project may require to find additional resources to enhance the existing capabilities. The areas where additional human capital requirements needed are,

- To improve the capacities and skills of community members on new designs and technologies
- Helping the government departments, officials and institutions in accessing various schemes, policies and resources for handicraft development
- Entrepreneurship development and
- Research for exploring the potential and possibilities

Physical capital: There is a scope for enhancing the efficiency by introducing new equipment and low-cost technologies for various activities involved like shearing, spinning, carding etc. The additional physical capital may ensure better quality, improved efficiency and offer access attractive markets.

Financial capital: Handicrafts development in the project landscape requires capital investment on multiple areas of development. Improving the capacities and skills of community members, additional raw materials required, introduction of new equipment and technologies, branding and marketing are some of the areas that presently requires additional financial capital.

Social capital: Initiatives and institutions like Centre for Pastoralism, National Institute of Fashion Technology, Wool Federation, Dastkar etc. can contribute to handicrafts development at different levels and capacities. Collaboration with these initiatives can help the project in making incremental innovations on identified areas related handicrafts; it may also help the project in identifying additional human capital requirements.

d) Expected Outcomes and Target/Indicators

Expected outcomes	Indicators	Targets
<ul style="list-style-type: none"> ▪ Productive utilization of idle hours of community members during winter season ▪ Improved social spaces and empowerment of women ▪ Revival of traditional art s and culture ▪ Increased income for participating community members without affecting the existing livelihood options including MGNREGA and agriculture ▪ Handicrafts complement tourism activities and hence it provide more economic benefits to the community members ▪ Improved economic opportunities for unemployed and educated youths with the development of handicrafts and tourism ▪ Reduced dependency on natural resources for meeting the livelihood requirements ▪ Improved attitudes and practices of women towards conservation 	<ul style="list-style-type: none"> - No. of households engaging in productive activity during winter season - Well-functioning conservation institutions at community level 	<p>- 2 to 3 households in each of the 19 recommended villages to upgrade their process or products. An approximate of 60 households to benefit from handicrafts. Though the increase in income will be marginal from handicraft development in the initial years – with the development of tourism and brand of the landscape – the situation expected to change.</p>

Strategy 1: Reviving Wool Based Traditional Handicrafts

Steps/process for implementation

The major stages/process involved in the revival of traditional wool-based in the project landscape handicrafts given in Figure 18.

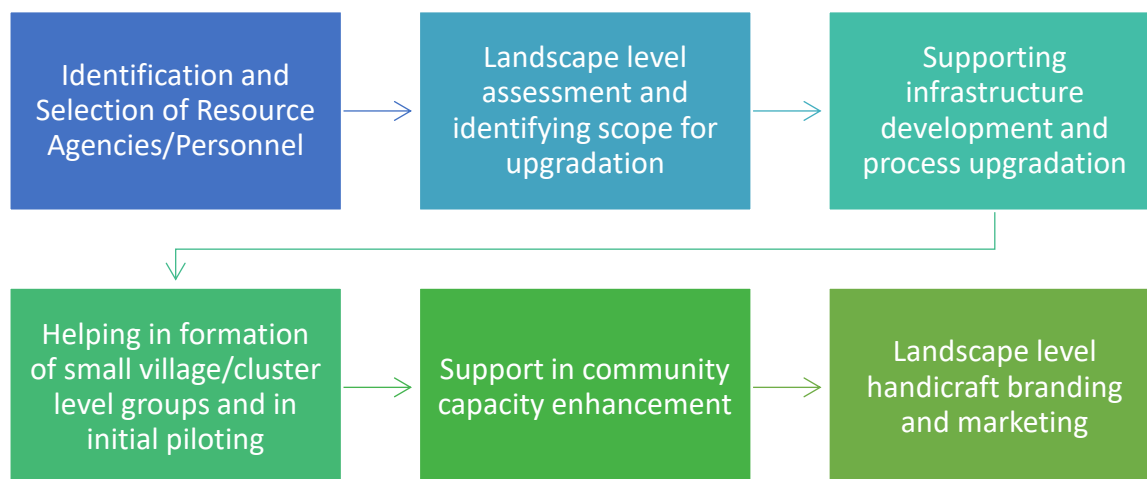


Figure 18: Steps/process involved in the revival of wool based traditional handicrafts

1. Identification and selection of resource agencies or personnel

Handicraft as a potential livelihood option not explored in the landscape yet particularly from a market perspective. The wool and handicraft items presently produced in the region requires a detailed assessment by an expert agency to understand the market potential and areas of improvements or upgradation. The project can approach various research organization or personnel to help in the implementation of the activities (See **Annexure1** for detailed list of agencies, resources and Terms of Reference for hiring an implementation agency). Revival of livelihoods in pastoralist regions is a priority area for **Centre for Pastoralism** an initiative aims to improve pastoralist ecosystems. The project can collaborate with such initiatives for assessing the potential of handicrafts as well as for helping in the implementation of recommended activities. **National Institute of Fashion Technology (NIFT)** also can be a resource agency which can provide capacity enhancement support and in process and product upgradations. In addition, organizations like **Nature Conservation Foundation** already implemented handicraft related initiatives in similar landscape by linking conservation with handicrafts. Such organization can provide additional inputs and expertise required for further development.

2. Assessment of existing processes and practices, and scope for upgradation

It is important to assess the existing processes and practices to understand the areas that require further strengthening. It is required to undertake an assessment of handicrafts in the region by a resource agency majorly in the following areas,

- Traditional handicraft products and designs
- Traditional equipment used and processes followed by the communities
- Quality and applications of wool produced in the landscape
- Potential marketing and sales channels for locally made handicraft products
- Possibilities of developing handicraft clusters and landscape level co-operative

The resource agencies mentioned earlier can undertake these assessments and identify scope for upgradation in the existing practices. Research students and groups from institutes like NIFT helped handicraft development projects in similar landscape like Ladakh (Looms of Ladakh is one

such case) by introducing new designs, equipment and helping the communities in branding and marketing. The project can also invite student groups from research and educational institutions to help the communities in various activities involved from processing to marketing and sales of handicraft items.

3. Supporting the infrastructure development and process upgradation

Incremental improvements to existing infrastructure and practices will help in increasing the efficiency and quality of products. The project can help infrastructure development by assisting **Integrated Tribal Development Project, Industries Department** and other relevant departments in the preparation of **Detailed Project Planning (DPRs)** and Action Plans. The resource agencies suggested for assessing handicraft potential in the landscape can provide necessary support in the preparation of DPRs. Some of the immediate infrastructure requirement in the landscape are,

- a) Common carding centres preferably in Killar and Purthi
- b) Introduction of spinning technologies/equipment for improving efficiency
- c) Improvements in traditional looms and practices based on assessment undertaken by resource agency

4. Helping in the initial piloting and formation of small village/cluster level handicraft groups

The landscape level handicraft development envisaged to be a community led initiative. Organizing communities to small groups at village or cluster level can ensure operational effectiveness and community ownership. The resource agencies are required to identify villages and interested families, and expected to help these villages in the formation of small groups with the assistance from Industries and other relevant departments. A landscape level co-operative of handicraft producers can be established by organizing these groups formed initially once the piloting stage is completed. A list of indicative villages for initial piloting and criteria for further selection of villages is given in Annexure 1. The project can hire fellows from various educational institutions for piloting handicraft development projects. The fellows hired under the project also expected to help in the preparation of DPRs with the assistance from resource agencies.

5. Support in community capacity enhancement

It is important to train community members in various aspects of handicraft development including new designs and processes, usage of newly introduced technologies and equipment, accounts, administration etc. **NIFT, Centre for Pastoralism, and Nature Conservation Foundation** are three major identified organization that can help the project in capacity enhancement of community members. **Industries Department** in the landscape is already trying to improve the capacities of community members through various skill development initiatives. The project can consider various projects and schemes under the department as a source for funding the community capacity enhancement under handicraft development initiative.

6. Branding and Marketing

Various events and initiatives recommended under tourism sector expected to complement the development of handicraft sector in the landscape. However, for exploring the potential beyond tourism markets, the project can undertake small initiatives with minimal funding requirements that potentially create large impact on community livelihoods. Some of the recommended activities for landscape level handicraft sector branding are,

- i) **Community participation in national level art and craft festivals** – The project can encourage and support women community members to display their products through national festivals like **Dastkar Festival, Textile India Fair, Mahalaxmi Saras Exhibition** etc. This can provide an exposure to community members to potential markets and may open up possibilities for development of new collaborations. Encouraging participation in festivals is a common marketing practice adopted by successful initiatives like SHEN in similar landscapes
- ii) **Establishing online channels for brand communication** – The project can encourage recruited resource agencies, fellows or a local expert to start social media pages and online channels for brand communication and sales of products. These channels can be used as a platform for sharing stories of community artisans, lives in the landscape and conservation efforts made by the project through livelihood development initiatives. The resource agencies/fellows are also expected to contact initiatives like **Our Better World, The better India, Elle.in** etc. to cover community run handicraft initiatives
- iii) **Introducing story based packaging and attractive label designs** – Introducing attractive packaging and labelling practices will also boost the landscape branding and marketing efforts

Institutions/stakeholders and responsibilities

The handicraft development initiatives expected to be institutionally organized in a way that gives most of the economic benefits to the community members. The suggested institutional mechanism at the landscape level comprises of,

- a) **Village/cluster level groups:** The interested community members in the potential villages can be organized into small village/cluster level groups. The potential villages and clusters needed to be identified by the resource agency as a part of their assessment.
- b) **Landscape level co-operative of clusters/village level groups:** Once the initial piloting stage is completed with some of the formed groups, more groups can be organized and can collectively be formed into a community led co-operative initiative
- c) **External expertise and support:** Various external agencies including government departments, UNDP, resource agencies, educational and research institutes, projects can support the handicraft development initiative by providing support for,
 - i) Community capacity enhancement
 - ii) Infrastructure development
 - iii) Landscape level branding and marketing

The major stakeholders involved and their roles and responsibilities given in Table 11.

Stakeholder	Proposed Roles and Responsibility
UNDP SECURE Himalaya Project	<ul style="list-style-type: none"> ▪ Identifying and selecting resource agencies or personnel for undertaking landscape level assessment and development of handicrafts ▪ Initiating a fellowship programme to support various livelihood development initiatives in the landscape, also to support the development of handicraft ▪ Promote the landscape level brand of handicrafts through accessible channels Working with departments and projects for handicraft infrastructure development
UNV's	<ul style="list-style-type: none"> ▪ Facilitate introduction of Resource Agencies to the landscape and the communities

Stakeholder	Proposed Roles and Responsibility
	<ul style="list-style-type: none"> Assistance in initial identification of potential villages and mobilizing community members
Resource Organizations	<ul style="list-style-type: none"> Assessment of existing processes and practices, and scope for upgradation <p>The major identified areas of assessment are,</p> <ol style="list-style-type: none"> Traditional handicraft products and designs Traditional equipment used and processes followed by the communities Quality and applications of wool produced in the landscape Potential marketing and sales channels for locally made handicraft products Possibilities of developing handicraft clusters and landscape level co-operative <ul style="list-style-type: none"> Support in the preparation of DPRs for infrastructure development Organizing the community members into small village/cluster level groups and initial piloting of activities
Industries Department	<ul style="list-style-type: none"> Providing necessary funding requirements through various schemes for conducting capacity enhancement programme in the landscape Providing possible support for infrastructure improvements
Integrated Development (ITDP) Tribal Project	<ul style="list-style-type: none"> Working closely with UNDP resource personnel in the preparation of DPRs and mobilization of funds through various departments and channels
Himachal Pradesh Tourism Development Board	<ul style="list-style-type: none"> Promoting handicraft products in the landscape as a part of existing tourism development initiatives in the state
Forest Department	<ul style="list-style-type: none"> Organizing events for tourism and handicraft development in the landscape
Fellows	<ul style="list-style-type: none"> Helping the implementation of landscape level activities by coordinating with resource organizations, UNDP, various departments, communities and other stakeholders Preparation of DPRs with the support from resource agencies and departments Initiating landscape branding and marketing activities

Table 11: Proposed roles and responsibilities of major stakeholders in handicraft development

Expected Risks, Problems and Assumptions (Financial, Operational, Market and Environment related)

Risks	
Financial risks	<ul style="list-style-type: none"> Increased operational and logistics costs and less returns due to the small market size that can be captured with available resources Failure to derive a mechanism to subsidize the operational costs involved Failure to converge with various schemes and policies for meeting the financial and operational requirements
Operational risks	<ul style="list-style-type: none"> Failure to collaborate/partner with identified agencies Failure to find additional human resource requirement outside the community Inability to provide community capacity requirements within expected time frame Lack of skills in utilizing the infrastructure or mechanisms developed

Market risks	<ul style="list-style-type: none"> - Wrong segmentation of target market - Difficulty in accessing identified markets - Overdependence on tourism market that yet to develop - Difficulty in meeting the market standards and requirements - Failure to scale and impact communities due less market responsiveness - Easily available substitutable products from similar geographies
Environment risks	<ul style="list-style-type: none"> - Failure to operationalize the activities due to climate related uncertainties

Table 12: Expected risks, problems and assumptions in reviving wool based traditional handicrafts

Further research requirements

The information gathered from field alone is not sufficient to understand the scientific and technological aspects that may contribute positively to the handicraft development in the region. The awareness level amongst the respondents were low during field level interactions and the literature also not providing much indication on various aspects involved. Following are the some of the identified areas that requires further research,

- i) Detailed study on properties and usages of wool produced
- ii) Study on traditional techniques of making handicraft items and identifying possibilities for process or functional upgradation
- iii) Study on handicraft items produced and its relation to culture and tradition

Responsiveness of livelihood option to climate change and contribution to conservation efforts

Handicrafts supported by tourism can be one of the possible alternative livelihood options that reduces the pressure and overdependence on natural resources. Agriculture is presently the major source of income for majority of the community members and even if it fails due to climate related uncertainties like variation in rainfall, handicrafts along with tourism can be an alternative livelihood option for the community members.

Medicinal and Aromatic Plants (MAPs) and NTFPs – Detailed Implementation Plan

As per report of the National Medicinal Plants board only about 22% of the production sourced through cultivation. The Medicinal and aromatic plants market is complex and largely hidden behind purposeful obfuscation. Bio-resources, particularly medicinal plants are a contested domain where livelihoods, commercial interests and State Control intersect. Crucially medicinal plant collection affords valuable livelihood to the very poorest who must depend on all available resources and for those forest areas are their only resort.

A careful analysis is required to disaggregate those medicinal, aromatic and food herbs that are possible to cultivate and those that are largely harvested from the wild. Some plants that are cultivable are also heavily extracted from the wild and hence need well-defined principles to establish provenance. Others that are seemingly cultivated are based on planting material also extracted from the wild.

Currently various research agencies have published protocols for the cultivation of a range of prioritized and recommended Medicinal and Aromatic plants (MAP's). These may be found in the publications of National Medicinal Plants boards on agro-techniques for various plants species and in the Crop List recommended by Medicinal Plant Board.

Some additional concerns with Medicinal plants are the basic farm economics in the project landscape that are,

- a) More often than not, such high value crops have a 2 – 3 year crop-value cycle i.e. they are harvested and sold once in 2 to 3 years and in some cases even 4 years
- b) The volatile MAP market means that there is no surety of returns at the time of harvest
- c) Cash value of normal (off season) vegetable crops or even some horticultural crops is often higher when measured over a 2 – 3 year period with minimal returns are always being assured for regular crops
- d) Annual cash needs are met from annual sales, which is not the case with long-term medicinal plants

However, it is necessary to make interventions in this sector primarily to engage the community in viable economic activities that compete directly with their difficult ventures into the high Alps. It would be, concurrently, necessary to have strict measures preventing the extraction of endangered and vulnerable medicinal herbs, like *Dactylorhiza hatagirea*, while at the same time encouraging the cultivation of medicinal, aromatic and food plants that do have potential and have existing growing protocols. A detailed list of endangered and vulnerable plants is to be found in various publications.

a) Policies/Schemes in relation to Medicinal and Aromatic Plants

Majority of the schemes related to MAPs are not functional in the landscape. The High-Altitude Medicinal Plant Nursery established in Kukumseri, Udaipur is funded by National Medicinal Plant Board (NMPB) hence similar opportunities can be further explored by the project. Some of the policies/schemes that are relevant for the sector in the project landscape are,

- i) National Ayush Mission – Subsidies of varying percentages - 30%, 50% and 75% are available to support the growing of a prioritized set of medicinal plants under National Ayush Mission
- ii) Schemes under National Medicinal Plant Board - National Medicinal Plants Board (NMPB) under Central Sector Scheme there are provisions for - Conservation, Research & Development, IEC & Training, Herbal Garden and other related activities which may be undertaken by BMC's and Farmer Producer Groups. The NMPB also provides training and support for the In-Situ, Ex-Situ Conservation of Medicinal plants

b) Available livelihood assets/resources

Presently the cultivation of MAPs is not a livelihood option for the community members. However, the major livelihood assets that will support in the cultivation and further developments of the sector in the landscape are,

- **Environmental conditions:** The environmental conditions, ranging from cold temperate to alpine, are appropriate for growing bio-geographic specific medicinal and aromatic plants
- **Knowledge and access:** Access to farm land in the focus villages and extensive prior knowledge of farming of community members
- **Present dependence and knowledge on some wild herbs for food and therapeutic medicinal uses**

Some of the additional resource requirements in the project landscape for the cultivation and development of MAPs are,

- a) Planting materials for shortlisted MAP's for cultivation
- b) Technical requirements in value addition and packaging and
- c) Publicity information on Cultivation protocols

e) Expected Outcomes and Target/Indicators

Expected outcomes	Indicators	Targets
<ul style="list-style-type: none"> ▪ Heightened awareness about the schemes and possibilities for cultivation of a range of MAP's and unique food crops and a move away from wild extractions ▪ Formation of a powerful local body that both promotes cultivation of MAP's and restricts wild extraction ▪ Cultivation protocols are well established for the chosen set of herbs and spices ▪ Cultivate MAP's value chains are established and well developed proving reliable and steady income to the cultivators ▪ Value Addition – through herbal teas, soaps, oils, infusions, etc provide value added incomes and alternate economic and enterprise opportunities ▪ Direct reduction in collection from the wild and reduced human traffic into the forest / alpine landscape ▪ In-situ Conservation highlights value of conservation to both the long term viability of MAP's and the availability of seeds and planting material 	<ul style="list-style-type: none"> - Document detailing cultivation protocols for MAPs - X no of households increase income from cultivation and sale of MAPs 	<ul style="list-style-type: none"> - Cluster of villages to be formed in convergence with National Aayush Mission with three suggested villages as cluster centres. Number of target households to be determined by the implementing expert agency based on the interest of farmers to cultivate in their private land or community common land.

Strategy 1: Cultivation and Value addition of selected Medicinal, Aromatic and Food Herbs and Spices

There are set of species, which have no know protocols for cultivation, and usually success stories in such plants are based on wild-lings or are not possible to replicate under sustainable cultivation practices.

Through the following set of activities, we recommend the active promotion and cultivation of a variety of medicinal, aromatic and food herbs and spices that either have known cultivation protocols and have marketable value or where there is information that such herbs and spices have been successfully grown in other regions of the Himalaya.

The major activities planned are,

1. Identification and Cultivation of Medicinal, Aromatic and Spice plants that are not found or collected from the wild (Rosemary, Lavender, Mint)
2. Identification and cultivation of some plants that have cultivation protocols but are not cultivated (Alliums)
3. Promotion of some MAP's that are easily grown and value chains exist but have not been linked up (Caraway)
4. In-situ and Ex-situ conservation of MAP's for monitoring, and to make available seed and planting materials
5. Value addition through minor processing, product creation and packaging

Steps/Process for implementation

The major steps involved in the cultivation and value addition of MAPs, food herbs and spices are given in Figure 19.

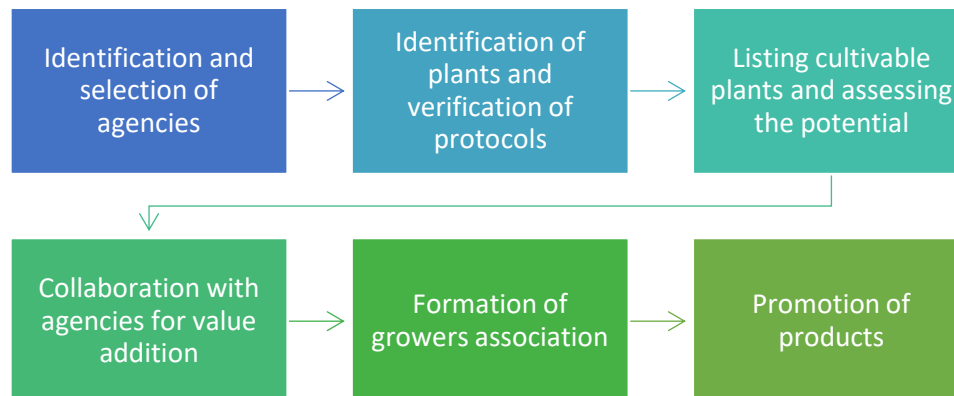


Figure 19: Steps/process involved in the cultivation and value addition of MAPs, Food Herbs and Spices

1. **Identification and selection of agencies:** Identification of agencies, which would undertake extensive hands on cultivation trials and implementation, awareness building, and value chain linkages. The list of recommended agencies is given in **Annexure 1**.
2. **Identification of plants and verification of protocols:** Identification of endangered and vulnerable plants and and verifying if cultivation protocols exist by selected agency. If not then the project can recommend conservation measures and work towards securing wild populations through in-situ and ex-situ conservation. The project can seek assistance and support from NMPB in conservation measures through Central Sector Scheme. The following are the recommendation of plants with known or possible cultivation protocols,
 - a) High altitude medicinal plants for cultivation:
 1. *Picrorhiza kurroa* (Kadu)

2. *Aconitum heterophyllum* (Atish)
3. *Saussurea costus* (Kuth)
- b) High altitude food plants for cultivation
 1. *Rheum australe* (Revan Chini)
 2. *Rheum webbianum* (Indian rhubarb)
- c) Medicinal, aromatic and spice plants that can be grown anywhere
 1. Caraway (*Carum carvi*)
 2. Pepper Mint, Pudina, Spearmint (*Mentha spp.*)
 3. *Tagetes spp.* (Oil)
 4. Chives (*Allium humile* and *Allium stracheyi*)
 5. Rosemary (*Rosmarinus officinalis*),
 6. Mint (*Mentha arvensis*),
 7. Thyme (*Thymus serpyllum*),
 8. Lavendar (*Lavendula officinalis*)
 9. Manu or Pushkarphool (*Inula racemosus*)

The programme implementing agency would require to verify and ratify the details for these species and clearly identify the specific vulnerabilities and opportunities (over harvesting, immature harvesting, volatile prices, value addition, cultivation potential and success)

3. **Listing cultivable plants and assessing their potential:** This stage involves the Listing of Medicinal, Aromatic and Food plants that are cultivable and assessing their local market and value chain potentials. Some examples are:
 - a) *Allium humile* and *Allium stracheyi* are being successfully cultivated in similar landscapes and high altitudes of Uttarakhand – these have both market value and are used extensively in local cuisine
 - b) Two Rheum species are widely used in local foods. There are cultivation protocols for some Rheum species and there is potential to explore similar protocols in selected Rheum species
 - c) *Carum carvi* (Caraway) grows easily but its value chain has not been explored. Currently this biannual crop has a grower's sale value of rupees 1000 per kg
 - d) Some easy to grow and multiple use herbs like Rosemary (*Rosmarinus officinalis*), Mint (*Mentha arvensis*), Thyme (*Thymus serpyllum*), Lavendar (*Lavendula officinalis*) are to be promoted through MAP gardens which in turn would provide the raw material for a host of value added products like herbal teas, infusions, balms etc.
4. **Collaboration with agencies for value addition of produce:** The project can collaborate with various agencies to help in value addition, branding, packaging and marketing of produce or products (See **Annexure 1** for list of recommended agencies). There exists a small regional market through tourism and a steady and large countrywide market for organic herbal products and such markets can be explored by the project with the help from the partnering agency
5. **Formation of Medicinal and Aromatic Plants growers association**

Following are the key steps need to be undertaken by the implementing agency under this key stage of development

a) Survey of farmers willing to cultivate: There exists a small subset of farmers who are risk takers, innovators and experimenter. The programme implementing agency would need to survey and prioritize a list of farmers with the willingness and capacity to undertake the long term cultivation (and eventually maybe value addition) of MAP's.

The agency needs to identify the villages and farmers as per the requirement of State Medicinal Plant Board (SMPB) and National Aayush mission. Under the mission, it is required to form cluster of farmers and for providing financial assistance to farmers for the cultivation of MAPs cluster farmers should have minimum of 2 hectares of land. The cluster formation of farmers can be from three adjoining villages within the radius of 15 KMs and hence the suggested villages for cultivation (See Annexure) can be cluster centers. SMPB during one of the consultation presentation mentioned that the farmers willing to cultivate could avail a subsidy of up to 75 percent under the mission hence the project should look for convergence with SMPB and National Aayush Mission. The project should also explore and utilize the facilities provided by regional cum facilitation center in Jogindernagar. For assisting farmers in sales of MAPs, E-Charak (an online marketing portal) under NMPB should be utilized.

Contract farming is a possible model for MAP cultivation in the region. However, considering the difficulty of making direct partnership with a guaranteed buyer such as Dabur the project may avoid adopting it as a major strategy. State Biodiversity Board (SBB) is piloting contract farming of MAPs in various parts of Himachal Pradesh and hence the project should work with SBB and encourage them for developing new pilot sites in the project landscape using their existing resources and partners.

Tourism and MAPs are two-priority area for State Rural Livelihood Mission. Hence, the project should work with SRLM and look for convergence opportunities with them especially in the formation of federation of cultivators.

b) Awareness and communication of vulnerable MAP's and the dissemination of Cultivation Protocols: The medicinal plant trade is built up behind veils of intentional obfuscation. Trade names are made up to confuse both the law and the local collectors. End applications are little known.

Better awareness of correct names and identity of MAP's, knowledge of their end uses, their current status in the wild – especially in view of the extreme quantities collected; would go a long way in allowing the community to understand the wild resources, make specific plans and would also help them negotiate better and less volatile prices.

A second layer of confusion exists about which plants are cultivable, in a replicable manner - from seed / legally sourced planting material to harvest. There exists a lot of literature on cultivation protocols – but most of these are under controlled conditions with access to institutional funds. Therefore it is of utmost importance that accurate information of species that are possible to cultivate, their cultivation protocols and sustainable sources of seeds and planting material be disseminated through every channel possible – these channels could be – local language posters and pamphlets, Social Media, Short audio and video communications, and most importantly direct communication with farmer groups

a) Establishing value addition protocols: At the very first instance the Nature and Culture tourism market – homestay service providers and guests provide a ready market for the local uptake of value added products based on MAP's and related plants. This market would also act as

an effective word of mouth for the wider spread of products originating from within the landscape.

The programme-implementing agency would be required to

1. Identify value addition processes and suitable products
2. Provide training and help build in the appropriate infrastructure for value addition
3. Support in the registering the products, in pricing and product marketing

b) In-Situ Conservation and Ex-situ Conservation and Cultivation Plots: WII has identified six locations as Medicinal Plants Conservation and Development Areas. Apart from ratifying these sites the programme implementing agency would be required, if appropriate, to add more sites.

The major part of this component would to help design the methods and tools for both in-situ and ex-situ conservation. In this case ex-situ conservation meaning the controlled and monitored cultivation of MAP's in farm areas with an intent to maintain a sustainable and self-replicating population.

Comparisons between growth, survival and seed production, harvestable material and periods would be monitored between in-situ locations and ex-situ sites. A list of villages for in-situ protection and conservation (through BMC's) are given in Annexure 1.

c) Training modules and documentation: Concurrent to the various activities, the implementing agency is expected to have adequate documentation of the processes undertaken and help prepare training modules for the various activities. Such documentation and modules are in order to help with long term monitoring and allow for self-replication.

d) Access benefit sharing: The current flow of benefits from MAP's is highly variable – based on the requirements and prices offered by intermediaries. Rarely if ever is the community of the end user prices or the nature of the product. However both local knowledge of MAP's and their presence with a community's landscape make these resources ideal for categorization and eventual benefit sharing through the protocols available in Bio-diversity Management Committee's or BMC's.

Currently there are only a few BMC's registered with little to no active functioning. Therefore in order to provide legitimate control over MAP's flows the programme implementing agency should attempt to help form more BMC's and to help them navigate and actualize the ABS protocols and benefits

Conservation action: Apart from betterment of the community through a diversified and hopefully secure livelihood, the principle goal is to conserve the valuable, fast degrading medicinal plant community and their landscape. The implementing agency would be required to help develop concrete conservation action plans

6. Promotion: Some products like herbal teas, soaps, oils etc. may be promoted for use in the tourism activity – through the homestays. This would encourage local sales and promotion through displays to guests. Promotion through trade fairs (Kullu Dusshera Mela, Dilli Haat etc.) and at local festivals and Nature Tourism Events is another option for promotion

Institutional mechanism

There is a need to create a platform to share cultivation protocols, planting materials, value chain information and value addition methodologies and techniques. Formation of MAPs growers association envisaged in the landscape to promote the conservation and protection of Vulnerable and Endangered Wild plants. The two major constituents of recommended

institutional mechanism are,

1. MAP Farmers Cultivators and Producer Cooperatives in the landscape
2. Collaborative initiatives of producer groups with organic product marketing firms and aggregators

The major stakeholders involved and their roles and responsibilities are given in Table 13.

Stakeholder	Proposed Roles and Responsibility
SECURE Himalaya	<ul style="list-style-type: none"> ▪ Identification of State and other agencies to promote awareness in MAPs ▪ Supporting landscape level awareness campaign
UNV's	<ul style="list-style-type: none"> ▪ Assistance for involved agencies/stakeholders in awareness creation of existing schemes ▪ Collaborating with state agencies to highlight endangered and vulnerable medicinal plants and to promote alternatives
Resource Agencies	<ul style="list-style-type: none"> ▪ Detailed report and project plan for the identification of cultivable MAPs, their processing and value addition protocols, and their value chain ▪ Extensive Documentation
State Medicinal Plants Board	<ul style="list-style-type: none"> ▪ Providing training and documentation in agro-techniques for MAPs ▪ Support in forming clusters of farmers and providing financial assistance to farmers for covering operational requirements through National Aayush Mission ▪ Connecting the farmers with Regional Facilitation Centre for availing possible services and in connecting to E-Charak portal for sales ▪ Providing necessary guidance to the implementing agency in the selection of villages, MAPs for cultivation and in cluster formation as required by National Ayush Mission
Himachal Pradesh Forest Department	<ul style="list-style-type: none"> ▪ Communication and awareness of endangered and critical MAPs and permissibility for collection from forest areas ▪ Collaboration with VFMC's for protection and in-situ conservation of MAPs
Himachal Pradesh State Biodiversity Board	<ul style="list-style-type: none"> ▪ Formation of BMC's and creation of People's Biodiversity register ▪ Awareness on access and benefit sharing ▪ Piloting contract farming model in the clusters of MAP farmers formed by the project ▪ Providing access to resources such as market channels
Marketing agencies	<ul style="list-style-type: none"> ▪ Value addition, branding, packaging and marketing of produce or products
State Rural Livelihood Mission	<ul style="list-style-type: none"> ▪ Supporting the formation of growers association of MAP cultivating farmers ▪ Providing possible operational assistance for the formation growers association

Table 13: Proposed roles and responsibilities of major stakeholders in the cultivation and value addition of selected MAPs

Expected risks, problems and assumptions (Financial, Operational, Market and Environment related)

Risks	
	<ul style="list-style-type: none"> ▪ Rates of medicinal plants are not stable and there is no assurance of reasonable returns ▪ Cultivation can be used as a front for furthering wild collection

	<ul style="list-style-type: none"> ▪ Highly volatile and complex markets
Problems	<ul style="list-style-type: none"> ▪ Lock in period for high value medicinal plants is anything from 3 to 5 years, which may not be economically viable cultivators ▪ Any void created by the reduced number of people collecting MAP's may be replaced by collectors from outside
Assumptions	<ul style="list-style-type: none"> ▪ Possibilities of moving away from high value medicinal plants and focus on cultivable, short term plants ▪ Adequate planting material is available and there is wider dissemination of Cultivation Protocols

Table 14: Expected risks, problems and assumptions in the cultivation and value addition of selected MAPs

Responsiveness to climate change and contribution to conservation efforts

It is necessary to make interventions in MAPs sector primarily to engage the community in viable economic activities that compete directly with their difficult ventures into the high Alps. It would be, concurrently, necessary to have strict measures preventing the extraction of endangered and vulnerable medicinal herbs, like *Dactylorhiza hathagirea*, while at the same time encouraging the cultivation of medicinal, aromatic and food plants that do have potential and have existing growing protocols. The activities under the sector expected to conserve vulnerable wild species by preventing excess extraction at the same providing livelihood opportunities for community members.

Strategy 2: Cultivation and value addition of Seabuckthorn (*Hippophae spp.*)

One of the themes and the main tools of the SECURE programme are to reduce dependence on wild resources. Promoting *Hippophae* collection from forest areas is antithesis to this agenda. However if efforts are made to make *Hippophae* a horticultural crop as well as carry out systemic planting in appropriate *Hippophae* habitat it may lead to opportunities for both livelihood generation and habitat conservation.

Hippophae or Seabuckthorn is a multi-utility shrub – the berries and bushes form important food and habitat for a wide variety of wildlife. The shrub itself has been used to combat desertification, is known to be nitrogen fixing, has been used to create shelterbelts and the berries itself form the basis for a wide range of products.



Figure 20: Plants grown in Kukumseri High Altitude Nursery, Lahaul
Source: NRM Fieldwork, 2019

Hippophae rhamnoides – also known as Leh Berry, the widely grown across the world while in Indian around 13000 hectares is under Seabuckthorn cultivation (this excludes area under natural populations of Seabuckthorn) this value chain report by Tsohdan, 2018⁶, and an ICAR report from 2014 there is extensive analysis on *Hippophae*, its cultivation techniques, value addition processes and more.

This is one among many studies undertaken in India and worldwide on the potential of *Hippophae*, especially *Hippophae rhamnoides*.

Considerable work has already been undertaken in Lahaul-Spiti, for many years now, including the formation of a “Lahaul-Spiti Seabuckthorn Cooperative Society” with a 30 tons/month capacity semi-processing unit setup at Gemur in Lahaul.

Survey of botanical literature for the Pangri landscape indicates the presence of natural populations *Hippophae rhamnoides*⁷ while there is extensive information on the presence of *Hippophae* in Lahaul (and Spiti). However none of the studies mentions the status of the wild populations of *Hippophae*.

In the basket of livelihood opportunities, being sought to be developed *Hippophae* cultivation and value addition could be one of the important elements. With a significant caveat that the

6 T. Stobdan and T. Phunchok (2017), Value Chain Analysis of Seabuckthorn (*Hippophae rhamnoides* L.) in Leh Ladakh

7 Rana, P. K., Kumar, P., Singhal, V. K., & Rana, J. C. (2014). Uses of local plant biodiversity among the tribal communities of Pangri Valley of district Chamba in cold desert Himalaya, India. *The Scientific World Journal*, 2014.

production of *Hippophae* be through horticultural means or subsequent to extensive plantations in appropriate and vulnerable habitat. In absence of primary production ecosystem and moving to only creating the value addition processes will be extremely detrimental to landscape conservation and will result in a rush to collect berries and leaves from wild populations.

Among the many ecological benefits of *Hippophae* is it being a valuable food source for a wide variety of wildlife therefore unregulated extraction of *Hippophae* from the wild will be doubly detrimental to landscape and species level conservation.

If *Hippophae* is promoted and grown as a horticultural crop the possibility exists to create a nice supply chain and provide livelihood on par with other horticultural produce. Further, there is scope for local value addition and specific direct marketing of products to tourists and for use in local tourism enterprises as traditional food and traditional foods with modern processing methods (Jams, Juices etc.)

Steps/Process for Implementation

The major steps/process involved in the cultivation and value addition of Seabuckthorn in the project landscape is given in Figure 21.

Note: The activities outlined may require similar expertise as for the promotion of MAPs and hence it is recommended to utilize the same resources outlined in Annexure 1 under the section cultivation and value addition of MAPs

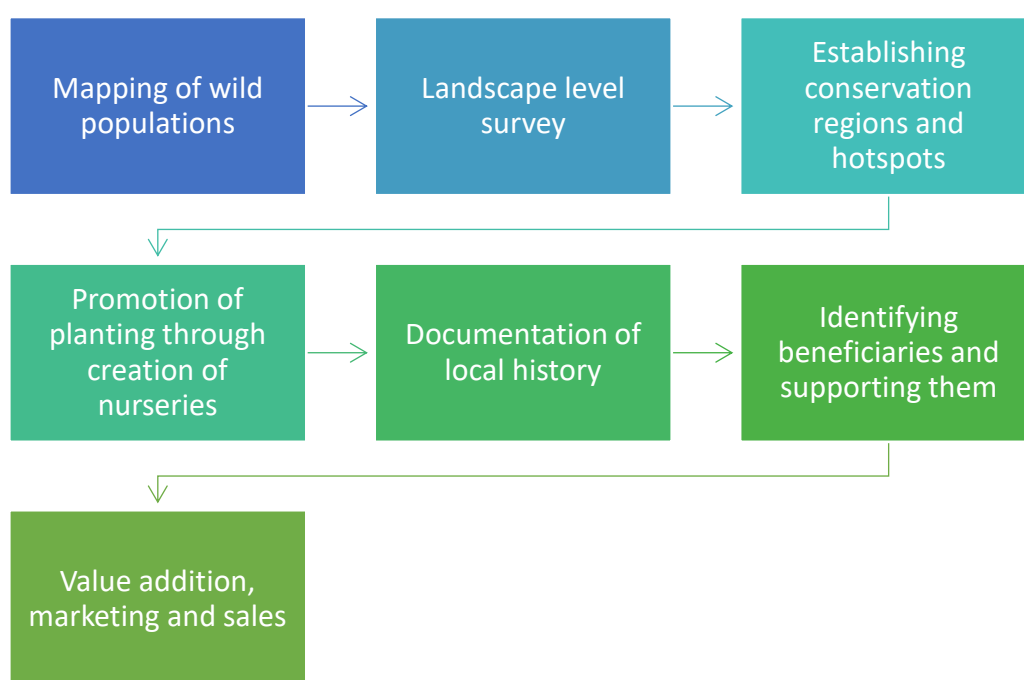


Figure 21: Major steps/process involved in the cultivation and value addition of Seabuckthorn

1. Mapping of wild populations:

Hippophae apart from being valuable culturally also holds important food and habitat values for wildlife. It would be important to prevent over exploitation and eventually a degradation of their wild populations. Hence, we recommend active mapping of Wild *Hippophae* populations and identifying such areas and correlating them with the possible presence of unique wildlife and making them part of nature tourism circuits.

This stage involves mapping of existing wild populations of *Hippophae* along with categorization by species (*Hippophae rhamnoides* and *Hippophae salicifolia*) – with

clarification of the species. In this regard, the project may utilize the same resources and agencies suggested for the promotion of MAPs (See Annexure 1 – Promotion of MAPs section) to minimize the costs involved and to avoid repetitive works of similar nature and expertise

2. Survey of current status and estimation of income addition

This stage involves survey of current collection of berries, leaves in terms of quantities, collection protocols, and export from the region, local consumption and present level of value addition. Another survey on income addition potential through Seabuckthorn as an economic activity will also be requiring in this stage which is need to be undertaken by the agency implementing various activities under MAP sector. Mapping of the wild population and survey will ultimately help the project in establishing *Hippophae* conservation regions and hotspots

3. Promotion through creation of nursery and planting

Hippophae has also been recognized for its potential to combat desertification and prevent soil erosion. This may also be used as a tool to promote the planting of *Hippophae* on areas left vulnerable soil erosion, run off or degradation. *Hippophae* cultivation will be primarily useful in alpine regions and places with soil erosion or places requiring recovery from degradation. The implementing agency required to identify and prioritize such areas and need to create nurseries for promoting planting in identified public areas

4. Documentation of local history

This stage involves documentation of local history and folklore related to Seabuckthorn. In addition, promoting this as one of the “ecologically and economically important” plant species thus imbuing it with both cultural richness and conservation value

5. Procurement of suitable cultivars and awareness generation

This stage involves identification and procurement of suitable cultivars for promotion as a horticultural crop for promotion in the landscape. Awareness generation and outreach to promote *Hippophae* as a horticultural crop will also need to be undertaken by the implementing agency

6. Identification of beneficiaries and cultivation of plants

There already exist natural and protected populations of *Hippophae*, especially in the Lahaul Landscape but less prevalent in the Pangri landscape. However climatic and soil conditions indicate that the area is optimal for the cultivation of *Hippophae* as a horticultural crop and for planting as protective boundaries and hedgerows. Cultivation protocols are already well established and would be easy to deploy.

Multiple reports and multiple agencies attest to the value and huge economic potential associated with *Hippophae* which combined with its ecological benefits provides a big opportunity to the SECURE project to target both improvement in livelihoods and achieving significant conservation goals.

This stage involves Identifying beneficiaries and supporting them over a 3 to 5 year period in growing *Hippophae*. In this regard, a beneficiary selection criterion is given in Annexure 1. Also, Involvement of local communities through nursery creation, planting work and protection of *Hippophae* areas.

However, it is important to note that promoting the large-scale collection and harvest of *Hippophae* will be detrimental to the concept of landscape and species level conservation. Therefore, the collection from wild populations must be discouraged. For this, other measures must be sought

7. Providing training and support in value addition

This stage primarily involves providing training and support in value addition, product and brand creation and helping create upward linkages to agencies procuring *Hippophae*. Homestays and other nature tourism enterprises should be encouraged to be consumers and promoters of *Hippophae* products creating both a local market and enabling it to reach the travelers as well

Possible product range from Seabuckthorn (*Hippophae*)

Jams and Juices, Pickles and Chutneys, Tea, Oil – for use in the nutraceuticals, Cosmetics and medicine, By-products may be converted into animal feed

Institutions/stakeholders and responsibilities

There is a need to create a platform to share cultivation protocols, planting materials, value chain information and value addition methodologies and techniques. Formation of growers association envisaged in the landscape to promote the conservation and protection of Vulnerable and Endangered Wild plants. The two major constituents of recommended institutional mechanism are,

3. Farmers Cultivators and Producer Cooperatives in the landscape
4. Collaborative initiatives of producer groups with organic product marketing firms and aggregators

The major stakeholders involved and their roles and responsibilities are given in Table 13.

Stakeholder	Proposed Roles and Responsibility
SECURE Himalaya	<ul style="list-style-type: none"> ▪ Identification of State and other agencies to promote awareness in MAPs and Seabuckthorn ▪ Supporting landscape level awareness campaign
UNV's	<ul style="list-style-type: none"> ▪ Assistance for involved agency in undertaking various activities ▪ Conducting landscape level survey with the assistance from implementation agency
Resource Agencies	<ul style="list-style-type: none"> ▪ Mapping of wild populations ▪ Survey on current status and value addition potential ▪ Identification of locations using the developed criteria ▪ Promotion through creation of nurseries and planting ▪ Documenting local history ▪ Procurement of suitable cultivars and awareness creation ▪ Identification of beneficiaries using the criteria developed and cultivation of plants ▪ Providing training and support in value addition
Himachal Pradesh Forest Department	<ul style="list-style-type: none"> ▪ Communication and awareness of Seabuckthorn and other endangered and critical MAPs and permissibility for collection from forest areas
Himachal Pradesh State Biodiversity Board	<ul style="list-style-type: none"> ▪ Formation of BMC's and creation of People's Biodiversity register ▪ Awareness on access and benefit sharing
Marketing agencies	<ul style="list-style-type: none"> ▪ Value addition, branding, packaging and marketing of produce or products

Expected risks, problems and assumptions (Financial, Operational, Market and Environment related)

Problems	<ul style="list-style-type: none">▪ In absence of primary production ecosystem and moving to only creating the value addition processes will be extremely detrimental to landscape conservation and will result in a rush to collect berries and leaves from wild populations▪ Unregulated extraction of <i>Hippophae</i> from the wild will be detrimental to landscape and species level conservation

Responsiveness of livelihood option to climate change and contribution to conservation efforts

Hippophae has also been recognized for its potential to combat desertification and prevent soil erosion. If it can be promoted overcoming the resource constraints and feasibility issues then it will contribute largely to land restoration/rehabilitation and thereby contributing to conservation and climate change mitigation

Strategy 3: Promotion and Cultivation of Hazelnut (*Thangi*) cultivation



Based on prior botanical studies and surveys the species of hazelnut found in the Pangri region has been identified as *Corylus jacquemonti*^{8,9}. Locally known as Thangi this nut has both cultural significance and local economic values.

It may be noted that Bhatnagar et al in their report “Exploring the Pangri Himalaya”¹⁰ identify the Hazelnut to be *Corylus colurna*. Whereas the study Plants for a Future identify the Himalayan Hazelnut either as a subspecies¹¹ *Corylus jacquemonti* (Indian Tree Hazel) Synonyms *C. colurna*

jacquemontii. or as another species altogether *C. lacera*.

Further as per a study, by Sharma et.al on the status and future of Hazelnut in India¹² there is uncertainty about the taxonomic status and is presently considered as *Corylus jacquemontii*. Another study, by Gautam et. al.¹³ highlights the possibility that the Hazelnut grown in Kashmir is similar to *Corylus avellana*.

Locally *Pangri ka Thangi* is well known and is a popular small-scale export or a gift between families. *Thangi* is a much looked for produce in both Local fairs and other regional fairs like the Kullu Dusshera.

It is a traditional (and now alternative) food source. The nuts are also sometimes, laboriously, converted into oil as well. However while *Thangi* is well know it is not an easily available commodity and no longer is it the only food / nut or nut oil source as such or similar products are easily available in the market at considerably lower costs or with less labour effort. However, *Thangi* is certainly a culturally iconic symbol with pride associated with the region having a significantly large population of wild Hazelnut trees.

Collection of the nut is undertaken by families sweeping up or handpicking the nuts from under the largish trees. There is no evidence that lopping of branches is undertaken in order to harvest the nuts.

8 Kumar, A., Lal, B., Rajkumar, S., Chawla, A., & Kaushal, R. (2013). Landscape Mapping And Tree Diversity Assessment Of Pangri Valley: A Remote Tribal Area Of Himachal Pradesh In Western Himalaya, India. *International Journal Of Conservation Science*, 4(4).

9 Rana, P. K., Kumar, P., Singhal, V. K., & Rana, J. C. (2014). Uses of local plant biodiversity among the tribal communities of Pangri Valley of district Chamba in cold desert Himalaya, India. *The Scientific World Journal*, 2014.

10 Bhatnagar, Y V., Rana, B.S., 2007, EXPLORING THE PANGRI HIMALAYA - A Preliminary Wildlife Survey in the Pangri Region Of Himachal Pradesh . Published by Nature Conservation Foundation, Mysore & the Wildlife Wing, Department of Forest Farming and Conservation, Himachal Pradesh

11 <https://pfaf.org/user/Plant.aspx?LatinName=Corylus+jacquemontii>

12 Sharma, S. D., & Kumar, K. (2001). PRELIMINARY EVALUATION OF HAZELNUT SEEDLING TREES NATIVE TO INDIA. *Acta Horticulturae*, 556, 29–36. <https://doi.org/10.17660/ActaHortic.2001.556.3>

13 Gautam, D. R. (1994). PRESENT SITUATION AND FUTURE PERSPECTIVES OF HAZELNUT CULTURE IN INDIA. *Acta Horticulturae*, 351, 67–70. <https://doi.org/10.17660/ActaHortic.1994.351.6>

During the landscape level exploration study undertaken of the region, NRMC was able to source samples of the Hazelnut, which was later compared with commercially available and imported Hazelnut in the shops of Delhi. It was observed, from the small samples available, that the Hazelnut from Pangri are quite small in comparison to the commercially available nuts. Subsequent discussions and secondary survey indicate that globally two species of Hazelnut *Corylus colurna*¹⁴ or Turkish Hazelnut and *Corylus avellana* or the Common Hazel are the species that are favoured and commercially viable varieties, along with some specific cultivars. A comparison reveals that both *C.colurna* and *C.avellana* and their commercial viable cultivars are bred to have smaller and bushy trees, produce larger nuts and have a short turn around cycle in plantations / horticultural conditions.

One of the themes and the main objective of the SECURE programme is to reduce dependence on wild resources. Promoting Hazelnut collection from forest areas is the antithesis to this agenda. However if efforts for cultivation are made to make hazelnut a horticultural crop, then this give us some opportunities for the project intervention.

Steps/Process for Implementation

The major steps/process involved in the promotion and cultivation of Hazelnut in the project landscape is given in

Note: The activities outlined may require similar expertise as for the promotion of MAPs and hence it is recommended to utilize the same resources outlined in Annexure 1 under the section cultivation and value addition of MAPs

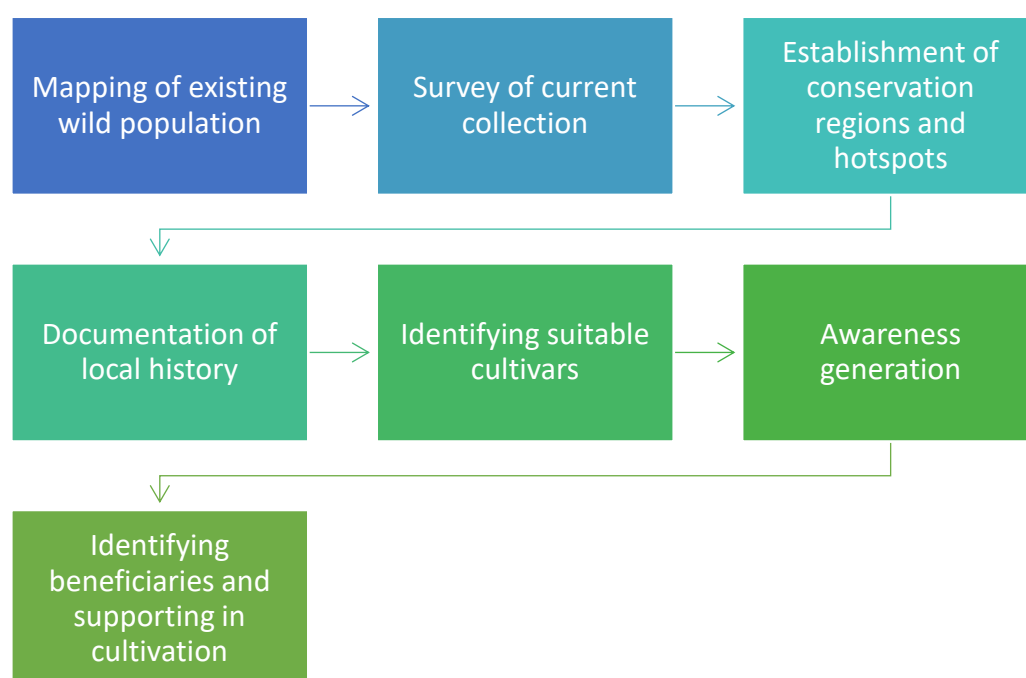


Figure 22: Steps/process involved in the promotion and cultivation of hazelnut

1. Mapping of existing wild population:

This tree apart from being valuable culturally probably also holds important food values for wild animals and birds. It would be important to prevent over exploitation and eventually a decimation of their wild populations. Hence, we recommend active mapping of Wild Thangi populations and concurrently making them a Nature Tourism iconic species as well as a nature

14 https://en.wikipedia.org/wiki/Corylus_colurna

tourism hotspot. Support and encouragement must be provided to planting of *C. jaquemontii* (*Thangi*) on private lands as well.

This stage involves mapping of wild population of Hazelnut with clarification of species. Also, survey of current collection in terms of quantities, collection protocols, export from the region and local consumption.

2. Establishment of conservation regions and hotspots

This stage involves establishing *Thangi* conservation regions and hotspots and creation of nurseries and promoting planting in identified forest areas. Mapping of existing population and survey of current collection will ultimately help the project in the establishment of these areas. The implementing agency for MAPs will be primarily responsible for undertaking these activities.

3. Documentation of local history

The implementing agency will be responsible for documenting local history and folklore related to *Thangi* and promoting this as one of the iconic species of the value thus imbuing it with both conservation richness and conservation value. These enhanced conservation richness will add up to the tourism promotion efforts and landscape level branding. Hazelnut can also be one of the iconic species, which will be promoted as a part of nature tourism interventions.

4. Identifying and procuring suitable cultivars for promotion

From the presence of populations of *C. jaquemontii* we may assume that some of the habitat, within the landscape, is suitable, for the introducing fast growing and productive varieties of hazelnut. The exact species and / or cultivar would depend on easy availability of mention two species here – this is to be introduced as a horticultural nut crop

There are reports suggesting that the producers of the famous hazelnut product Nutella and other hazelnut-based chocolates Ferrero are exploring the promotion of growing hazelnut in Himachal Pradesh. However since then there seems to have been little work undertaken in this front and this provided a big opportunity to both the SECURE project and the Pangri landscape to target a significant livelihood opportunity and to promote the landscape. However due caution would need to be exercised to prevent the biological transference of exotic genes to native populations of Hazelnut.

In short, this stage involves identification and procurement of suitable cultivars for promotion as a horticultural crop in the landscape. Awareness generation and outreach to promote *Thangi* as a horticultural crop will also need to be undertaken by the implementing agency

5. Identifying beneficiaries and cultivation of plants

Involvement of local communities would be through nursery creation, planting work and protection of *Thangi* forests. The relationship between birds, mammals, and other animals with *Thangi* provides an opportunity to be explored through Nature Tourism. However, it is important to note that promoting the large-scale collection and harvest of Hazelnut will be detrimental to the concept of landscape and species level conservation. Therefore, the collection from wild populations must be discouraged. For this, other measures must be sought.

For this stage, a beneficiary selection criteria is given in Annexure 1. However, it is the responsibility of the implementing agency to conduct landscape mapping and survey in order to identify suitable villages and criteria for village selection is given in Annexure 1.

Institutions/stakeholders and responsibilities

There is a need to create a platform to share cultivation protocols, planting materials, value chain information and value addition methodologies and techniques. Formation of growers association envisaged in the landscape to promote the conservation and protection of Vulnerable and Endangered Wild plants. The two major constituents of recommended institutional mechanism are,

5. Farmers Cultivators and Producer Cooperatives in the landscape
6. Collaborative initiatives of producer groups with organic product marketing firms and aggregators

The major stakeholders involved and their roles and responsibilities are given in Table 13.

Stakeholder	Proposed Roles and Responsibility
SECURE Himalaya	<ul style="list-style-type: none"> ▪ Identification of State and other agencies to promote awareness in MAPs and NTFPs ▪ Supporting landscape level awareness campaign
UNV's	<ul style="list-style-type: none"> ▪ Assistance for involved agency in undertaking various activities ▪ Conducting landscape level survey with the assistance from implementation agency
Resource Agencies	<ul style="list-style-type: none"> ▪ Mapping of wild populations ▪ Survey on current status and value addition potential ▪ Identification of locations using the developed criteria ▪ Promotion through creation of nurseries and planting ▪ Documenting local history ▪ Procurement of suitable cultivars and awareness creation ▪ Identification of beneficiaries using the criteria developed and cultivation of plants ▪ Providing training and support in market linkages
Himachal Pradesh Forest Department	<ul style="list-style-type: none"> ▪ Communication and awareness of Hazelnut and other endangered and critical MAPs and permissibility for collection from forest areas
Himachal Pradesh State Biodiversity Board	<ul style="list-style-type: none"> ▪ Formation of BMC's and creation of People's Biodiversity register ▪ Awareness on access and benefit sharing
Marketing agencies	<ul style="list-style-type: none"> ▪ Value addition, branding, packaging and marketing of produce or products

Expected risks, problems and assumptions (Financial, Operational, Market and Environment related)

Assumptions	Risks
<ul style="list-style-type: none"> ▪ Some of the habitat, within the landscape is suitable for the introducing fast growing and productive varieties of hazelnut 	<ul style="list-style-type: none"> ▪ Biological transference of exotic genes to native populations of Hazelnut

Responsiveness of livelihood option to climate change and contribution to conservation efforts

Cultivation of Hazelnuts offers good potential for improving livelihood options in the landscape given the factor conditions are favorable. This activity may not contribute significantly to conservation apart from reducing the dependency on wild resources. However, this activity may

enhance other strategies recommended for the landscape such as tourism, which has huge potential of contributing to conservation efforts.

Agriculture and Horticulture – Detailed Implementation Plan

Agriculture and horticulture are the primary livelihood option for the community members in Lahaul-Pangi landscape. Over the years, the region has witnessed shift from traditional to commercial crops and practices. This makes the communities highly vulnerable to market related uncertainties and price fluctuations. Recently, climate change and related factors are also directly started affecting the agricultural practices. The farmers reported losses due to change in climatic patterns, crop diseases and market failure. Majority of the existing schemes, like schemes related to poly-house farming, solar fencing etc., are less adaptive to local conditions and requires situational adjustments. In this context, it is important to mitigate the risks associated with existing practices and promote alternative and sustainable solutions. The recommended strategy in the sector primarily designed to,

- a) Mitigate the risks associated with existing practices
- b) Increase livelihood security through alternative and sustainable solutions



Community members in Suraal village, Pangi (a high-altitude village) involved in agricultural allied activities (Credits: Nikhil)

a) Policies/schemes in relation to Agriculture and Horticulture

The communities in the landscape, especially in Pangi, not much benefitted from majority of the existing schemes. Inadequate capacities with the department and communities, lack of awareness and technical issues (like inability to conduct crop cutting experiment, inadequate weather data, and adaptability of benefits to local conditions) are some of the factors that are resulting in suboptimal livelihood outcomes.

Some of the important active schemes (See **Annexure 1** for details and possibilities for convergence with the project) related to agriculture and horticulture that the project can look for convergence are,

- Restructured Weather Based Crop Insurance Scheme
- Dr Y S Parmar Kisan Swarozgar Yojana
- Rajiv Gandhi Micro Irrigation Scheme
- Agriculture Technology Management Agency (ATMA) scheme

- Mukhya Mantri Greenhouse Renovation Scheme
- Integrated Tribal Development Programme under tribal sub-plan
- Horticulture Technology Mission
- Honey Mission
- Propagation of Scientific Beekeeping Amongst Forest Dwellers and Fringe Communities
- Mukhya Mantri Madhu Vikas Yojana

b) Available livelihood assets in relation to Agriculture and Horticulture

Some of the major livelihood assets related to agriculture and horticulture for the project to consider while designing a livelihood strategy is given in Table 15.

Livelihood Assets	
Human Capital	<ul style="list-style-type: none"> ▪ Skills in traditional agricultural and horticulture practices ▪ Knowledge on the usage of organic manures ▪ Knowledge on practices like farming in poly-houses, drying of produces for consumption, traditional beekeeping ▪ Knowledge on mixed cropping methods
Physical Capital	<ul style="list-style-type: none"> ▪ Landholding with the community members for agriculture ▪ Traditional facilities for beekeeping ▪ Government proposed agriculture markets in the landscape
Natural Capital	<ul style="list-style-type: none"> ▪ Conducive environment for agricultural and horticulture production ▪ Suitable climatic condition for specific agriculture and horticulture crops ▪ Availability of natural resources including water for irrigation
Financial Capital	<ul style="list-style-type: none"> ▪ Accessible schemes through Agriculture and Horticulture departments ▪ MGNREGA workdays ▪ Easily accessible credit facilities and financial services through banks
Social Capital	<ul style="list-style-type: none"> ▪ Village Level Entrepreneurs (VLEs) ▪ Community members who are knowledgeable on practices like traditional beekeeping, polyhouse farming etc. ▪ Praja Mandal and functional SHGs in some villages ▪ Government departments and officials within the landscape

Table 15: Livelihood assets in relation to agriculture and horticulture

Considering the situational factors, existing policies/schemes and livelihood assets the recommended strategies in Agriculture and Horticulture sector are,

1. Promoting weather-based crop insurance in the landscape to reduce the risks
2. Enhancing irrigation practices
3. Promoting poly-house farming
4. Promoting beekeeping for pollination services and entrepreneurship development

f) Expected Outcomes and Target/Indicators

Strategy	Expected outcomes	Indicators	Targets
Agriculture (Promotion of WBCIS)	<ul style="list-style-type: none"> Improved livelihood security Reduced risks associated with climatic conditions Improved awareness on schemes and services Recovery of costs of cultivation in case of crop failure due to unanticipated climatic conditions Improved access to banking and financial services 	Increased proportion of farmers access WBCIS, banking and financial services	<ul style="list-style-type: none"> 30 – 50% farmers in all the project villages are aware and about the scheme and to be covered under WBCIS through project communication interventions
Agriculture (Promotion of Beekeeping for pollination services)	<ul style="list-style-type: none"> Increased awareness on the importance of pollination services Enhanced livelihoods through the development of beekeeping enterprises Women and youths are empowered through their engagement and participation Increased income for farmers through improved productivity Economic benefits to local communities through entrepreneurship development Income and livelihood security through natural alternative Healthy bee populations and pollinators improving natural ecosystem 	Number of households earning income from selling honey	<ul style="list-style-type: none"> Nearly 20 project villages farmers increase their income through the sales of honey products
Agriculture (Promotion of poly-house farming)	<ul style="list-style-type: none"> Decreased dependency on markets in meeting livelihood requirements Extended farming period except for few months for farmers 	Number of farmers reporting production of agriculture/ vegetable crops in current non-production seasons	<ul style="list-style-type: none"> X farmers from all the project villages adopts poly-house farming and better irrigation practices during

	practicing poly-house farming <ul style="list-style-type: none"> ▪ Increase in income through the sales of surplus vegetables and food items ▪ Increased savings for community members due to decreased dependency in outside markets for food items 		non-production season
Enhancing irrigation practices	<ul style="list-style-type: none"> ▪ Promotion of scientific farming practices in the landscape ▪ Increased awareness on government schemes and benefits ▪ Decreased efforts in irrigation will result in productive hours for community members to engage in other activities ▪ Climate resilient irrigation facilities for the communities ▪ Improved agricultural productivity through enhanced irrigation facilities ▪ Increase in income through improved productivity of agricultural produces ▪ Increase in overall land under irrigation 	Increased area under irrigation	

Strategy 1: Promoting Weather Based Crop Insurance

Securing the crops under Weather Based crop Insurance Scheme (WBCIS) is an effective option for farmers to reduce the risks associated with climate related uncertainties. The Weather Based Crop Insurance Scheme is functional in Lahaul but only few farmers benefitted presently due to lack of awareness. Technical issues like difficulty in conducting crop cutting experiment, Weak Common Service Network, Inadequate weather data etc. are also acting as a barrier in implementation of the scheme. The field level exploration study revealed that, a large number of farmers are making huge losses in recent years due to unanticipated weather events. The departments in both Lahaul and Pangri are willing to promote the scheme further in the landscape but lack resources and capacities. The project can assist the departments in the active promotion WBCIS in the landscape through a series of activities that requires minimal investments.

Steps/process for implementation

The major steps involved in the promotion of WBCIS in the project landscape given in Figure 23.

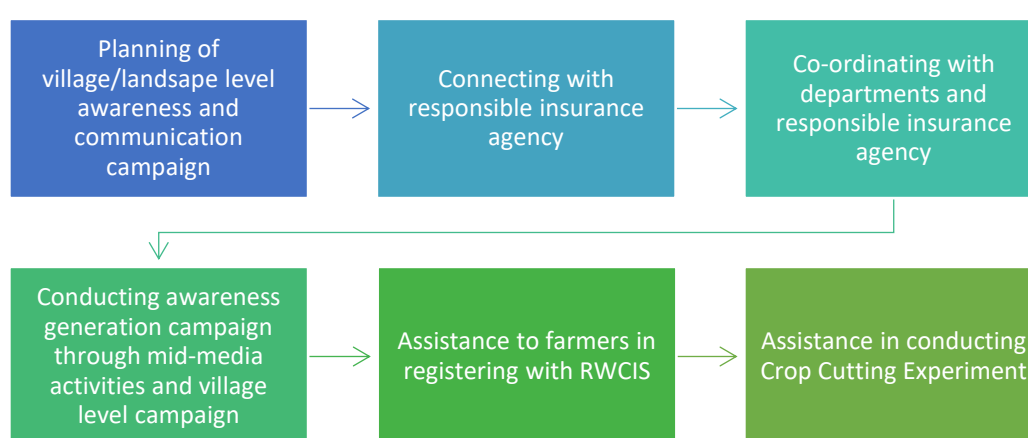


Figure 23: Steps/process involved in the promotion Weather Based Crop Insurance in the landscape

- 1. Planning of village/landscape level awareness campaign:** Lack of awareness, especially amongst non-loanee farmers, is a major barrier for the promotion of RWBCIS in the landscape. Relatively a low number of farmers (195 farmers) are registered under the scheme in Lahaul for the year 2019 as found from field level interactions with officials. In Pangri, it is as low as zero due to lack of awareness and aforementioned technical reasons. UNDP officials/UNVs/hired fellows at the landscape level can plan the mid-media communication activities with the help from agriculture and horticulture department. The plan should outline the following components
 - a) Priority villages for conducting awareness sessions
 - b) Channels and medium of communication and agency/people who will conduct mid-media activities
 - c) Basic communication content for the agency undertaking the activities
- 2. Connecting with responsible insurance agency:** In order to conduct village level awareness programs and helping farmers in registration, the project required to connect with the responsible agency (presently Agriculture Insurance Company of India) and other associated stakeholders
- 3. Co-coordinating with departments and responsible insurance agency**
- 4. Conducting awareness generation campaign through mid-media activities and village level campaign:** The project can hire a communication/media agency to conduct mid-media activities at the village level that raise awareness on the importance of insuring crops. The project can also support insurance company in conducting awareness programs and in

developing communication materials. The activities can be supported with ongoing ATMA scheme in the landscape for covering financial requirements (A list of indicative villages for communication interventions and criteria for further selection of villages is given in Annexure 1).

5. **Assistance to farmers in registration:** The project can co-ordinate with Village Level Entrepreneurs (VLEs), Agriculture and Horticulture departments, insurance company and banks to assist farmers in registering under the insurance scheme. VLEs (See **Annexure 1** for details) are responsible for awareness creation and registration of farmers through their Lok Mitra Kendras. The farmer information can be collected offline during village level awareness sessions or thereafter and can be uploaded by VLEs through the Kendras.
6. **Assistance in conducting Crop Cutting Experiment:** Crop Cutting Experiment is mandatory for insuring farmers under the scheme. The project can conduct a demonstration camp on the technical aspects of the experiment as a part of ongoing awareness programmes. The advocacy for undertaking CCEs should be done in the Tribal Advisory Council Meeting of Pangi. The Resident Commissioner can give order to conduct the Crop Cutting Experiments in Pangi on regular basis. The project can provide co-ordinating support between the responsible authorities and departments. The possibility of conducting experiment through mobile application can also be explored in the landscape and project along with agriculture department can introduce this mobile application to farmers during communication programs

Institutions/stakeholder and responsibilities:

The project can act as a facilitating and promotion agency of weather-based crop insurance in the landscape. The major stakeholders involved and the proposed roles and responsibilities given in Table 16.

Stakeholder	Proposed Roles and Responsibility
UNDP SECURE Himalaya Project	<ul style="list-style-type: none"> Co-ordinate with Agriculture Insurance Company of India in the active promotion and awareness generation of Weather Based Crop Insurance in the landscape
UNV's	<ul style="list-style-type: none"> Prepare village/landscape level plan for awareness campaign with the assistance from agriculture and horticulture departments Help the media/communication agency to conduct mid-media activities in the villages Work with various department and authorities to ensure that Crop Cutting Experiments are conducted in the landscape either through mobile applications or formal offline procedures Encourage VLEs to conduct village level awareness sessions and registration of farmers and monitor the activities
Implementing agency	<ul style="list-style-type: none"> Organise Awareness Sessions in the Villages Coordinate with VLEs to support the enrolment of farmers Ensure that claims are paid at the earliest after release of State Govt. share, Litigations, if any
Agriculture Department	<ul style="list-style-type: none"> Facilitate awareness sessions in the village Support the awareness sessions through ongoing ATMA scheme Conduct Crop Cutting Experiment in Pangi
Revenue Department	<ul style="list-style-type: none"> Conducting Crop Cutting Experiments in Pangi
Common Service Centres	<ul style="list-style-type: none"> Organise Awareness Camps in villages (VLEs) Registering farmers under the scheme by collecting and uploading data

Table 16: Proposed roles and responsibilities of major stakeholders in the promotion of Weather Based Crop Insurance

Expected risks, problems and assumptions

Risks	<ul style="list-style-type: none">▪ Failure to conduct Crop Cutting Experiment by responsible departments▪ Technological difficulties such as inability to collect weather data▪ Failure in convergence with existing schemes like ATMA scheme to support the awareness campaign
Problems	<ul style="list-style-type: none">▪ Insufficient human resources with the department and the project to actively promote the scheme in project villages▪ Risks associated with other issues like crop diseases, market failure etc. cannot be addressed through the recommended strategy
Assumptions	<ul style="list-style-type: none">▪ VLEs are active in the landscape or willing to involve in the proposed activities▪ Relevant departments are not able to promote the scheme due to technical reasons rather than political issues▪ Planned activities will fit into ongoing schemes like ATMA scheme

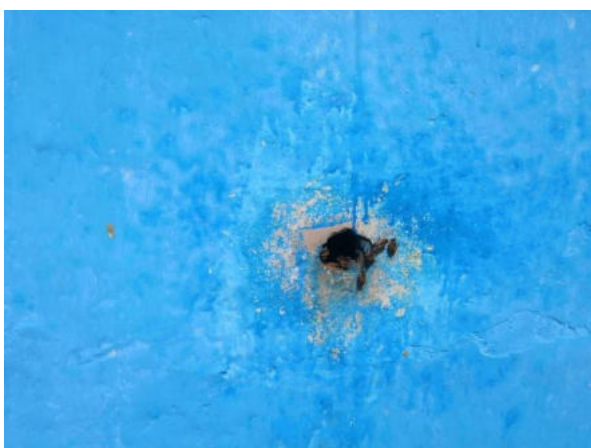
Table 17: Expected risks, problems and assumptions in the promotion of Weather Based Crop Insurance

Responsiveness of livelihood option to climate change and contribution to conservation efforts

The proposed strategy is to reduce the risks associated with existing agricultural and horticultural practices due to climate related uncertainties. However, along with climate change adaptation, it is important to diversify existing livelihoods to more sustainable and climate change adaptive options like tourism and handicrafts since present practices are not sustainable from a long-term perspective.

Strategy 2: Promoting Beekeeping for Pollination Services and Entrepreneurship Development

Traditional beekeeping is a common activity in the region but lack of awareness on the importance of pollination services and the possibilities of entrepreneurship development are major issues. The relevant departments are already promoting beekeeping for Pollination services; private players like Dabur are also intervened in this area. Improving traditional beekeeping practices can significantly improve the productivity of crops. In addition, there is a potential for the development of beekeeping enterprises that can enhance the income of community members through the sales of honey products.



Traditional Beekeeping is a common activity in the region but lack of awareness is a major issue in development (Credits: Shailesh Nagar)

The project can support active development of beekeeping practices in the region by working on a set of strategic areas that are,

- a) Awareness creation through developing communication materials
- b) Supporting trainings to farmers and improving exposure to better practices
- c) Help in the formation of farmers group to scale the activities
- d) Support in capacity building for the promotion of beekeeping enterprises
- e) Strengthening access to information, market, finance and technology
- f) Gender mainstreaming

Steps/process for implementation

The major steps involved in the promotion of beekeeping practices in the landscape given in the Figure 24.

1. Coordinating with authorities and departments:

Horticulture department is a major stakeholder in the promotion of beekeeping practices in the landscape. In addition, the project should consider various authorities given the possibilities of convergence with ongoing schemes and programmes (See **Annexure 1** for details). In addition to Horticulture department the project needed to co-ordinate with,

- a) National Bee Board to implement the scheme on Propagation of Scientific Beekeeping Amongst Forest Dwellers & Fringe Communities
- b) State Beekeeping and Extension Centre for implementation of activities under Honey Mission

- c) State Horticulture department for organizing awareness campaigns and community capacity building support, also to support the initiative through Madhu Vikas Yojana

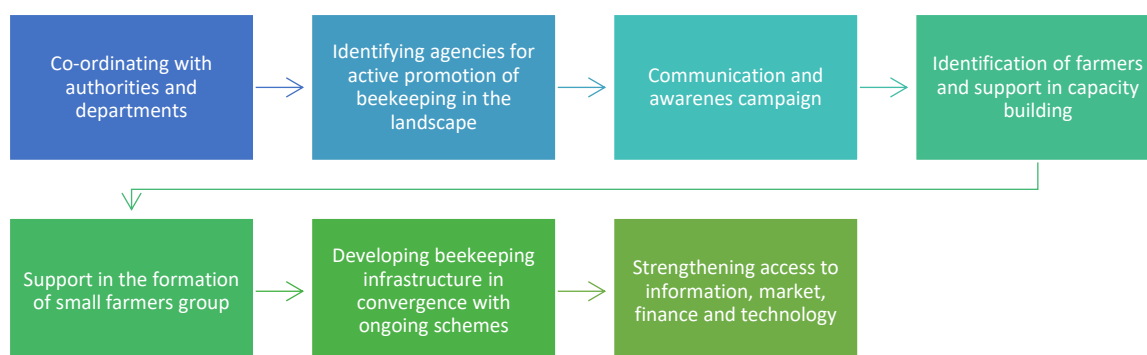


Figure 24: Steps/process involved in promoting beekeeping for pollination services and entrepreneurship development

2. Identifying agencies for active promotion of beekeeping in the landscape

Promoting community-based beekeeping enterprises is a priority area of intervention under the proposed strategy. The project can hire an expert agency to promote active beekeeping enterprises in the landscape (See **Annexure 1** for details and agencies, resources and Terms of Reference for hiring an implementation agency). In case if the project cannot hire an agency for undertaking the activities, it can encourage hired fellows to develop beekeeping enterprises in the landscape. The major responsibilities of the agency/fellows are,

- Conducting awareness and communication campaign with the assistance from ongoing schemes and departments
- Developing communication materials and conducting workshops
- Developing beekeeping infrastructure in villages in convergence with ongoing schemes
- Formation of village level farmers groups to achieve the desired scale
- Helping farmers in accessing financial and infrastructure requirements through various schemes
- Landscape level honey branding and marketing of the products

3. Communication and awareness campaign

Starting a communication and awareness campaign is a major component under the strategy. The hired agency can develop communication materials and content. The ongoing schemes under State Horticulture Department can leveraged for landscape level awareness and communication campaign. The project can also conduct workshops for the community members with the support from Horticulture department.

4. Identification of farmers and support in capacity building:

The hired agency is required to identify the villages, interested farmers and provide trainings with the support from Honey Mission or under the National Bee Board Scheme (Propagation of Scientific Beekeeping Amongst Forest Dwellers & Fringe Communities). The agency expected to set up apiaries in the villages. A list of indicative villages for interventions and criteria for further selection of villages is given in Annexure 1.

5. Support in the formation of small farmers group

The hired agency expected to mobilize and organize the farmers into small groups at the village level. This is a necessary from a strategic perspective since it can help the activities to attain minimum scale required to meet operational and market requirements. This can also help in gender mainstreaming and mutual learning amongst community members.

6. Developing beekeeping infrastructure in convergence with ongoing schemes

The project in convergence with ongoing schemes under National Bee Board and The Khadi and Village Industries Commission (KVIC) can help the farmers in setting up apiaries and village level infrastructure. Under Mukhya Mantri Madhu Vikas Yojana, up to 80 percent subsidy can be availed to raise bee colonies and 100 percent subsidy for developing honey processing infrastructure. The hired agency/fellows can coordinate with relevant departments to ensure these activities.

7. Strengthening access to information, market, finance and technology

This will be a crosscutting activity/component in the promotion of beekeeping in the landscape. The enhanced access to information for the community members and stakeholders expected to achieve through communication and awareness programs. The hired agency can support the farmers in branding and marketing their products through various channels, and meeting financial and technological requirements in convergence with ongoing schemes.

Institutions/stakeholders and responsibilities

As mentioned, the beekeeping farmers can organize themselves into small village level groups and can register as a Self-Help Group or association. This can help the project and community to attain the required scale, mutual learning and gender mainstreaming. These groups can also utilize the marketing facilities of KVIC if training provided under Honey Mission. The major stakeholders involved and their proposed roles and responsibilities given in Table 18.

Stakeholder	Proposed Roles and Responsibility
UNDP SECURE Himalaya Project	<ul style="list-style-type: none">Coordinate with National Bee Board and State Bee Training Centre of KVIC Himachal Pradesh, and Horticulture department to conduct communication campaign and training programsHire an expert agency/ fellows/ personnel in the active promotion of beekeeping in the landscape
UNV's	<ul style="list-style-type: none">Overall support in the activities by coordinating with representatives from KVIC, Bee Board, Horticulture Department, expert agencies/personnel and community membersIdentification of farmers from listed or suitable villagesEnsuring the participation of farmers and implementation of proposed activities
KVIC State Office/ National Bee Board	<ul style="list-style-type: none">Organise the trainings for the interested community membersProvide necessary equipment for infrastructure developmentAssist in processing and selling of Honey and Honey products
Horticulture Department	<ul style="list-style-type: none">Assist in organising awareness camps and selection of beneficiariesEnsure that the equipment are installed in the villagesSupport to conduct landscape level communication and awareness campaign
Forest Department	<ul style="list-style-type: none">Promotion of honey products through the festivals proposed as a part of tourism and handicraft development

Expert Agency/Fellows/Personnel	<ul style="list-style-type: none"> ▪ Conducting awareness and communication campaign with the assistance from ongoing schemes and departments ▪ Developing communication materials and conducting workshops ▪ Developing beekeeping infrastructure in villages in convergence with ongoing schemes ▪ Formation of village level farmers groups to achieve the desired scale ▪ Helping farmers in accessing financial and infrastructure requirements through various schemes ▪ Landscape level honey branding and marketing of the products
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Table 18: Proposed roles and responsibilities of major stakeholders in the promotion of beekeeping for pollination services and entrepreneurship development

Responsiveness of livelihood option to climate change and contribution to conservation efforts

The changing climatic conditions may significantly affect the natural bee population, which in turn affect the horticulture productivity. It is important to maintain the bee population to ensure the pollination services maintained at appropriate levels. Thus, the intervention is very apt response to the climate change in project region.

Further research requirement

A technical study in understanding the existing/traditional beekeeping practices and links between agricultural practices and bees expected to help in further development of activities.

Strategy 3: Promotion of Poly-house Farming

Poly-house farming can help the community members in reducing the overdependence on markets and Public Distribution System (PDS) during winter in meeting food requirements. It can also help them in selling the excess produce to markets and thereby providing an alternative source of income. However, the functional schemes related to poly-houses in the region failed to benefit the communities due to the inability of existing designs of poly-houses to resist excess wind, snowfall and climatic conditions. If better designs adaptive to local conditions introduced with the support from ongoing schemes, then poly-houses can improve the livelihoods by reducing the excess market dependency and by providing attractive income to farmers through the sales of off-season vegetables and produces.



Poly-houses near Keylong, Lahaul and Spiti: The existing designs in the project landscape are not adaptive to climatic conditions and weather events (Credits: Ramnarayan)

Steps/process for implementation

The project can work with the Agriculture and Horticulture department in the landscape for studying the potential of new designs and preparation of DPRs for sanctioning funds under existing schemes. The major steps involved in the promotion of poly-houses in the project landscape given in Figure 25.

1. Identification of a resource agency to develop poly-house design:

The first stage is to identify agency/resource personnel to study the present situation and develop a design for the poly-houses that are most adaptive to local climatic conditions. The project can invite social innovators from similar landscape like Ladakh or Spiti or seek the support of a relevant research agency to study and recommend an adaptive design for poly-houses (See **Annexure 1** for the details of recommended resources and Terms of Reference for hiring an implementation agency).

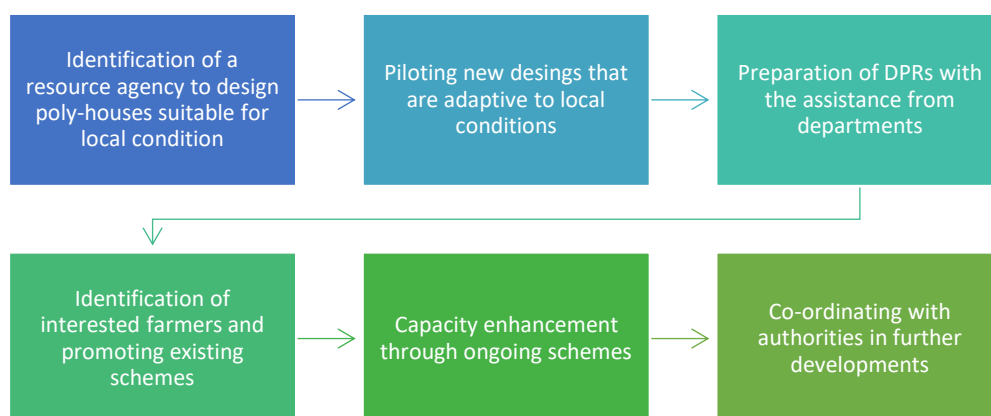


Figure 25: Steps/process involved in the promotion of poly-house farming

2. Piloting new designs:

The hired agencies are required to pilot the developed design in the landscape with the assistance from Agriculture department.

3. Preparation of DPRs:

The project can work with Agriculture and Horticulture department in preparation of DPRs and Action Plans based on the study and design recommended by the hired resource agency. Presently, the departments in both Lahaul and Pangi are willing develop agricultural infrastructure to support farmers but lacking resources and capacities for implementation. The proposed fellows hired by the project or the project can directly seek assistance from hired resource agencies in the preparation of DPRs.

4. Identification of interested farmers:

The landscape-level project officials/UNVs are required to identify the suitable villages (A list of indicative villages for initial piloting and criteria for further selection of villages is given in Annexure 1), interested farmers, and co-ordinate with the departments in helping them to access the existing schemes. Awareness on existing schemes and the benefits can communicated to farmers as a part of communication efforts under various strategies proposed for the landscape. The two major active schemes (See **Annexure 1** for details) that can promoted by the project are,

1. Dr Y S Parmar Kisan Swarozgar Yojana
2. Mukhya Mantri Green House Renovation Scheme

5. Capacity enhancement through ongoing schemes:

The interested farmers are need to train on scientific farming with poly-houses. The ongoing ATMA scheme is one of the potential options for the project in capacity building of community members. The project can work with Agriculture department and expert agencies in ensuring adequate skill requirements of farmers.

6. Co-ordinating with authorities in further developments:

The project officials in the landscape can co-ordinate with the authorities in further development of poly-houses. The project can work closely with ITDP, relevant departments and authorities in passing special provisions for the promotion of poly-houses and capacity enhancement.

Institutions/stakeholders and responsibilities

The major stakeholders involved and their proposed roles and responsibilities given in Table 19.

Stakeholder	Proposed Roles and Responsibility
UNDP SECURE Himalaya Project	<ul style="list-style-type: none"> Hire and support resource agency in studying the existing conditions and designing new poly-houses that are suitable to local conditions Work with Agriculture and Horticulture departments, authorities and community members in the promotion and development of poly-house farming
UNV's	<ul style="list-style-type: none"> Identification of villages and interested farmers Awareness creation amongst farmers as a part of proposed communication campaign under various strategies suggested Support the resource agency in the preparation of DPRs Work with Resident Commissioner to get a resolution passed in TAC Meeting for special provisions for Pangri in Poly-house farming. Similar Meeting of Secure Himalaya can be done with Deputy Commissioner Lahaul & Spiti for inclusion of Special provisions for Lahaul in TAC Meeting Work with ITDP for promotion of Poly-house farming in the landscape
Agriculture and Horticulture Department	<ul style="list-style-type: none"> Assisting the expert agency in the preparation of DPRs Support in piloting new designs Support in community capacity building through ongoing schemes
Resource agency	<ul style="list-style-type: none"> Undertake research on the landscape and design adaptive model of poly-houses Piloting of developed models with the help from departments Training farmers on scientific farming in poly-houses with the support from ongoing ATMA scheme Preparation or assistance in the preparation of DPRs
ITDP Keylong and Pangri	<ul style="list-style-type: none"> Pass resolutions for special provisions to Lahaul & Pangri in Poly-house Farming and Training Support in the preparation and submission of DPRs developed

Table 19: Major institutions/stakeholders involved and proposed roles and responsibilities

Expected Risks, Problems and Assumptions

Risks	<ul style="list-style-type: none"> The community members may not be interested to take poly-house farming extensively due to limited returns Failure to converge with ongoing schemes in capacity building Failure to develop a poly-house design adaptive to local conditions The proposals/efforts made by the project are not granted by the responsible authority
Problems	<ul style="list-style-type: none"> The major schemes related to Poly-houses are presently not functional and new schemes are awaited
Assumptions	<ul style="list-style-type: none"> Possibility of hiring a resource agency by the project

Figure 26: Expected risks, problems and assumptions in the promotion of poly-house farming

Responsiveness of livelihood option to climate change and contribution to conservation efforts

The Cultivation of cash crops under protective cover will provide safeguard against adverse weather and will enhance life span of crops. It will lead to Conservation of scarce resource

including water and safeguard against impact of biotic and abiotic stresses caused due to climate change.

Strategy 4: Enhancing Irrigation Practices

As per DAP (2009), Lahaul-Spiti is the only district in the country having cent per cent irrigated agriculture and all the crops are grown under irrigated conditions. Hence, agriculture in Lahaul-Spiti district is solely dependent on irrigation. The area under partial irrigation reported to be almost zero. The agriculture in project area is rain fed and irrigated through *Kuhls*. *Kuhls* is an open channel irrigation system to capture and transfer fresh snowmelt water from the glaciers to the agricultural fields in the valley. The soil of the Lahaul valley is loose and sandy and as such, roads and irrigation channels damaged even with slightest rain, melting of snow landslides, falling of boulders and avalanches. In addition, some of the villages in Pangi region reported the issue of irrigation during field level interactions. Considering these aspects, the project can work with the departments in enhancing the present irrigation practices. Some of the possible areas of intervention are,

- a) Promotion of existing schemes in the project villages with irrigation issues
- b) Supporting awareness creation and training farmers on irrigation practices
- c) Support the preparation of DPRs for the implementation of various schemes in the landscape

Steps/process for implementation

The major steps/process involved in enhancing irrigation practices in the landscape given in Figure 27.

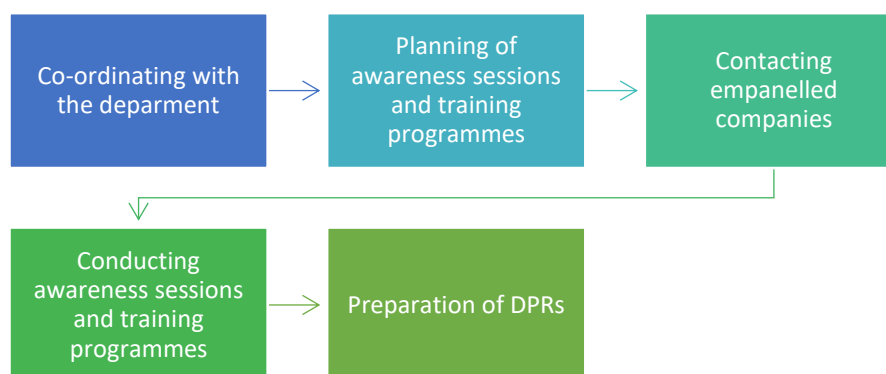


Figure 27: Steps/process involved in enhancing irrigation practices

1. Co-ordinating with Agriculture Department

The first stage involved is to co-ordinate with Agriculture Department in promoting two major functional schemes (See **Annexure 1** for details) that are,

- a) Dr Y S Parmar Kisan Swarozgar Yojana
- b) Rajiv Gandhi Micro-Irrigation Scheme

Under Rajiv Gandhi Micro Irrigation Scheme, nearly 80 percent assistance will be provided to individual farmers for installing micro-irrigation systems like Drip Irrigation or Sprinkler Systems. The Farmers are at liberty to execute the project component at their own under the scheme. Some farmers in Pangi block already benefitted from the scheme (last year 22 farmers). The project should consider these farmers as resource persons for conducting awareness sessions and training programmes.

2. Planning of awareness sessions and training programmes

The project officials at the landscape level can plan the village-level awareness sessions in co-ordination with the Agriculture Department. Identification of villages (A list of indicative villages for initial piloting and criteria for further selection of villages is given in Annexure 1) and farmers, preparation of communication materials, preparing content for the awareness camps and co-ordinating with banks are some of the major activities under this stage

3. Contacting empanelled companies

The project with the assistance from the department can contact empanelled companies responsible for the provision of Micro Irrigation Systems (See **Annexure 1** for details of empanelled companies)

4. Conducting awareness sessions and training programmes

The awareness sessions on precision farming and training programmes can be conducted as planned in the previous stages. The project can encourage the empanelled companies to undertake the following activities in the identified villages,

- a) Organise awareness sessions in the villages
- b) Identifying the beneficiaries
- c) Assist in preparing their documents and accessing loan if required
- d) Set up the systems in beneficiaries agricultural land
- e) Build the capacity of beneficiary in maintenance and operation of the system

No additional funding required for conducting these sessions since it can be mobilized through ongoing ATMA Scheme. However, the project can also support these sessions as a part of communication interventions suggested under livelihood strategies suggested for the project landscape. The recommended mid-media activities can include awareness on irrigation practices as one of the components. The farmers who are already benefitted can be invited to take part in the awareness sessions.

5. Preparation of Detailed Project Report and Action Plan

A total of 10 Snow Fences / Artificial Glaciers at Barbog, Kardang, Lapchang, Fuktal, Gondhla, Kharcho Kongma, Kwaring and Myar valley proposed in the Lahaul Block as per District Irrigation Plan. The estimates suggest that the said structures shall cover a command area of around 100 hectares and will be implemented by DRDA and Forest department. The unit cost of construction of proposed structures shall be around 10 Lakhs. Therefore, a budget of rupees 100 lakh has been proposed for the same over a period of 4 years.

Detailed Project Reports needed to be prepared to implement the proposed schemes. However, due to shortage of staff at ITDP Keylong the process of preparing these DPRs is delayed presently. Secure Himalaya can facilitate the preparation of DPR for one site in Miyar Valley by allocating resource personnel for undertaking the task.

Institutions/stakeholders and responsibilities

The Agriculture and Horticulture departments are responsible for implementing the schemes; the project can act as a co-ordinating agency and facilitator of schemes for community members. The major stakeholders involved and their proposed roles and responsibilities given in Table 20.

Stakeholder	Proposed Roles and Responsibility
UNDP SECURE Himalaya Project	<ul style="list-style-type: none"> Contact the representatives of the empanelled companies and coordinate with them to organise the awareness camps in project areas

	<ul style="list-style-type: none"> Allocate resource personnel who can prepare DPR for Snow Fence/ Artificial Glaciers in Miyar Valley and other irrigation facilities in the landscape through various schemes
UNV's	<ul style="list-style-type: none"> Plan out the awareness sessions in the villages Coordinate with Agriculture Department , Banks and other stakeholders Participate in awareness sessions Prepare communication materials
Agriculture and Horticulture Department	<ul style="list-style-type: none"> Facilitate the awareness sessions in villages Assist in preparing the documents of farmers Ensure that the companies are setting up the systems as per specifications
Empaneled Company	<ul style="list-style-type: none"> Organise Awareness Sessions in the Villages Identify the beneficiaries Assist in preparing their documents Set up the systems in beneficiaries land Build the capacity of beneficiary in maintenance and operation of the system
Banks	<ul style="list-style-type: none"> Provide financial support to farmers if needed
ITDP	<ul style="list-style-type: none"> Provide support to Resource Person for preparation of DPR

Table 20: Proposed roles and responsibilities of major stakeholders in enhancing the irrigation practices

Responsiveness of livelihood option to climate change and contribution to conservation efforts

Improving irrigation efficiency is important to ensure judicious use inputs in agricultural activities and for climate change mitigation. It is one of the major building blocks of climate smart agriculture and precision agriculture will increase energy as well as water use efficiency, which in turn contributes to conservation efforts and climate change mitigation.

Expected Risks, Problems and Assumptions

Risks	<ul style="list-style-type: none"> Costs involved in organising Camps, DPR preparation and farmers contribution to irrigation systems may be beyond project capacities if not supported by government agencies through various schemes and provisions Empaneled agencies are not able to undertake the activities in the landscape due to operational issues Severe weather conditions destroy Irrigation systems Modern irrigation practices may not work in tribal areas
Problems	<ul style="list-style-type: none"> Special funds may not be approved for Irrigation Schemes in Tribal area Inability of farmers to apply for scheme on time Costs of installing Irrigation systems will be high for Tribal areas as transportation costs are higher
Assumptions	<ul style="list-style-type: none"> Funds are available with ITDP for implementation of schemes but lack human resources for execution of activities

Table 21: Expected risks, problems and assumptions in enhancing irrigation practices

Animal Husbandry and Dairying – Detailed Implementation Plan

Livestock is an integral part of community livelihoods in the landscape. However, influence of policies and shift from traditional practices are resulting in decline of livestock population. In addition, increasing migration and changing aspirations amongst youths are also resulting in low investments in terms of capital and capacities. Majority of the community members are not deriving any direct economic benefits from livestock or dairying. It is important to revive this sector since traditional livelihoods like agriculture and handicrafts are directly dependent on it.



Livestock is an integral part of the community livelihoods: Changing aspirations and migration are negatively affecting the sector (Credits: Shailesh Nagar)

a) Policies/schemes in relation to Animal Husbandry and Dairying

There are various schemes related to Animal Husbandry and Dairying for the project to consider for convergence (See **Annexure 1** for details of the schemes and possibilities of convergence with the project). Some of the important schemes are,

- Backyard Poultry Scheme
- Agricultural Technology Management Agency (ATMA) Scheme
- Chief Minister Startup Scheme
- Mukhya Mantri Swavalamban Yojana
- National Mission for Himalayan Studies
- Mukhya Mantri Yuva Ajeevika Yojana

b) Available livelihood assets in relation to Animal Husbandry and Dairying

Some of the major livelihood assets related to Animal Husbandry and Dairying for the project to consider while designing a livelihood strategy is given in Table 22.

Livelihood Assets	
Human Capital	<ul style="list-style-type: none"> ▪ Presence of pastoralist communities and traditional knowledge on livestock farming ▪ Traditional knowledge of making products like Ghee and <i>Churpi</i> ▪ Knowledge on backyard poultry amongst some community members ▪ Unemployed youths and women who are not involved in any income earning activities presently
Physical Capital	<ul style="list-style-type: none"> ▪ Household level arrangements and facilities for keeping livestock during winter ▪ Tourism markets in Lahaul and Spiti district ▪ Specific target segments for products like A2 milk, high fat milk products, segments consuming <i>Churpi</i> etc.
Natural Capital	<ul style="list-style-type: none"> ▪ Suitable temperature and climatic condition for specific breeds ▪ Availability of natural resources for livestock grazing ▪ Conditions suitable for the higher production of milk, wool and other products ▪ Climatic conditions suitable for keeping the products for a longer period
Financial Capital	<ul style="list-style-type: none"> ▪ Ongoing schemes under Animal Husbandry and other relevant departments that can subsidize various activities ▪ Livestock owned by the community members
Social Capital	<ul style="list-style-type: none"> ▪ Pastoralist communities which are knowledgeable on traditional practices ▪ Government departments and institutions willing to support livelihood development in the region

Table 22: Available livelihood assets in relation to Animal Husbandry and Dairying

Considering the situational requirements, existing policies and available livelihood assets, the recommended strategies for reviving Livestock sector are,

1. Exploring the market potential of milk products
2. Promotion of backyard poultry as an alternative livelihood option

g) Expected Outcomes and Target/Indicators

Strategy	Expected outcomes	Indicators	Targets
Animal Husbandry and Dairying (Exploring the Potential of Milk Products)	<ul style="list-style-type: none"> ▪ Alternative livelihood option for the community members during winter ▪ Increased investments in livestock in terms of capital and capacities ▪ Increased value for traditional practices and products ▪ Increased employment opportunities for youths and women through entrepreneurship development ▪ Increased income through the sales of milk products ▪ Community members with homestays will economically get benefitted with the sales of products to tourist segments 	Number of households reporting income from selling milk/ milk products	- All the project villages in Pangi region (number of households to be determined by the implementing agency)
Agriculture (Promotion of Beekeeping for pollination services)	<ul style="list-style-type: none"> ▪ Alternative livelihood option for the community members ▪ Increased nutritional status through self-consumption of products ▪ Reduced dependency on unsustainable practices like collection of wild resources ▪ Direct increase in income through the sales of meat products ▪ Reduced dependency on outside markets for meat products 	<ul style="list-style-type: none"> ▪ Number of households rearing poultry ▪ Number of households reporting income from poultry 	- X households in each 12 recommended villages adopts backyard poultry

Strategy 1: Exploring the Potential of Milk Products

The milk production is higher in the region but presently the local communities are not economically benefitted from it due to non-availability of easily accessible markets and less local demand. Traditionally, the milk produced and the products made like Ghee and *Churpi* are used for self-consumption. Researching the potential of milk products like Ghee, *Churpi*, and Cheese etc. may provide the community with a source of income and an alternative livelihood option especially during winters. Technological intervention for value addition requires lesser investment since the communities are already involved in making these products. Another advantage of value adding milk products is that the shelf life will be higher and hence delay in market linkages will not affect income-earning potential. There is a niche market for milk products with higher fat content and the existing products can be marketed amongst selected clientele like Tibetan Buddhist communities. The project can support the sector by identifying such Unique Selling Proposition and helping in market linkages as a part of landscape branding efforts.

Steps/process for implementation

The major steps/process involved in the implementation of recommended livelihood strategy is given in Figure 28.

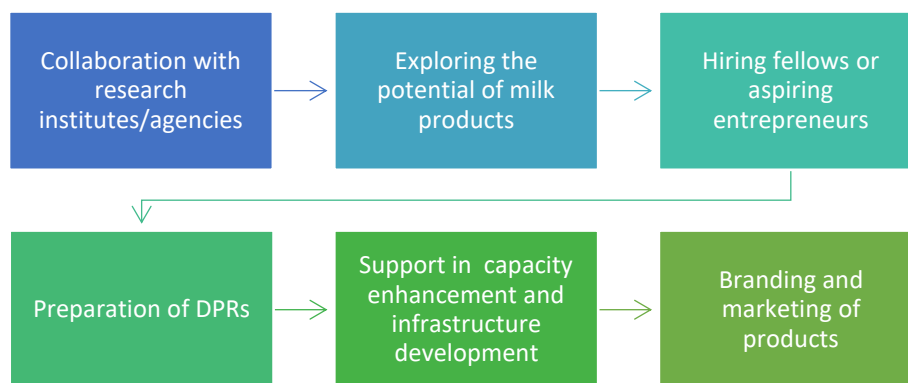


Figure 28: Steps/process involved in the exploration of market potential of milk products

1. Collaboration with research institutes/agencies

The project can collaborate with various research institutes/agencies (See **Annexure 1** for details of resources and Terms of Reference for hiring an implementation agency) in exploring the potential of dairy products. **Centre for Pastoralism** can be a suitable research and implementation partner for the project in improving the dairy sector. The centre aims to understand pastoralist ecosystems and improving livelihood of communities in such geographical locations. CFP is already undertaking research around milk and cheese products in association with government institutions and private sector partner in various geographic locations. Another possible collaboration agency to consider is Institute of Himalayan Bio-resource Technology (IHBT), Palampur in case the project is not able to collaborate with CFP. The project can also seek assistance from National Mission on Himalayan Studies to fund the studies and implementation under Himalayan Research Fellowship Scheme.

2. Exploring the potential of milk products

The partnering research agency is expected to undertake studies to understand the potential of milk products in the landscape and help the project in implementation of activities. The major areas that the project may require assistance from the partner agency are,

- a) Studying the potential of existing milk products like Ghee, Churpi etc. from supply and demand side
- b) Understanding the properties of existing products (from a market perspective) and areas of improvements
- c) Studying the potential of new products like artisanal cheese
- d) Community capacity building in convergence with ongoing scheme
- e) Assistance in the preparation of DPRs for infrastructure development based on the studies undertaken by the agency
- f) Branding and marketing support by identifying suitable channels and target segments

3. Hiring fellows/aspiring entrepreneurs

The project can hire fellows (a general strategy recommended for the landscape) with entrepreneurial background from different academic institutes to undertake various activities involved in dairy development. The fellows can take up the responsibility of developing small-scale enterprises and in landscape branding and marketing of products. These small-scale entrepreneurial community led interventions can be supported by ongoing schemes like Chief Minister Startup Schemes or incubation facilities that can be availed through various initiatives like Atal Incubation Centre supported by UNDP.

4. Preparation of DPRs

The research partner can assist the hired fellows or resource person assigned by UNDP in the preparation of DPRs in case of any requirement of infrastructure improvements. The present products as Ghee may not require much infrastructure improvements but if products like Cheese making found as an attractive livelihood option during study, then small-scale local units will be required in the landscape for further development. The UNDP officials at the landscape level can work with government departments and ITDP to ensure sanctioning of funds.

5. Support in infrastructure development and capacity enhancement

The hired fellows or collaborating agency can facilitate the capacity enhancement of community members. Ongoing schemes like ATMA scheme can be utilized in mobilizing the funds for providing these trainings. Trainings are mainly required in processing of milk (if new products found as a viable activity), packaging and storing. Small-scale infrastructure development can be supported by working with the departments and preparation of DPRs as mentioned earlier. A list of indicative villages for initial piloting and criteria for further selection of villages is given in Annexure 1.

6. Branding and marketing of products

Branding and marketing of products plays a crucial role in the recommended strategy. Intervention at the source like packaging and labelling can be managed by the hired fellows as a part of small-scale dairy enterprises development. The products needed to be extensively marketed through tourism markets, exhibitions, and other possible channels. The research agency hired by the project need to develop and implement branding and marketing activities in the landscape. Additional assistance for branding and marketing of milk products can be availed from some of the resource agencies recommended (See **Annexure 1** for recommended resources).

Institutions/stakeholders and proposed roles and responsibilities

The project can support the development of small-scale village/Panchayat level dairy enterprises. The community members can organize themselves to small groups and these groups can be

guided and supported by the fellows hired by the project during the initial period. Formation of such small groups is important for economic viability, mutual learning and attaining desired scale. The fellows can seek guidance support from resource agency hired by the project in implementation. The major stakeholders involved and their proposed roles and responsibilities are given in Table 23.

Stakeholder	Proposed Roles and Responsibility
UNDP SECURE Himalaya Project	<ul style="list-style-type: none"> ▪ Partner with Centre for Pastoralism or similar research agency to study the potential of milk products ▪ Hire fellows to support the development of small-scale community led dairy enterprise development in the landscape ▪ Support in accessing facilities such as Atal Incubation Centre supported by UNDP
UNV's	<ul style="list-style-type: none"> ▪ Work with departments and ITDP in the preparation of DPRs ▪ Provide necessary support for research partners and fellows ▪ Coordinate with departments in ensuring access to various schemes for capacity enhancement
Animal Husbandry Department	<ul style="list-style-type: none"> ▪ Provide training and capacity building support in convergence with ongoing schemes like ATMA
Industries Department	<ul style="list-style-type: none"> ▪ Provide support for small scale facilities required such as packaging facilities ▪ Support the capacity building efforts
Forest Department	<ul style="list-style-type: none"> ▪ Supporting events for the sales of products as a part of developing tourism in the landscape
Research agency	<ul style="list-style-type: none"> ▪ Studying the potential of existing milk products like Ghee, Churpi etc. from supply and demand side ▪ Understanding the properties of existing products (from a market perspective) and areas of improvements ▪ Studying the potential of new products like artisanal cheese ▪ Community capacity building in convergence with ongoing scheme ▪ Assistance in the preparation of DPRs for infrastructure development based on the studies undertaken by the agency ▪ Branding and marketing support by identifying suitable channels and target segment
Fellows	<ul style="list-style-type: none"> ▪ Mobilizing community members ▪ Developing small-scale dairy enterprises ▪ Supporting community capacity enhancement ▪ Branding and marketing with the assistance from recommended resource agencies ▪ Availing incubation facilities offered by the government and other institutions like Atal Incubation Centre ▪ Preparation of DPRs with the support from research agency if required

Table 23: Proposed roles and responsibilities of major stakeholders involved in dairy development

Expected Risks, Problems and Assumptions

Risks	<ul style="list-style-type: none"> ▪ The competition of milk products are higher and the project may fail to achieve expected outcomes if suitable target segments and channels are not identified ▪ Lack of adequate human resources at the landscape level to implement the recommended activities ▪ Failure to converge with ongoing schemes ▪ Failure to partner with recommended research agencies
Problems	<ul style="list-style-type: none"> ▪ Transport may be an issue to explore sales options through channels like online market places
Assumptions	<ul style="list-style-type: none"> ▪ Possibility of hiring research agency and fellows by the project ▪ There is an attractive target segment for products like Ghee with higher fat content

Table 24: Expected risks, problems and assumptions in dairy development

Strategy 2: Promotion of Backyard Poultry as an Alternative Livelihood Option

Backyard poultry can be one of the low investment income earning opportunity for the community members. Presently, there is a large domestic demand for meat and eggs but mostly met by supply from outside. The Backyard Poultry Scheme is functional in the region but there are various problems faced by the department including issues in transportation and supply of chicks. Presently, a hatchery is being set up in Chamba and the issues in supplying due to higher mortality of chicks during transportation expected to resolve once it is established. The project can work with the Animal Husbandry department to raise awareness on the Backyard Poultry Scheme and facilitating the supply of *Himasamridhi* birds with the help from CSK Himachal Pradesh Agriculture University. *Himasamridhi* birds are well adaptive to local conditions and the project can encourage the department to distribute the birds on a pilot basis. The proposed strategy is a low resource and investment intensive one for the project to consider initially in the landscape as a part of livelihood improvement initiatives.

Steps/process for implementation

The major steps/process involved in the promotion of Backyard Poultry Scheme in the landscape is given in Figure 29. The activities are mainly proposed for Pangri since the competitive potential of the livelihood option in Lahaul is very less.

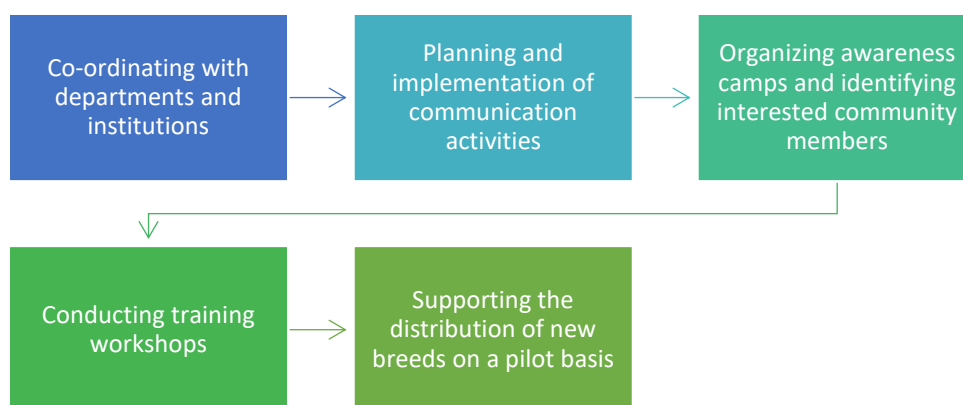


Figure 29: Steps/process involved in the promotion of Backyard poultry scheme

1. Coordinating with departments and institutions

The project officials (UNVs) at the landscape level can co-ordinate with the Animal Husbandry department and College of Veterinary Science in the promotion of scheme and supporting the proposed activities

2. Planning and implementation of communication activities

The project can support in the planning and implementation of communication activities. These activities can be partially supported by the project and by the department through ongoing schemes. Some of the activities that can be conducted are,

- Designing and distribution of Information, Education and Communication Materials
- Providing information through proposed mobile application for communicating various schemes with the community members (a general strategy suggested for the landscape) and
- Communication through mid-media activities planned as a part of communication intervention for other strategies proposed

The content for communication materials can be developed by the landscape-level project officials/UNVs with the assistance from the department

3. Organizing awareness camps and identifying interested community members

The project can encourage and work with Animal Husbandry department to conduct village-level awareness camps with the assistance from ongoing schemes (A list of indicative villages for initial piloting and criteria for further selection of villages is given in Annexure 1). The project can identify interested community members during these camps and communicate it with Assistant Director of Pangri (Animal Husbandry Department) for training the members and distribution of chicks

4. Conducting training workshops on backyard poultry

The project can co-ordinate with College of Veterinary Science to raise awareness and train the interested community members on backyard poultry. The training can be provided with the assistance from ongoing ATMA scheme.

5. Supporting the distribution of new breeds

The project can encourage the department in supplying *Himasamridhi* breed with the assistance from College of Veterinary Science CSKHP Agriculture University. The distribution can be done under the ongoing Backyard Poultry Scheme on a pilot basis with selected farmers.

Institutions/stakeholders and proposed roles and responsibilities

The project can act as facilitator in the promotion of Backyard Poultry Scheme by coordinating with departments and stakeholders including community members. The major institutions involved and proposed roles and responsibilities are given in Table 25.

Stakeholder	Proposed Roles and Responsibility
UNDP SECURE Himalaya Project	<ul style="list-style-type: none"> Support the overall promotion of activities and communication efforts
UNV's	<ul style="list-style-type: none"> Coordinate with College of Veterinary Sciences CSKHPKV Palampur for Distribution of Himsamridhi Breed of Birds Assistance in the preparation of content for IEC materials Work with Animal Husbandry Department in planning and implementation of awareness camps in the villages Assistance in identifying interested members during camps Encourage providing training and distribution of new breeds to interested to community members under existing schemes
Animal Husbandry Department	<ul style="list-style-type: none"> Assistance in preparing content of IEC materials Organise awareness sessions in the villages Prepare the lists of Farmers willing to undertake backyard poultry Supply the farmers with chicks Conduct training sessions for interested members Handhold the farmers with regular updates Document the success stories
College of Veterinary Sciences Palampur CSKHPKV	<ul style="list-style-type: none"> Organise awareness session in Pangri Region and support in organizing training for interested members Distribute Chicks of <i>Himsamridhi</i> breed Document the learnings

Table 25: Proposed roles and responsibilities of major stakeholders involved in the promotion of Backyard Poultry as an alternative livelihood option

Responsiveness of livelihood option to climate change and contribution to conservation efforts

The proposed activity mainly recommended as an alternative livelihood option for community members given the lucrative local markets. However, from a conservation perspective this activity may not contribute significantly to the efforts but will definitely help in diversification of livelihoods and in improving the resilience of community members from a livelihood perspective.

Expected Risks, Problems and Assumptions

Risks	<ul style="list-style-type: none"> Failure in convergence with ongoing schemes
Problems	<ul style="list-style-type: none"> Difficulty in conducting proposed activities due to inadequate capacities and resources at the landscape level
Assumptions	<ul style="list-style-type: none"> Farmers will be interested in backyard poultry and will invest themselves to cover the costs involved The hatchery in Chamba will be operational from March 2020 The <i>Himasamridhi</i> breed will survive in the Pangti region

Table 26: Expected risks, problems and assumptions

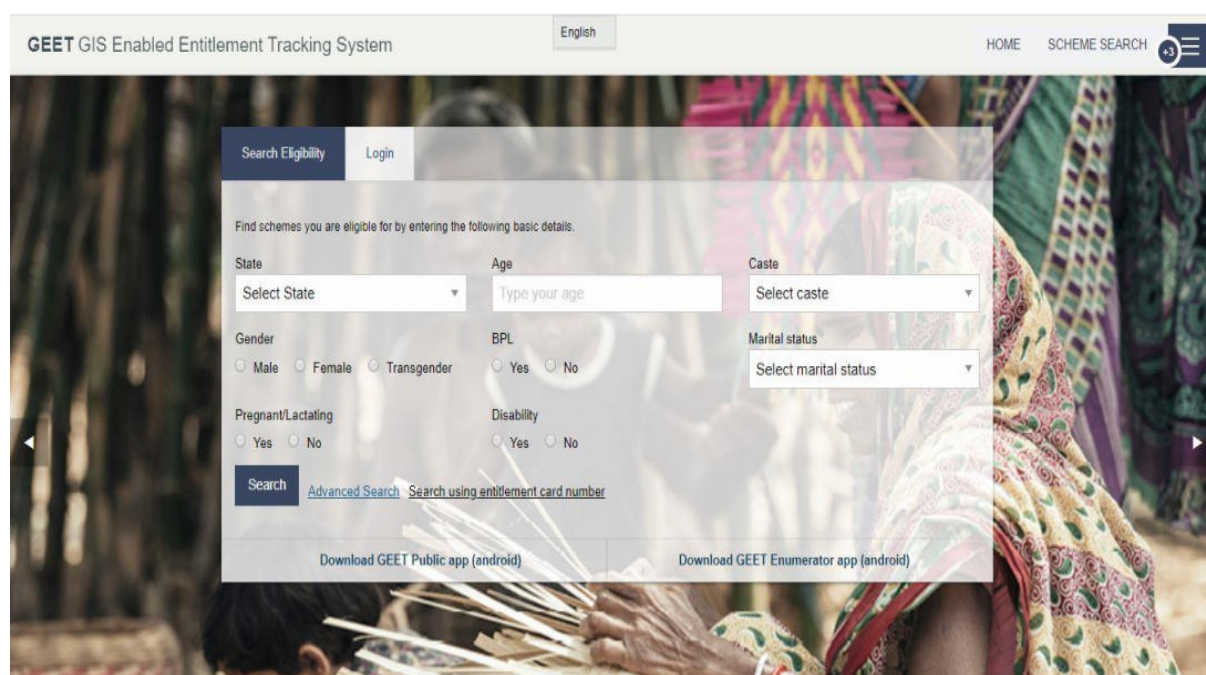
General Strategies

The project can adopt some general strategies that cut across sectors in improving the livelihoods and for operational effectiveness. Some of the strategies suggested considering the situational requirements in the project landscape are,

1. GIS Enabled Entitlement Tracking Application for improving the access to social security schemes
2. Livelihood development fellowship programme

Strategy 1: GIS Enabled Entitlement Tracking Application for Improving the Access to Social Security Schemes

It is revealed from the field level exploration study that, the community members are not accessing majority of social security schemes due to lack of awareness. Schemes like Restructured Weather Based Crop Insurance Scheme (RWBCIS) can improve the livelihood security as well as reduce the risks associated with existing practices. GIS Enabled Entitlement Tracking is an effective option to communicate these schemes to community members especially in remote regions with limited network connectivity. Initiatives like GEET under Ministry of Rural Development supported by UNDP and developed Foundation for Ecological Security are successfully functioning in rural geographies. The initiative is also helping in decision making for authorities by providing information on beneficiaries and through mechanism to track the progress. The project can develop and promote a similar application for the landscape as a part of communication efforts in improving the livelihoods.



The screenshot displays the 'GEET GIS Enabled Entitlement Tracking System' interface. At the top, there is a navigation bar with 'English', 'HOME', and 'SCHEME SEARCH' options. The main content area features a 'Search Eligibility' form. The form includes a 'Login' button and a section titled 'Find schemes you are eligible for by entering the following basic details.' The form fields are: State (dropdown), Age (text input), Caste (dropdown), Gender (radio buttons for Male, Female, Transgender), BPL (radio buttons for Yes, No), Marital status (dropdown), Pregnant/Lactating (radio buttons for Yes, No), and Disability (radio buttons for Yes, No). There is a 'Search' button and links for 'Advanced Search' and 'Search using entitlement card number'. At the bottom, there are two buttons: 'Download GEET Public app (android)' and 'Download GEET Enumerator app (android)'.

A GIS enabled entitlement tracking system will help the community members in identifying welfare schemes they are eligible by providing basic personal information (Credits: GEET, FES)

Steps/process involved

The project can try to collaborate with ongoing GEET initiative under Ministry of Rural Development since it is well maintained and supported by UNDP. Alternatively, the project can also develop a low investment mobile application specifically for the landscape if required. The major steps involved in the development of strategy are given in Figure 30.



Figure 30: Steps/process involved in the development of GIS Enabled Entitlement Tracking

1. Initial planning and selection of expert agency

This stage involves initial planning of activities involved, and identification and selection of agency by UNDP project officials. The project can consider FES as an expert agency in providing necessary support and expertise in the development. The project can also consider hiring a GIS enabled mobile application development agency in case collaboration is not possible with ongoing GEET initiative.

2. Developing database and application

This stage involves developing database of schemes/policies functional in the landscape and developing GIS enabled application. The selected expert agency/developers will be responsible for coordinating with various departments at the state and regional level in gathering the information and development.

3. Coordinating with the departments

The project officials at the landscape level required to co-ordinate with the department officials in deploying the application. The government department needed to be trained on tracking the dashboard and progress, identifying the beneficiaries, and updating information on schemes. The expert agency can help the project in initial demonstration and deployment.

4. Promoting the initiative

The project officials at the landscape level need to identify the enumerators in the villages/panchayat in helping the community members to enter their personal information and creating profile. The community members can be trained on the usage of application by enumerators. Demonstration on the usage and installation of application can be done during major events and festivals in the landscape sponsored by government departments. The proposed events for developing homestay ecosystem are one such platform for community members to learn the usage and installation of the application in their personal phones.

Institutions/stakeholder and responsibilities

The major stakeholders involved and their proposed roles and responsibilities are given in Table 27.

Stakeholder	Proposed Roles and Responsibility
UNDP SECURE Himalaya Project	<ul style="list-style-type: none"> ▪ Planning overall execution of activities based on resources available ▪ Identification and selection of agency for developing and deploying GIS enabled application ▪ Help the expert agency in coordinating with various department at the state and landscape level
UNV's	<ul style="list-style-type: none"> ▪ Facilitate the process involved for the expert agency ▪ Co-ordinate with the departments at landscape level ▪ Setting up stalls during events and festivals ▪ Organizing training for enumerators with the assistance from departments ▪ Monitoring the overall progress of the initiative

Stakeholder	Proposed Roles and Responsibility
Expert Agency	<ul style="list-style-type: none"> ▪ Develop database and GIS enabled application for the landscape ▪ Deployment of application and initial demonstration and trainings with the departments
Government Departments	<ul style="list-style-type: none"> ▪ Monitoring and updating the dashboard ▪ Assisting the community members in accessing the schemes once they registered in the GIS enabled portal ▪ Assistance in promoting the application during various festivals and events ▪ Supporting the enumerators at village/panchayat level
Enumerators	<ul style="list-style-type: none"> ▪ Initial collection of user information ▪ Initial demonstration with the community members on the usage of application

Table 27: Major institutions/stakeholders involved and their proposed roles and responsibilities

Strategy 2: Livelihood Development Fellowship Programme

It is found that, majority of the development schemes, initiatives are not benefitting the communities, and the landscape presently lacks positive external engagement and expertise in developing livelihoods. Launching a **High Impact Livelihood Development Fellowship Programme** will help the project in the execution of envisaged plans and activities with minimal investments. The project can select a fixed number (Preferably 5-7) of educated and passionate graduates from academic institutions and other organizations (See **Annexure 1** for details of resources that the project can utilize). The expected duration of the programme is 13 months and the project can encourage and support the fellows to continue with their interventions beyond the fellowship period by connecting them with various incubation facilities easily accessible for UNDP. The fellowship programme can be a collaborative initiative of the project with Government and private development initiatives. The project can partially fund the initiative and remaining funds can be mobilized in collaboration with ongoing government initiatives and fellowship programs.

The fellowship should focus on some of the key areas that requires attention in the landscape which includes,



Steps/process involved

The major steps/process involved given in Figure 31.

1. Collaboration with ongoing government initiatives and fellowship programs

The first stage is to collaborate with ongoing government initiatives and already existing fellowship programs by various development initiatives. A fellowship programme proposal and request for Expression of Interest (EoI) to be submitted to potential partners are given in **Annexure 1**. Some of the possible options for the project to consider are,

- i) **Chief Minister Startup Scheme** – The project can collaborate with Department of Industries to support the fellows in entrepreneurship development through the ongoing scheme. The registered startups under the scheme will be having access to incubation support, financial support and mentor network
- ii) **Youth Co-labs** – Co-labs aims at accelerating social entrepreneurship and innovation in young India. The initiative is jointly launched in India by UNDP and Atal Innovation Mission, NITI Aayog. The project can seek support from the initiative to launch the fellowship programme in the landscape
- iii) **Other fellowship programs** – The project can also collaborate with ongoing fellowship programs in India. Some of the recommended fellowships to consider are
 - a. SBI Youth for India Fellowship

- b. Clinton Fellowship from American India Foundation
- c. Rural Alpha fellowship launched by Tata Trusts and Social Alpha

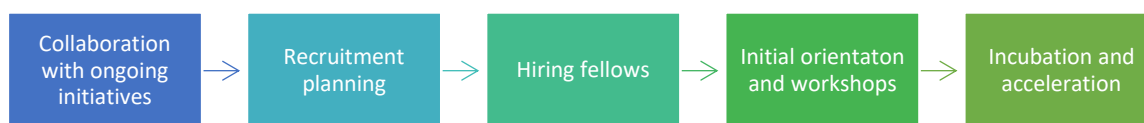


Figure 31: Major steps/process involved in launching livelihood development fellowship

2. Recruitment planning

The project needs to identify the channels for promotional activities, develop a portal for receiving application and overall terms of fellowship programme.

Developing terms of fellowship: The project officials need to develop terms of fellowship programme that details out roles and responsibilities of fellows as well as the project

Developing portal for registration: If the project decides in independently launching the fellowship programme then a portal for communication and registration will be required. This can be done by hiring a media agency at minimal costs or the project can utilize the existing online channels of UNDP India

Promotion of fellowship programme: In order to ensure that the highly qualified candidates are selected under the programme, it is necessary to undertake active promotional activities. The project should utilize existing social media channels of UNDP and partners in the promotion of fellowship

3. Hiring Fellows

The project can consider hiring fellows through general applications received through online portal and through campus recruitment in selected institutes. The selection can be done by a team of expert through written assessment, based on experience and interests of candidates and personal interview. The resources that the project can utilize for hiring fellows are given in **Annexure 1**.

4. Initial orientation and workshops

In order to make the fellows familiar with the project and introducing them with some of the necessary concepts, the project can conduct initial orientation and workshops at a location preferable in UNDP office in Delhi. The project can invite some of the subject experts to undertake the workshop sessions.

5. Field immersion

The fellows are expected to identify their areas of interest, develop a plan of action and start working on the field. They can seek guidance and support from a pool of mentors and landscape level officials in implementing the landscape level activities.

6. Incubation and acceleration

Towards the end of the fellowship period, the fellows are expected to incubate their initiatives under various incubation and acceleration support offered by government and various academic institutions. This will ensure that the initiatives of fellows will be continued even after the fellowship and project period.

Institutions/stakeholders and responsibilities

The major stakeholders involved and their proposed roles and responsibilities are given in Table 28.

Stakeholder	Proposed Roles and Responsibility
UNDP SECURE Himalaya Project	<ul style="list-style-type: none"> ▪ Partially fund the fellowship programme ▪ Identify potential partners and develop collaborative initiatives ▪ Organize initial orientation and workshops for the fellows
UNV's	<ul style="list-style-type: none"> ▪ Introduce fellows to the landscape ▪ Provide necessary operation support and access to various resources ▪ Facilitating the programme during field immersion period ▪ Monitoring and reporting to relevant officials ▪ Documenting success stories and lessons learned
Partnering programme	<ul style="list-style-type: none"> ▪ Promote the fellowship through various platforms ▪ Fund the fellowship programme
Department of Industry	<ul style="list-style-type: none"> ▪ Support the individual fellow initiatives through Chief Minister Startup Scheme ▪ Providing necessary incubation and mentorship support
Mentors	<ul style="list-style-type: none"> ▪ Provide timely technical guidance to the fellows ▪ Conduct workshop, events etc. for the fellows if needed

Table 28: Major institutions/stakeholders involved and their proposed roles and responsibilities in launching fellowship programme

Conclusion and Recommendations

The landscape level exploration study undertaken suggests the need to diversify the existing livelihoods and develop alternative livelihood options that are positive to conservation efforts. The economy in the landscape primarily agrarian and are highly vulnerable to market and climate related uncertainties. The effect of shift from traditional practices and changing climatic conditions are already affecting the livelihoods of community members in the landscape. The communities in the landscape are not able to capitalize on the immense potential natural and attractive livelihood options like tourism, handicrafts, dairying etc. due to situational factors including difficulty in accessing schemes, lack of awareness and capacities, access to market and institutions and environmental conditions.

Considering the situational requirements, available livelihood assets and transforming structures and processes, the proposed strategy for the landscape adopts an approach that suggests developing a landscape level brand and a basket of products and services that promotes the values of conservation, communities and nature. Tourism is expected to be the central focus sector; the proposed activities under tourism expected to support and reinforce the development of other sectors and livelihood options suggested. The envisaged tourism development in the landscape should focus on improving the livelihood of people, equitable sharing of ecosystem benefits to the community members, changing perspectives and actions of travelers and importantly conservation of landscape.

The successful implementation of the strategies proposed, as a part of the assignment, will largely depends on how effectively the project can work on major functional areas including communication interventions, awareness creation, supporting government schemes and departments and market interventions. It will be also crucial for the project to work on brand communication through various events, festivals, media and other possible channels. However, majority of the strategies proposed has considered resources available with the project for execution and designed after carefully considering the possibilities of convergence as a part of filtering process.

General Suggestions/Recommendations

Some of the general recommendations for the project to consider for the landscape are,

- **Fill the gap in human resources for execution**

The present levels of human resource availability with the project at the ground level are inadequate in the implementation of livelihood strategy as well as other components of the project. It is a wrongly perceived notion that the landscape is highly remote and inaccessible for majority of the seasons. The project should consider reallocating the landscape level officials to Pangri where majority of the project villages are located. Another possible way to overcome the resource constraint is to launch a fellowship programme that detailed under general strategy section.

- **Resourcefulness**

Majority of the strategy recommended under the assignment has carefully considered the resources available with the project. However, it is important for the project should effectively utilize the resources recommended under the detailed implementation plan for achieving the desired outcomes.

- **Work with department and institutions**

Working with the department and institutions at the landscape level is important for the project since they are major stakeholders with capabilities of significantly influencing project objectives including livelihoods improvement and conservation.

- **Convergence with ongoing schemes, programs and initiatives**

The project should look for convergence with ongoing schemes, programs and initiatives as detailed under the implementation plan. The community members are presently not benefitted from majority of the social security schemes due to lack of awareness and limited capacities. The project can help in overcoming these barriers by filling the gaps at institutional and community levels.

- **Revisit the livelihood indicators**

The project should consider revisiting and revising the livelihood indicators mentioned in the project document if possible and set realistic targets to measure the social impact created and for effective monitoring of activities (In this regard, the immediate outcomes for each of the proposed implementation plans and corresponding indicators are identified and included in Annexure 6)

- **Leverage the potential of social media platforms for storytelling**

Storytelling through social media platform can help the project in collaboration with various initiatives, people and platforms. The project should utilize in-house resources in communication, which may lead to positive collaboration and developments.

- **Hire an agency for implementing livelihood strategy and monitoring the activities**

The project can also consider hiring an expert agency to implement the livelihood strategy developed and monitoring and evaluation of field level activities given the present levels of capacities.

Note: Village wise recommendation of activities and outcomes of each of the activities are given in Annexure (See Annexure 1).



DEVELOPING LIVELIHOOD STRATEGY FOR LAHAUL- PANGI LANDSCAPE - SECURE HIMALAYA PROJECT

Volume – 2 (Annexures)

FINAL REPORT

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Abbreviations

Abbreviations	
ATMA	Agricultural Technology Management Agency
CAMPA	Compensatory Afforestation Fund Management and Planning Authority
CCE	Crop Cutting Experiment
CEDAR	Centre for Ecology Development and Research
CFP	Centre for Pastoralism
COO	Chief Operating Officer
CSKHPKV	Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya
DPR	Detailed Project Planning
DRDA	District Rural Development Agency
FES	Foundation for Ecological Security
FPO	Farmer Producers Organization
GEET	GIS Enabled Entitlement Tracking
GEF	Global Environment Facility
GHE	Global Himalayan Expedition
GHNP	Great Himalayan National Park
GIS	Geographic Information System
HAL	Himalayan Institute of Alternatives
ICIMOD	International Centre for Integrated Mountain Development
IEC	Information, Education and Communication
IHR	Indian Himalayan Region
ITDP	Integrated Tribal Development Project
IWT	Illegal Wildlife Trade
KSLCDI	Kailash Sacred Landscape Initiative

KVIC	Khadi and Village Industries Commission
KVK	Krishi Vigyan Kendra
LAHDC	Ladakh Autonomous Hill Development Council
M&E	Monitoring and Evaluation
MAP	Medicinal and Aromatic Plants
MASL	Metres Above Sea Level
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
NABARD	National Bank for Agriculture and Rural Development
NCF	Nature Conservation Foundation
NIFT	National Institute of Fashion Technology
NITI	National Institution for Transforming India
NMPB	National Medicinal Plants Board
RWBCIS	Restructured Weather Based Crop Insurance Scheme
SBI	State Bank of India
TISS	Tata Institute of Social Science
UNDP	United Nations Development Programme
VLE	Village Level Entrepreneur
WASH	Water, Sanitation and Hygiene
WBCIS	Weather Based Crop Insurance Scheme

Annexure 1

Details of potential villages and selection criteria

Sector	Strategy	Panchayat	Villages	Description
Tourism	Promotion of homestay ecosystem	Tingret	Khanjar	<p>The criteria for further selection of villages are,</p> <ol style="list-style-type: none"> Proximity to a beautiful landscape and base camp for treks, walks, flower and bird tourism Currently off road / or on less travelled roads so an ideal destination for nature trekkers Receptive community that has a culture of hosting Community willing to make infrastructural improvements Some basic services are already in place (electricity, water) Rich heritage making for a valuable cultural experience Higher altitude villages and villages with proximity to rural and forested / alpine landscapes Existing basket of Livelihoods under threat hence Tourism a viable and valuable addition Villages at key junctions of nature trails and cultural destinations Institutional Support and existing institutional infrastructure
			Urgos	
		Tindi	Bharmour	
			Kurched	
		Chasak	Chasak Bhatori	
			Chasak	
		Suraal	Suraal Bhatori	
			Tai	
		Karyas	Pre Garaon	
		Dharwas	Chaloli	
	Promotion of conservation-oriented nature tourism activities amongst selected clientele	Tingret	Urgos	
		Tindi	Tindi	
			Salgaraon	
		Sechu	Saichu Nalla	
		Killar	Killar	
		Karyas	Pregaraon	
			Jhalwas	
		Suraal	Suraal Bhatori	
		Dharwas	Chaloli	

				vii. Community members interested in training and becoming nature guides viii. Institutional Support and existing institutional infrastructure
	Low Risk High Impact Adventure Tourism	Tingeret Sechu Dharwas Tindi Suraal Killar	Urgos Saichu Nalla Chaloli Tindi Rusmus Suraal Bhatori Tai Killar	The criteria for selection of base locations is similar as nature tourism and are, i. Proximity to the conservation landscape ii. Livelihood vulnerability iii. Presence of unique geographic diversity iv. Requirement for alternative livelihood to reduce impact on the landscape v. Co terminus with other activities like homestays and nature tourism vi. community willing to invest time vii. Community members interested in training and becoming tour guides viii. Institutional Support and existing institutional infrastructure
Medicinal and Aromatic Plants	Cultivation and value addition of selected Medicinal, Aromatic, Food Herbs and Spices	Tindi Sechu Suraal	Hadsar Chasak Bhatori Suraal Bhatori	For initial developments, only three villages are suggested after reviewing the study of WII. The hired implementation agency required to study the feasibility of MPCDA's suggested by WII and select suitable sites. The criteria that can be followed in the future selection of villages are, i) History of cultivation of MAP's ii) Proximity to Landscape with a history of intensive collection of MAP's iii) Vulnerable communities iv) Altitude of villages v) Proximity to conservation landscape (primarily sub-alpine and alpine landscapes) vi) MPCDA's suggested by WII vii) Dependence on MAP's for livelihoods viii) Farmers willing to attempt cultivation of MAP's ix) Institutional Support and existing institutional infrastructure
	Cultivation and value addition of Seabuckthorn	It is recommended to undertake	-	The criteria for selection of villages/sites for cultivation are,

		landscape level survey and mapping of wild populations before identifying the suitable locations		i) Alpine regions with soil erosion, runoff or degradation ii) Proximity to the natural habitat of selected Seabuckthorn Habitat iii) Possibility of falling under nature tourism circuits
	Promotion and cultivation of Hazelnut cultivation	It is recommended to undertake landscape level survey and mapping of wild populations before identifying the suitable locations		The criteria for selection of villages/sites for cultivation are, i) Proximity to the natural habitat of selected Hazelnut Habitat ii) Possibility of falling under nature tourism circuits
Handicrafts	Revival of wool based handicrafts	Sechu	Chasak	The criteria followed for the selection of villages in the revival of handicrafts are, i) Availability of raw materials and present levels of skills of community members ii) Present level of involvement in handicrafts iii) Possibility of forming clusters of villages iv) Potential of competing with existing livelihood options The recommended villages are for the initial years of development considering the aforementioned criteria. The villages in Lahaul landscape are largely dependent on commercial crops and their present levels of income from agriculture are much higher from the potential income that can be earned through the development of handicrafts. However, we propose to consider Tingeret Panchayat since the level of involvement in handicrafts is higher and the project only need make some incremental improvements with minimal investments. The focus villages should be in Pangi that are located far from Killard town with limited livelihood options during winter and, limited accessibility to markets throughout the year. The villages suggested here are based on field experience visiting each Panchayat and analysis of information gathered. The project and
			Chasak Bhatori	
			Mouji	
			Saichu	
		Dharwas	Chaloli	
		Suraal	Tai	
			Suraal Bhatori	
			Rusmus	
		Purthi	Purthi	
		Karyas	Pegaraon	
			Praghwai	
			Jhalwas	
			Hughal	
			Ghanghit	
		Sach	Gaisal	
			Kuthal	
			Sach	
		Tingret	Urgos	
			Khanjar	

				implementing agency can use the same set of criteria for further selection of villages and community members
Animal Husbandry and Dairying	Exploring the potential of milk products	Sechu	Chasak	<p>The villages suggested are for initial piloting stage based on the following criteria,</p> <ul style="list-style-type: none"> i) Present level of involvement in making milk products like Ghee, Churpi etc. ii) Possibility of formation of small village level groups iii) Present livelihood activities and degree of involvement as a consideration in shifting to another option iv) Actual benefits and risks with present livelihood options vis-à-vis potential benefits with proposed livelihood option <p>The outcome of the proposed strategy will be largely dependent on development of many other activities including the development of tourism. Therefore, it is not recommended to consider villages with limited scope of piloting or villages where existing livelihood options are economically paying well for the community members. The recommended villages are based on the aforementioned criteria, geographical location of villages and community willingness to participate as revealed from field level interactions.</p>
			Chasak Bhatori	
		Dharwas	Chaloli	
		Sach	Sach	
			Gaisal	
			Kuthal	
		Suraal	Rusmus	
			Tai	
			Suraal Bhatori	
		Karyas	Ghanghit	
			Hughal	
			Jhalwas	
			Praghwai	
			Pregaraon	
		Suraal	Rusmus	
			Tai	
			Suraal Bhatori	
	Promotion of backyard poultry	Saichu	Saichu	<p>The backyard poultry scheme is already functional in the project landscape and the Animal Husbandry department already working for the promotion of various schemes and programmes like ATMA. It is recommended for the project to work closely with the department and supports various programmes through initiatives and activities such as communication interventions. The list of villages mentioned here are some of the villages in which various programmes are already being implemented (fish farming in Saichu for instance) and there will be greater community acceptance for similar interventions in these villages compared to villages such as Chasak. The project can consider further selection of villages through following criteria,</p> <ul style="list-style-type: none"> i) Active presence of various schemes under Animal Husbandry department which shows the requirement of incremental improvements ii) Livestock population trend (indicate the degree of involvement) iii) Cultural differences between communities and acceptance levels
		Dharwas	Chaloli	
		Sach	Sach	
			Kuthal	
		Killar	Kupha	
			Parmas	
			Thamos	
			Mahaliat	
		Karyas	Jhalwas	
			Ghanghit	
		Purthi	Purthi	
		Suraal	Tai	

Agriculture and Horticulture	Promoting Weather Based Crop Insurance	Tingret	Khanjar	Promotion of Weather Based Crop Insurance will be applicable to most of the villages in the project landscape. It recommended for the project to focus initially on the villages in which production is higher and losses (especially for horticulture crops and food crops) reported due to seasonal uncertainties.
			Urgos	
		Udaipur	Udaipur	
		Tindi	Kurched	
			Bhujand	
			Bharaaur	
			Lohni	
			Salgaraon	
			Tindi	
		Saichu	Saichu	
		Dharwas	Chaloli	
		Sach	Sach	
			Kuthal	
		Killar	Mahaliat	
			Thamos	
			Kupha	
			Parmas	
		Karyas	Jhalwas	
			Ghangit	
		Purthi	Purthi	
		Suraal	Tai	
	Promoting beekeeping for pollination services and entrepreneurship development	Tingret	Khanjar	The villages are selected based on present levels of involvement of community members in horticulture practices. The interventions in selected villages will help in improving pollination services through low-cost and environment friendly option improves horticulture productivity, ecosystem health and livelihoods of the people. The listed villages are those in which higher horticulture cultivation (apple trees) are observed during field level visits and interactions with stakeholders (the same can be used as a criteria for further selection of villages)
			Urgos	
		Udaipur	Udaipur	
		Tindi	Kurched	
			Bhujand	
			Bharaaur	
			Lohni	
			Salgaraon	
			Tindi	
		Saichu	Saichu	
		Dharwas	Chaloli	

		Sach	Sach	<p>The following criteria is used for the selection of villages</p> <p>i) Villages with lesser crop diversification and productivity (Compared to similar regions like Lahaul)</p> <p>ii) Villages with low water use efficiency</p> <p>iii) Higher dependencies on external markets especially during winters</p>
		Kuthal	Kuthal	
		Killar	Mahaliat	
		Thamos	Thamos	
		Kupha	Kupha	
		Parmas	Parmas	
		Karyas	Jhalwas	
		Ghangit	Ghangit	
		Purthi	Purthi	
		Suraal	Tai	
	Promotion of poly-house farming			
		Tindi	Kurched	
		Bhujand	Bhujand	
		Bharaaur	Bharaaur	
		Lohni	Lohni	
		Salgaraon	Salgaraon	
		Tindi	Tindi	
		Saichu	Saichu	
		Dharwas	Chaloli	
		Sach	Sach	
		Kuthal	Kuthal	
		Kilar	Mahaliat	
		Thamos	Thamos	
		Kupha	Kupha	
		Parmas	Parmas	
		Karyas	Jhalwas	
		Ghangit	Ghangit	
		Purthi	Purthi	
		Suraal	Tai	
	Enhancing irrigation practices	Tingret	Khanjar	

			Urgos	<p>The promotion of precision farming techniques is suggested along with the promotion of Polyhouse farming (hence, the recommended villages are mostly same under both the strategies). Adopting precision farming techniques along with poly-hose farming expected to help farmers to save on monitory inputs. It is also important to consider that assistance of nearly 85 percent given for micro irrigation inside poly-house under schemes such as Dr Y S Parmar Kisan Swarozgar Yojna. The criteria for selection can be summarized as follows,</p> <p>i) Possibility of promotion of poly-house farming along with micro irrigation techniques</p> <p>ii) High input agriculture villages (especially in Lahaul side, for input optimization)</p> <p>iii) Villages in which water use efficiency and productivity is low</p> <p>iv) Villages using traditional irrigation techniques</p>
		Udaipur	Udaipur	
		Tindi	Kurched	
			Bhujand	
			Bharaaur	
			Lohni	
			Salgaraon	
			Tindi	
		Saichu	Saichu	
		Dharwas	Chaloli	
		Sach	Sach	
			Kuthal	
		Killar	Mahaliat	
			Thamos	
			Kupha	
			Parmas	
		Karyas	Jhalwas	
			Ghangit	
		Purthi	Purthi	
		Suraal	Tai	

Strategy	Criteria for beneficiary selection	Number of households/beneficiaries to be selected in the first phase
1. Promotion of nature tourism amongst selected clientele	1. Participation in trainings	First training – As many beneficiaries as are interested
	2. Connection and residency in the landscape – preference to those who spend their entire time in the landscape	Second (set of) Training – Post Shortlisting – Maximum of 30
	3. Preference to those who participate in community discussions / meetings, volunteer and are socially active	Third and extended training – as many as qualify subsequent to the Second set of trainings
		ideally 2 to 3 beneficiaries per programme village
		<i>Note – Women beneficiaries to be given preference even if there are more than one person per family.</i>

	<p>4. Preference to those whose have no other source of livelihood (different from other families (govt. Job, pvt. Sector job, shop etc.)</p> <p>5. While education is to be preferred candidates who are less educated but have other skills should be encouraged</p> <p>6. Preference to those who spend time in the outdoors and / or who are knowledgeable about the landscape</p> <p>7. Women candidates to be encouraged and provide additional support</p> <p>8. Willing to become members of Community Nature Tourism Enterprise and to subscribe to and promote equitable livelihoods, ethical tourism, and landscape conservation. And to contribute (financially) to landscape conservation efforts</p>	<p><i>Note - Option to be kept open for people to join at a later stage</i></p> <p><i>Notes- While prior experiences may be considered the programme should look to invest a group that has a range of experiences</i></p>
2. Promotion of homestay ecosystem	<p>1. Existing homes have scope for addition and expansion (and / or conversion) to dedicated space for homestays</p> <p>2. Beneficiaries must be resident in the landscape year round</p> <p>3. Preference to beneficiaries whose sources of income are same as majority of the landscape households and who have no other “extra” source of livelihood like Government Jobs, Private Jobs, Shops etc</p> <p>4. Preference to those who participate in community discussions / meetings, volunteer and are socially active</p>	<p>First training – As many beneficiaries as are interested</p> <p>Second (set of) Training – Post Shortlisting – Maximum of 2 to 3 families per village</p> <p>Third and extended training – as many as qualify subsequent to the Second set of trainings</p> <p>Ideally 2 to 3 homestays per programme village, in case of potential for homestay tourism and more families opting this number may be increased based on</p> <p><i>Note – Women beneficiaries to be given preference even if there are more than one person per family.</i></p> <p><i>Note - Option to be kept open for people to join at a later stage</i></p>

	<p>5. Preference to Women headed or Women Centric Households</p> <p>6. Preference to families who practice traditional (or modernized) rural livelihoods (including farming, livestock herding, Horticulture) etc.</p> <p>7. Preference to families willing to make investments (with or without support)</p> <p>8. Willing to become members of Community Nature Tourism Enterprise and to subscribe to and promote equitable livelihoods, ethical tourism, and landscape conservation. And to contribute (financially) to landscape conservation efforts</p>	
3. Low Risk High Impact Adventure Tourism	<p>1. Participation in trainings</p> <p>2. Connection and residency in the landscape – preference only to those who spend their entire time in the landscape</p> <p>3. Preference to those who participate in community discussions / meetings, volunteer and are socially active</p> <p>4. Preference to those whose have no other source of livelihood (different from other families (govt. Job, private Sector job, shop etc)</p> <p>5. While education is to be preferred candidates who are less educated but have other skills should be encouraged</p> <p>6. Experience in Sports and Outdoor activities is preferred (but not a pre-requisite)</p> <p>7. Candidates with existing knowledge of the landscape and terrain may be preferred</p>	<p>First training – As many beneficiaries as are interested</p> <p>Second (set of) Training – Post Shortlisting – Maximum of 30</p> <p>Third and extended training – as many as qualify subsequent to the Second set of trainings</p> <p><i>Note – Women beneficiaries to be given preference even if there are more than one person per family.</i></p> <p><i>Note – ideally 2 to 3 beneficiaries per programme village</i></p> <p><i>Note - Option to be kept open for people to join at a later stage</i></p>

	8. Willing to become members of Community Nature Tourism Enterprise and to subscribe to and promote equitable livelihoods, ethical tourism, and landscape conservation. And to contribute (financially) to landscape conservation efforts	
4. Cultivation of MAPs	<p>1. Preference to beneficiary households living in the landscape or close proximity to the natural habitat of selected MAP's</p> <p>2. Availability of suitable land for MAP cultivation (preferably with secure irrigation facilities)</p> <p>3. Preference to primary producers and / or subsistence farmers (contractors and traders to not be given preference)</p> <p>4. Connection and residency in the landscape – preference to those who spend their entire time in the landscape.</p> <p>5. Existing history of cultivating non-traditional crops and / or MAP's</p> <p>6. Preference to beneficiaries whose sources of income are same as majority of the landscape households and who have no other “extra” source of livelihood like Govt Jobs, Pvt Jobs, Shops etc</p> <p>7. Preference to beneficiaries who participate in trainings</p> <p>8. Preference to those who participate in community discussions / meetings, volunteer and are socially active</p> <p>9. Preference to those who will be willing to share information and act as guides and trainers in future</p>	<p>1. First set of training, outreach and to reach as many beneficiaries as possible. From this a shortlist may be made</p> <p>2. Second set of training and infrastructure support to be provided to at least three families per village.</p> <p><i>Note – Selected MAP's include both those chosen for Ex-situ cultivation as well as possible exotic herbs, spices and aromatic plants</i></p> <p><i>Note 2 – for commonly and easily grown MAP's (especially aromatic plants and spice plants) and those not considered endangered these may be widely promoted to as many people as possible</i></p>

	10. Willing to be part of Community based enterprise and to promote equitable livelihoods , and also to contribute actively (and financially) to landscape conservation	
5. Seabuckthorn value chain	<p>1. Preference to beneficiary households living in the landscape or close proximity to the natural habitat of selected Seabuckthorn Habitat</p> <p>2. Availability of suitable land Seabuckthorn cultivation (preferably with secure irrigation facilities)</p> <p>3. Preference to primary producers and / or subsistence farmers (contractors and traders to not be given preference)</p> <p>4. Connection and residency in the landscape – preference to those who spend their entire time in the landscape</p> <p>5. Existing history of cultivation and horticulture</p> <p>6. Preference to beneficiaries whose sources of income are same as majority of the landscape households and who have no other “extra” source of livelihood like government jobs, Private Jobs, Shops etc.</p> <p>7. Preference to beneficiaries who participate in trainings</p> <p>8. Preference to those who participate in community discussions / meetings, volunteer and are socially active</p>	<p>1. First set of training, outreach and to reach as many beneficiaries as possible. From this a shortlist may be made</p> <p>2. Second Set of training and infrastructure support to be provided to at least 5 families per village.</p> <p><i>Note 2 – Seabuckthorn may be widely promoted to as many people as possible</i></p> <p><i>Note – Cultivation of Seabuckthorn should be undertaken in private land and or common land dedicated for this purpose (and under the jurisdiction of a community)</i></p>

	<p>9. Preference to those who will be willing to share information and act as guides and trainers in future</p> <p>10. Willing to be part of Community based enterprise and to promote equitable livelihoods , and also to contribute actively (and financially) to landscape conservation</p>	
6. Hazelnut value chain	<p>1. Preference to beneficiary households living in the landscape or close proximity to the natural habitat of selected Seabuckthorn Habitat</p> <p>2. Availability of suitable land for Hazelnut cultivation (preferably with secure irrigation facilities)</p> <p>3. Preference to primary producers and / or subsistence farmers (contractors and traders to not be given preference)</p> <p>4. Connection and residency in the landscape – preference to those who spend their entire time in the landscape.</p> <p>5. Existing history of cultivation and horticulture</p> <p>6. Preference to beneficiaries whose sources of income are same as majority of the landscape households and who have no other “extra” source of livelihood like Govt Jobs, Pvt Jobs, Shops etc</p> <p>7. Preference to beneficiaries who participate in trainings</p> <p>8. Preference to those who participate in community discussions / meetings, volunteer and are socially active</p>	<p>1. First set of training, outreach and to reach as many beneficiaries as possible. From this a shortlist may be made</p> <p>2. Second set of training and infrastructure support to be provided to at least 5 families per village.</p> <p><i>Note – Hazelnut cultivation may be widely promoted to as many people as possible</i></p> <p><i>Note – Cultivation of Hazelnut should be undertaken in private land and or common land dedicated for this purpose (and under the jurisdiction of a community)</i></p> <p><i>Note – Promotion of collection of Hazelnut from the wild will be detrimental to landscape and species level conservation. Considerable caution needs to be exercised while promoting the hazelnut value chain</i></p>

	<p>9. Preference to those who will be willing to share information and act as guides and trainers in future</p> <p>10. Willing to be part of Community based enterprise and to promote equitable livelihoods , and also to contribute actively (and financially) to landscape conservation</p>	
7. Revival of wool based handicrafts using locally available resources	<p>1. Community members who are skilled in traditional handicrafts and already involved in making handicraft products especially during winters</p> <p>2. Preference to the beneficiaries who are willing to invest time to participate in training</p> <p>3. Preference to the households who are taking part in tourism related activities as a part of the project since handicraft is a complementary strategy for tourism</p> <p>4. Preference to women and female head of the household</p>	Ideally, 3-4 households per village can be selected and maximum of 2 members from each household can be involved for training and main activities
8. Exploring the potential of milk products	<p>1. Community members who are already making milk products like Ghee, Churpi etc. to adequate level of quantities</p> <p>2. Households having no other direct income sources than agriculture and allied activities</p> <p>3. Lower income households in the village</p> <p>4. Preference to members who are already taking part in other project interventions especially in tourism activities</p>	Ideally, 5-6 households from a village can be involved. However, this depends on the development of many other activities like homestays, festivals etc. since these are the large determinants of demand. So for initial piloting the project may only consider lesser number of households and based on the development of other activities more members can be involved for main activities
9. Promoting weather based crop insurance	<p>1. Being Tribal area, the beneficiaries are expected to belongs to Scheduled Tribe</p> <p>2. Candidate should be cultivating crops, which are covered under the WBCIS like Apple, Cauliflower etc.</p> <p>3. Have time to participate in awareness sessions</p> <p>4. Have the financial capacity to pay the premium</p> <p>5. Preference to farmers who have been awarded or associated with Agriculture Department</p>	Primarily a communication intervention and hence the number of farmers to be included depends on contextual factors. However, for operational purposes the project can target farmers growing horticultural crops (especially apple) on the first year and second year the project can add other farmers based on the progress

	6. Educated Farmers 7. Connection and residency in the landscape – preference to those who spend their entire time in the landscape 8. Preference to those who participate in community discussions / meetings, volunteer and are socially active 9. Female Farmers to be encouraged to participate and provide additional support	
10. Promoting Beekeeping for Pollination Services and Entrepreneurship Development	1. Farmers residing near the Apple Orchards who have land to set up boxes 2. Small, Marginal, Micro Farmer 3. Farmers residing on the forest fringes who have land to set up boxes 4. Have time to participate in training. 5. Prefer farmer who participated in Awareness sessions 6. Have the financial capacity to buy the Bee Keeping Equipment 7. Preference to those who participate in community discussions / meetings, volunteer and are socially active 8. Female Members who are part of any Self Help Group (since SHGs can be a strong institutions for marketing) 9. Beneficiaries should not be from Govt. Job and Beneficiary of Other Scheme under SECURE Himalaya so that other families can benefit from this activity 10. Beneficiaries must be resident in the landscape year round so that care of bee can be done 11. Preference to Women headed Households 12. Willing to become members of Community Nature Tourism Enterprise and to subscribe to and promote equitable livelihoods, ethical tourism, and landscape conservation. And to contribute (financially) to landscape conservation efforts	<p>First Year – 30 beneficiaries total and from each of the villages 1-2 beneficiaries</p> <p>Select 10 villages which are near forest fringes, 10 which have apple orchards and 10 other villages</p> <p>Second Year – Select 30 Beneficiaries from different villages than those in year 1 and 1-2 beneficiary from each village</p> <p>Select 10 villages which are near forest fringes, 10 which have apple orchards and 10 other villages</p>

11. Promotion of poly-house farming	<ol style="list-style-type: none"> 1. Should have participated in the Awareness Sessions 2. Candidates should be cultivating crops which are generally grown under poly-houses like tomato, cauliflower, cabbage 3. Farmers who participated in Awareness Session 4. Not be a beneficiary of similar scheme by Govt. Dept. 5. Have the financial capacity to pay his share for installation of Poly-house 6. Holder of Kisan Credit Card 7. Educated Farmers 8. Female Farmers to be encouraged and provide additional support 9. Beneficiaries should not be from Govt. Job and Beneficiary of Other Scheme under SECURE Himalaya so that other families can benefit from this activitys 10. Beneficiaries must be resident in the landscape year round so that care of bee can be done 	Total of 20 beneficiaries from villages and 1-2 beneficiary from each villages (for each year)
12. Enhancing Irrigation Practices	<ol style="list-style-type: none"> 1. Farmers who have participated in Awareness Session 2. Not be a beneficiary of similar scheme by Govt. Dept. 3. Have the financial capacity to pay his share for installation of Irrigation equipment 4. Holder of Kisan Credit Card 5. Educated Farmers 6. Female Farmers to be encouraged and provide additional support 7. Beneficiaries should not be from Govt. Job and Beneficiary of Other Scheme under SECURE Himalaya so that other families can benefit from this activity (apart from poly-house farming) 	Total of 20 beneficiaries from villages and 1-2 beneficiary from each villages (for each year)

	8. Beneficiaries must be resident in the landscape year round so that care of bee can be done	
Promotion of Backyard Poultry as an Alternative Livelihood Option	<ol style="list-style-type: none"> 1. Small, Marginal, Micro Farmer, BPL Families 2. Have time to participate in training 3. Prefer farmer who participated in Awareness session 4. Have the financial capacity to buy the Chicks 5. Preference to Women headed Households 6. Beneficiaries should not be from Govt. Job and Beneficiary of Other Scheme under SECURE Himalaya so that other families can benefit from this activity 7. Beneficiaries must be resident in the landscape year round so that care of poultry can be done 	45 beneficiaries from villages and 1-2 beneficiary from each village (for every in the project implementation period)

1. Tourism Detailed Implementation Plan

a) Policies/schemes in relation to tourism and possibilities of convergence with the project

Policies/Schemes	Policies/Schemes	Possibilities for convergence with the project
	Hunar Se Rozgar	Hunar Se Rozgar scheme, under Ministry of Tourism, is an initiative to create employable skills for youths. Under this programme, The State Tourism Development Co-operations will conduct training programmes for the youths on relevant areas such as food production, housekeeping, food and beverage service etc. The project can encourage youths to take up such trainings prior to becoming nature guides or homestay operators
	Swadesh Darshan	The scheme promotes theme based tourist circuits and promotion of culture, heritage and wildlife is an important component under the scheme. The project should consider working with the government departments for listing the landscape as a special tourism circuit in the promotional activities carried out under the scheme
	Mukhya Mantri Swavlamban Yojana	The scheme started by Himachal Pradesh state government aims to promote self-employment in the state. Under this scheme, 25-30 percent subsidy on actual investments will be given to aspiring entrepreneurs. Tourism development is a priority area under this scheme and hence the possibilities of convergence can be explored
	Mukhya Mantri Yuva Ajeevika Yojana	The scheme under the Department of Rural Development aims to promote youth entrepreneurship in the state by providing them with necessary financial and infrastructure support. Rural tourism is a priority area in the indicative list given by the department and hence the project can look for convergence with the scheme. A subsidy of 25-30 percent will be given to aspiring youth entrepreneurs
	Himachal Pradesh Eco-tourism Development Scheme, 2017	Community capacity building, marketing support and community strengthening are the three major components of the scheme. The scheme is functional in the state and the project can work with the Forest Department to implement the scheme for the project landscape
	Himachal Pradesh Homestay Scheme, 2008	The scheme supports the development of homestays in rural areas of Himachal Pradesh by helping the communities to register their homestays following prescribed standards. The scheme presently not providing any funding support for homestay development but the project can work with State Tourism Department in the establishment and promotion of homestays

Additional Funding Sources	CAMPA Funds	CAMPA funds can be utilized for community capacity building and training
	Soft Bank loans	Small loans can be availed for basic infrastructure development
	NABARD Funding	NABARD has provision for providing funding requirements for organizing nature, crafts and rural livelihood related festivals

Table 1: Schemes/Policies in Relation to tourism and possibilities for convergence with the project

1.1 Development of Homestay Ecosystem

1.1.1 Terms of Reference for hiring implementation agency

Title of the assignment: Inviting **Expression of Interest (Eoi)** from various government agencies, non-profit organizations, trusts, foundations, and rural tourism enterprises who are willing to collaborate with the 'SECURE Himalaya Rural Homestay Tourism program' a livelihood development initiative of Himachal Pradesh Forest Department under UNDP SECURE Himalaya Project supported by GEF

About the SECURE Rural Homestays and Rural Tourism Programme:

Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems (SECURE) is a project undertaken by The Ministry of Environment, Forest and Climate Change (MoEFCC) along with UNDP, and funded by GEF. The project aims to support the Government of India and State Governments to promote sustainable land and forest management in alpine pastures and forests in High range Indian Himalayan Ecosystems that secure sustainable livelihoods and ensure conservation of globally significant biodiversity and threatened species. **Improved and diversified livelihood strategies** and improved capacities of community and government institutions for sustainable natural resource management is a major expected outcome of the project.

Rural Homestays:

Rural homestays are intended to be the fulcrum around which community based Eco-tourism would be based. The focus of this specific program would be to help develop clusters of 3 to 5 homestays in chosen villages. Broadly this would involve helping develop a group of homestays (and the rural homestay ecosystem) that offers services to the discerning guest; incorporates appropriate design and physical attributes that are suited to the culture and the landscape; provide facilities without compromising cleanliness, and finally provide for security of both the guests and the hosting family.

The programme envisages the following sub-themes and the specific roles for agencies

- **Primary orientation and mini workshops to help promote the concept of homestays**
While hospitality and hosting are not a new concept the agency would be expected to disseminate and promote the concept of real rural homestays. This would be done through initial outreach programmes which in turn would help in the process of village and beneficiary selections
- **Identification and Selection of suitable village clusters** – While the SECURE programme has a well-defined landscape and prioritized villages the concerned agency would be required to assess potential and help finalize the village clusters that are suitable for this programme. The criterion could be
 - Effective value for conservation – homestay clusters close to landscape of high conservation value to both take advantage of the bio-diverse and geographically beautiful landscape as well as help plough resources into conservation oriented tourism
 - Promoting new locations – especially those away from road heads and urbanized clusters in order to avoid competition with large tourism players and to generate economic activity in remote locations
- **Identification and Selection of new homestays (and beneficiaries)** – The current policy, in Himachal Pradesh, allows for places with up to four rooms to be categorized as

homestays. However, such homestays are possible to be created and run by those already well endowed. This programme seeks to promote one and two room homestays enabling people will less resource to benefit and at the same time incorporating new additions without drastic changes in the existing home structures which are often both beautiful and appropriate to the landscape.

- **Training and Capacity Building**

- To help upgrade skills in guest management, basic record keeping, safety protocols (food / allergies) Space management
- Help upgrade skills in distance communication, and promotion / display of homestays via social media. Including email, social media tools, normal phone calls and text messaging
- Organize exposure visits to other successful homestay enterprises
- Organize in location training and visits by sectoral experts
- Developing homestays that offer a variety of budget ranges & facilities without compromising cleanliness or guest security

- **Supporting and helping with Infrastructure Investments as well as working assets**

- At present, very few homes have specific places suitable for hosting guests, while only some homes have access to external restrooms. The programme-implementing agency would need to work with the chosen families to develop and / or retrofit homes to make them suitable for hosting guests. Under ideal circumstances, attached washrooms would be a critically important feature for these homestays.
 - Further, if feasible, financial support for homestay development may be leveraged through schemes available for such household level enterprise
- At the functional level, without changing the character of the home homestays, the amenities and services will need to be on par with those provided by the hospitality sector. Some of these would include helping access standardized clean linen, basic furnishings and accessories for rooms and washrooms (Kettles, glasses and other such related material, soap). The implementing agency would be required to standardize this list across the region and establish
- Some of the facilities developed in the homestays would also enable their categorization under the State and Central Homestay registration practices

- **Registration of homestays**

- There exist standardized forms and formalities for the registration of homestays through the Himachal Pradesh Eco-tourism Wing. The programme-implementing agency would need to work with the State Tourism Board, Forest Department and the community to support and accelerate the process of registrations.
- Such registrations make the homestays visible online through Government Websites and will also help profile the region

- **Supporting formation of Cluster and regional level Institutions**

- The few successful community homestay enterprises are founded on the basic principle of community together and community first. In the gig economy method of working the service provider is left vulnerable to both market influences and the whims of the broad clientele. In order to secure the enterprise it would be essential to have a strong community of homestay owners who plan and act together – offering services as a group as well as being able to host larger groups and events.
- It is suggested that the entire landscape be under one homestay enterprise federations with individual village clusters forming their own cluster level unions
- At present, within the landscape, there exist no such institutions. Thus the implementing agency would be required to support the ground up creation and building of the appropriate cluster and landscape level institutions
- **Helping Develop Homestay Guidelines for both hosts and guests**
 - In order to promote a respectful relationship between the hosts and the guests and in order to make the experience an enriching one the programme agency would need to work towards developing locally acceptable hosting norms applicable to the SECURE programme homestays.
 - Concurrently clear expectations need to be laid out for the guests as well as to what are the cultural norms to be followed along with clearly laid out homestay norms. - which could include aspects like
 - Protection from bargaining for services and rates (fixed rates and fixed services)
 - Not everything is for sale (Souvenirs may be sought from specific locations)
 - Waste disposal and carry in carry out policies.
 - Guidelines that prevent the sourcing and demand for intoxicants and other dangerous or illegal substances
 - **Pricing Guidelines** – The implementing agency is expected to help homestays develop a standardized and appropriate price range matched with services and facilities but importantly one that does not undervalue home based workers and their contribution to the Homestay Enterprise.
- **Resource Conservation and Waste Management**
 - Tourism in general is a resource intense activity. Water, fuel, space, and a steady turnover of consumer goods are the norm. The programme implementing agency would be expected to help chart a sustainable resource use plan and help the homestays navigate the complex consumerist culture and offset it by localizing and promoting local goods and services
 - **Localization of goods** – Homestays activity apart from being the fulcrum for nature and rural tourism also positively affects the local economy by acting as economic multipliers. Local and traditional food supplies, souvenirs, engaged work force, guides, transportation services, increased purchases in local grocery and good stores by both hosts and guests are some of the knock on effects. However further leverages may be engineered through specific localizations that both use local resources in new ways and could also end up being items and good available to the guests. AN example

could be local soap making, wool crafts used in decoration and display in homes, locally fabricated household goods.

- **Waste Management** – From intense and regular resource use and from daily human action waste will continually be generated in larger quantities. Improper management of waste of any type will lead to a deterioration in both a health environment and a clean landscape. There it is critical that the first step in planning homestays should be the plan for management of waste and arranging for recycling, reuse and appropriate and safe disposal.
- **Helping develop promotional material and communication linkages**
 - The Pangri and Lahaul landscape are blessed with an extraordinarily beautiful landscape and a warm and welcoming society. The programme implementing agency would be required to help make the connect between potential clientele and the homestays. The following specific actions would be undertaken
 - Homestay and facilities brochure with map for the area and contact details
 - Supporting the development of a Pangri level website in conjunction with other SECURE livelihood activities
 - Promotion of the homestays locally and in appropriate locations through posters and other display
 - Help link with Rural Tourism initiatives that exist through the many tourism service aggregators
 - **Homestay Activity Module and Calendar of Events** - The tourism season, especially in Pangri, is a short one – a few months in late spring and summer (Mid May to Mid-July) and then in autumn (Mid-September to early November). Therefore, in order to maximize the available season the implementing agency would need to help develop a homestay activity calendar – this would need to be in consonance with the larger Pangri landscape level Tourism activity calendar.
- **Homestay Module**
 - It is expected that the process of setting up the SECURE Himalayan Rural Homestay Programme will be over a period of 3 to 4 years. During which time both the nascent homestays owners and the implementing agencies will find occasion to develop new methods, protocols and adapt existing ones. The implementing agency will be expected to main concurrent documentation and produce a Rural Homestay Module both for future trainings as well as for short term and long term monitoring.
- **Conservation Action**
 - Along with the primary objective of securing and improving livelihoods is the complimentary objective of conservation. The implementing agency is expected to support and promote the framing of a concrete conservation action plan. One that involves active contribution of resources and time towards specific conservation and protection activities.

Expression of Interest from potential partners: In order to launch the Rural Homestay Tourism Program in the project landscape, the Forest Department recognizes the need to collaborate with various government agencies, non-profit organizations, trusts and foundations and rural tourism enterprises. The identified areas for possible collaborations are,

- i) Support the development of rural homestays and help with identification, selection, infrastructure improvement and skill building
- ii) Support the program through appropriate training, development of locally appropriate protocols that follow the broad and acceptable guidelines of the hospitality industry
- iii) Support collaborations between similar rural homestay enterprises and encourage cross communication of ideas and
- iv) Help in the plan for leveraging accessible and available financial services through schemes and appropriate loans
- v) Develop and support collaborations across rural and nature tourism enterprises. Homestays being one part of the rural / nature tourism setup
- vi) Promote conservative use of resources and support concrete conservation and protection action

Himachal Pradesh Forest Department invites all the potential partners to express their interest in collaborating with the Rural Homestay Tourism Program for the development of sustainable livelihoods in the Lahaul-Pangi landscape of Himachal Pradesh. The potential partners can show their interest by filling and submitting EoI form attached herein. The initial stages involved in the partnering process are,

- a) Potential partner submitting EoI form
- b) Identifying possible areas of partnerships in mutual consensus
- c) Agreeing to the Rural Homestay Tourism Program terms and conditions and
- d) Signing letter of intent with the department

General terms and conditions for various agencies:

1. Organizations with entrepreneurship/livelihood development support initiatives and experience in Rural Homestay Tourism

Expected Roles and responsibilities:

- Create an homestay ecosystem in the SECURE landscape
- Help leverage financial resources for homestay development and activiyu
- Provide necessary support in scaling up interventions
- Development of an homestay programme training and documentation module

Expected benefits for partner organizations:

- Chance to design and implement a unique and impactful livelihood development initiative in the state
- Taking actions towards achieving Sustainable Development Goals (SDGs)
- Goodwill from implementing work in the remote rural communities of Himachal Pradesh
- Diversified regional portfolio

2. Government agencies through their ongoing schemes/programs

Expected roles and responsibilities: Government agencies/departments with ongoing schemes/programs (Chief Minister Startup Scheme, Mukhya Mantri Swavlamban Yojana, Mukhya Matri Yuva Aajevika Yojana, Himachal Pradesh Tourism Development board) are expected to,

- Support the Rural Homestay Tourism Program through grants under the various provisions of existing schemes
- Support in the registration of homestays and their promotion through Government / Autonomous
- Provide financial support to meet operational requirements in convergence with ongoing schemes
- Provide support in the development of landscape and household level infrastructure
- Provide necessary training, and skill upgradation and facilities
-

Expected benefits for partner organizations:

- Channel for effectively implementing ongoing schemes and programs
- Chance to design and implement a unique and impactful livelihood development initiative in the state
- Linking up with existing Rural Tourism enterprises
- Potential chance to partner with other state government initiative and other project partners

Name of potential partner	
Legal status	
Possible areas of partnership with the initiative	
Expected outputs with partnership	
Expectations through partnership	
Commitment period	
Probable month of signing Letter of Intent with State Government	
Contact information	
Remarks	

Note: Some of the potential partners for the project are listed below. Potential areas of partnership and contact details for sending above request for EoI are given in Annexure,

1. Himalayan Ark Homestays, Uttarakhand
2. Himal Prakriti – A trust for Nature, Uttarakhand

3. Ecosphere Spiti
4. Equations, Bengaluru
5. Homestay Enterprises in and around GHNP Kullu

1.1.2 Recommend agencies and resources for the development of homestay ecosystem in the project landscape

Agency	Expertise/Resources	Contact Information
Himalayan Ark Homestays, Uttarakhand	Himalayan Ark is a community-based rural tourism enterprise located in Munsiri, Kumaon Himalay, Uttarakhand and is committed to enabling responsible tourism in the mountain states of India	himalayan.ark@gmail.com, +91 9411194041
Shivya Nath - Travel Blogger - The Shooting Star	Independent Woman Traveller - called a storyteller, writer, digital nomad, instagrammer, social entrepreneur, solo traveller, vegan and environmentalist. Has the ability to mobilize and connect with the tourist profile being recommended as a target audience for the region	shivyanath@gmail.com +91 85271 41626 https://the-shooting-star.com/
Malika Viridi - Himalayan Ark and Jury Member - Indian Responsible Tourism Awards	Malika Viridi is a Jury member for the Indian Responsible Tourism Awards since 2017 set up by the Outlook Responsible Tourism Initiative. She coordinates one of the oldest Community Run Homestays Enterprises	Malika Viridi - malika.viridi@gmail.com +91 9411194041
Centre For Learning (School)	Every Year they have student groups who visit different places across India. They could be invited to send one of the student groups to visit the landscape	2, Good Earth Enclave Uttarhalli Road, Kengeri Bangalore 560060 India CAMPUS info@cfl.in +91-(0)96320 52142

Table 2: Recommended agencies and resources for the development of homestay ecosystem

1.1.3 Timeline for implementation

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Identifying and Selecting Agencies												
Landscape Survey & Detailed Implementation Plan												
Development of Homestays												

First Homestay Events (Basic Homestays)												
Training in Homestay Protocols												
Exposure Visits to other locations												
Revisions in Detailed Implementation Plans												
Helping Homestays with applications and plans for availing loans and subsidies through various Government Schemes												
Publicity and Promotion of Homestays and Events												
Setting in place – Booking, Payments and record keeping systems												
First Season of Homestays (Organized around events)												
Further Developments												

Table 3: Timeline for implementation – developing homestay ecosystem in the project landscape

1.1.4 Expected outcomes

Outcomes	
Social Outcomes	<ul style="list-style-type: none"> Creation of a common forum for homestay owners/operators to work together Primacy to Women - as head of homestay households Emphasis and reiteration on the values of the culture and bio-diversity of the landscape Alternative to mass tourism Increased tourism traffic would attract both regulation and eyes in the forests
Economic Outcomes	<ul style="list-style-type: none"> Increase in direct incomes homestay families Service Providers – Nature Guides, Muleteers, Vehicle owners and other suppliers are directly benefited by increase on tourist footfalls in the vicinity of homestays Link to ancillary activities - New and Traditional goods and services – Crafts, local foods and new valued added products will find a ready market Reduced extractive stress on the physical landscape as families would be gainfully engaged in Homestay Activities Conservation value of the landscape and its specific elements - "nature" is highlighted

Table 4: Expected outcomes - developing homestay ecosystem in the project landscape

Expected incremental income from the promotion of Homestays

Year 1			Year 2			Year 3		
Days of occupancy	Price (in Rupees)	Total (Approximate)	Days of occupancy	Price (in Rupees)	Total (Approximate)	Days of occupancy	Price (in Rupees)	Total (Approximate)
20-40	800-1000	16000-40000	30-60	1000-1200	30,000 – 72,000	100	1500	1,50,000

1.2 Promotion of conservation oriented nature tourism amongst selected clientele

1.2.1 Terms of Reference (ToR) for hiring implementation agency

Title of the assignment: Engaging an expert implementation agency for the **Promotion of conservation oriented nature tourism activities amongst selected clientele** in Lahaul-Pangi landscape under UNDP SECURE Himalaya project

About the assignment: Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems (SECURE) is a project undertaken by The Ministry of Environment, Forest and Climate Change (MoEFCC) along with UNDP, and funded by GEF. The project aims to support the Government of India and State Governments to promote sustainable land and forest management in alpine pastures and forests in High range Indian Himalayan Ecosystems that secure sustainable livelihoods and ensure conservation of globally significant biodiversity and threatened species. **Improved and diversified livelihood strategies** and improved capacities of community and government institutions for sustainable natural resource management is a major expected outcome of the project. **Promotion of conservation oriented nature tourism activities amongst selected clientele** is one of the major livelihood component under the state-level livelihood strategy developed for Lahaul-Pangi landscape in Himachal Pradesh.

Nature Tourism is the beating heart of the SECURE landscape conservation and livelihoods initiative. A series of activities that heighten awareness of nature and the environment and re-iterate the values of the landscape and the bio-diversity among the local community and a global audience, and through Nature-based tourism seeks to enhance livelihoods and achieve conservation goals. The activities proposed are low investment (in terms of capital resources), high impact in accelerating revenue through tourism.

The programme envisages working with local communities to upgrade nature-guiding skills, identify nature trails, producing natural history documentation and local guidebooks / pamphlets and eventually hosting an annual series of nature-based events.

These events are conceived to be linked to the homestay programme with nature guides being drawn from the same communities where homestays are being run.

Currently a fair number of individuals from the local communities explore the landscape for medicinal plants collection, as non-technical support crew for treks (porters, cooks etc) and as grazers. Their exposure to the landscape, knowledge of a variety of flora & fauna and their traditional outdoors skills makes them ideally suited to be trained as nature guides.

One of the important advantages of this set of activities are that they can be begun with minimal initial investments. There are a large constituency of nature lovers, school and college groups who would be ready to participate in well-guided nature watching events and trips. Nature festivals would draw multiple constituencies of people together, boost the profile of the landscape and highlight the various livelihood and conservation measures that are both underway and those that are required to be undertaken. The goodwill and the positive feedback

from such organized events would create the environment required to strengthen the values on which tourism should be undertaken.

Objectives of the Assignment:

The primary objectives of the programme “Promotion of conservation oriented nature tourism activities amongst selected clientele” are

1. Framing and Establishing a programme for training, education and livelihood generation based around the core nature tourism activities of Nature
2. Helping in the long-listing and short listing of village clusters and individual beneficiaries
3. Organizing and conducting relevant training programmes –primarily within the landscape and creating training modules for further local replication
4. Helping establish nature trails and nature circuits and developing and creating education, information and promotional literature
5. Using current and applicable citizen science and education tools to engage the local community as well as the wider nature science, nature tourism community
6. Documenting the natural history and related folklore in close participation with the community and helping identify and establish iconic species
7. Organizing cluster level nature tourism events and being one of the key organizers for the marquee landscape level Nature and Culture Festival
8. Helping create an events calendar
9. Supporting the creation of a landscape level Nature Tourism Entity to have an umbrella organization for Nature tourism service providers
10. Support the drafting of and help in establishing the implementation of Ethical Nature Tourism principles or both the service providers and the clients

Scope of the work:

i. Onsite Nature Trail Surveys and Establishing and Promoting Nature Tourism Circuits and Trails

Good and accurate documentation of the nature trails and nature circuits would be essential in promoting Nature Tourism. The implementing agency would be required to use current and accessible tools and conduct trail surveys that may constitute part of various training protocols. Outputs may be in the form of Checklists incorporating seasonality, photo pamphlets, Citizen Science documentation (ebirds, bird count India, ifoundbutterflies are some examples)

The Nature trails surveys must capture seasonal variations and provide inputs into feasible nature tourism activities across the year.

Through informative pamphlets, posters, social media tools and through various government programmes and information dissemination the programme is expected to highlight the high biodiversity and natural heritage values in conjunction with pro conservation based livelihoods.

ii. Initial Nature Guide Selection, Training and Workshops and Advanced Trainings

Of the few keystones for a successful Nature Tourism initiative, the first and most significant are the people. Innately strong, in tune with the landscape and seasons and aware of their natural

surrounding the community is already in a good position to take the next and critical step of becoming actively engaged Nature Guides.

The programme-implementing agency would need to work closely with communities initially to promote nature tourism activities and then to identify people suitable for long-term training under specific nature and outdoor guide training programmes.

Along with this, the implementing agency will be required to develop landscape specific training programmes the curriculum for which should incorporate developing professional skills, active nature observation engagements and inputs in the serious and scientific method to document nature observations. The use of available citizen science tools may be promoted through these workshops.

Professionals from specific sectors – like butterflies, mammals, nature soundscapes, and flowering plants may be recruited to conduct skill upgradation sessions and such groups or individuals may also be recruited to design short and long-term training programmes.

Finally, the training programme should include outreach programmes with local educational institutions and at small community events – allowing the new guides to show case their skills and promote nature conservation and nature tourism.

Over the programme period of 2 to 3 years the implementing agency may seek to upgrade the skills of the Nature Guides by helping arrange for higher skill level training either on site or in other appropriate locations.

One example would be to seek the support of Cornell University's Bird Sound Recording and Analysis workshops conducted for advanced Birding enthusiasts and guides. Other similar advanced skill programme may be identified and supported for implementation.

Combined with other low risk high impact adventure tourism activities it may be possible for Nature Guides to also upgrade skills as Trip Leaders or in essential Wilderness Emergency response. Such skill sets are more than just tourism multipliers and have a positive impact in regular and daily community actions as well.

iii. Mini Festivals – Focus on Community Participation and Events

One of the lacunae in the slow uptake of tourism in the region is a dearth of positive information and a lack of appreciation for the cultural and nature values of the landscape. The implementing agency would be required to address this through a series of small events that broad-based Nature Tourism and highlight the positive values that exists in the landscape. It would also be an occasion for the SECURE Himalaya Programme beneficiaries to show case their skills and create active and positive engagements with the larger communities. These events are expected to lead up to the marquee landscape level Nature Tourism Nature Festival.

iv. First Marquee Landscape Nature Festival

The Pangi landscape suffers from bad press arising from a lack of awareness and paucity of accurate information at the national and global level. The programme implementing agency would be expected to collaborate with other SECURE Himalaya Partners and co-organize large and unique events bringing together the local community and the new nature tourism service providers, various Government Agencies, nature loving tourists and amateur and professional nature observers, scientists, and students.

The festival could be designed to have a series of nature trail events (bird walks, tree walks, nature treks), outdoor activities, visits by schools, talks by experts, short duration training programmes and the publication and release of nature related literature and information (Bird Checklists, Posters on flora and fauna etc).

The culminating events would be centered on a fair bringing together cultural activities, local craftspeople, nature tourism and homestay service providers, SECURE Himalaya partners, and

concerned Government agencies. The fair is expected to focus on an accessible by non-typical location that is planned and is being promoted as a hub for Nature tourism. Sechu Nallah (with a large school ground and proximity to a variety of tourists trails and activities is one example.

v. Identifying and Selecting Iconic Species – That represent the cultural and natural heritage of the area

The Lahual and Pangi landscape were chosen for the presence of one of the most enigmatic, elusive and iconic Himalayan beings – the Snow Leopard. However, its elusiveness while providing mystery and indications of high altitude drama will both hard to see and requiring of serious physical endeavors.

However, the landscape already also has a variety of flora and fauna unique but not necessarily out of reach.

The programme implementing agency would be expected to work with the community to identify such iconic species and design nature events and trails that promote these species and their conservation.

While some species may remain static, the programme should plan for seasonal and temporal changes in the chosen set of species across as many of the visible and accessible living groups as feasible.

One example is the Kashmir Nutcracker (Large-spotted Nutcracker) *Nucifraga multipunctata*. Globally on the citizen sciences portal of ebird (there are only 81 observations of which 78 are from India and only 8 observations from Himachal Pradesh. This species has a limited global presence but is very easily seen in the Pangi Landscape – which is also home to the famous Chilgoza Pine (*Pinus gerardiana*). The Chilgoza pine and the Kashmir Nutcracker have an intense ecological link and are just one of the many stories waiting to be explored in the landscape.

vi. Exposure Visits of Guides other locations and events

The programme-implementing agency would primarily focus on trainings within the landscape.

Marcel Proust, a French novelist in the early 19th century had this to say, “The real voyage of discovery consists not in seeking new landscapes, but in having new eyes.”

So while the specific SECURE Himalaya programme makes ready to host travelers it is essential that the hosts -i.e. the service providers – the guides experience new landscapes and other methods of work. Ideas and experiences from similar habitats but difference landscapes or from altogether different regions will help the landscape community grow in both thought and action.

vii. Preparation of Local Plant, Bird, Butterfly and other Natural History Guides & Documenting Natural History Folklore

A culmination output of the trail surveys and the nature guide training programmes and the visits by professional nature educators is expected in the form of various Natural History Guides.

Along with Natural History, the programme also seeks to document the rich cultural heritage of folklore related to the natural landscapes. Such records could be through documenting names of different flora and fauna, stories, artwork, songs and music. These cultural elements would find space alongside the publications on Natural History.

The ideal form could be field handouts, photo guides, multi fold pamphlets, and posters. Such outputs should be designed to inform and educate and must at the ideally be bi-lingual – suitable for the local community as well and incoming nature tourists.

The outputs are also expected to be part of the SECURE Himalaya landscape branding exercise.

Finally, the programme-implementing agency would need to support the community in putting in

place processes and procedures that will allow the required regular updates to the documentation.

viii. Nature Tourism Calendar and Publicity and Promotion of Nature Tourism and Festival

If one of the keystones is a foundation of skilled resource people the next key is an active and exciting publicity and promotion programme. One that reaches and engages the focused clientele – the discerning nature traveler, the people who are seeking and willing to engage with communities and the exciting but remote landscape.

Material drawn from the trail documentations and active social media presence highlighting cultural and natural heritage values combined with a steady mix of planned events through an established nature calendar would go a long way in promoting the right kind of tourism in the landscape.

Specific outputs could be,

- a) Annual calendar of fixed programme events – focusing also on the local and marquee nature festivals
- b) Seasonality calendar highlighting the best time and place to visit to observe natural phenomenon
- c) Social media presence through community run social media accounts

ix. Institutional Set up and Setting in place – Booking, Payments and record keeping systems

The binding agent for a successful Nature Tourism programme will be a healthy, transparent and active union of Nature Tourism enterprises. This could be either an umbrella organization for independent operators or a federation comprising cohesive cluster level functional units.

The programme-implementing agency would need to work with the community and the larger SECURE Himalayan institutional partners to help create and establish such institutions. In addition, help the institution and its members with the processes of good record keeping, basic accounts and finance management and being able to handle commercial scale finances.

One component of this sub-activity would also be supporting and helping nature guides are registered as per existing norms.

x. First season of Nature Tourism / Nature Guiding Events

Through the various training programmes and workshops, nature trail surveys, mini festivals and visits by professionals it is expected that Nature Tourism will start to be established. Promotion by word of mouth from the skilled visitors would be one of the important outputs.

The culmination of this would be for the Implementing agency to support, arrange and help organize groups of nature tourists to the landscape. One significant group of such visitors could be researchers, student groups and other scholars

ii. Training modules and documentation

Concurrent to the various activities the implementing agency is expected to have adequate documentation of the processes undertaken and help prepare training modules for the various components. Such documentation and modules are in order to help with long term monitoring and allow for self-replication.

iii. Helping Develop Nature Tourism Guidelines for both hosts and guests

In order to promote a respectful relationship between the hosts and the guests and in order to make the experience an enriching one the programme agency would need to work towards developing locally acceptable Nature Tourism Norm, initially applicable to the SECURE programme beneficiaries with the long-term goal of being subscribed to by the larger tourism community.

Concurrently clear expectations need to be laid out for the guests as well as to what are the nature tourism principles - which could include aspects like

- Nature First - Anything harming or detracting from nature is to be avoided
- Protection from bargaining for services and rates (fixed rates and fixed services)
- Not everything is for sale (Souvenirs may be sought from specific locations)
- Waste disposal and carry in carry out policies
- Guidelines that prevent the sourcing and demand for intoxicants and other dangerous or illegal substances
- Pricing Guidelines – The implementing agency is expected to help develop a standardized and appropriate price range matched with services and facilities but importantly one that does not undervalue either Nature Tourism or the skilled Service Providers

iv. Conservation action

Apart from betterment of the community through a diversified and hopefully secure livelihood, the principle goal is to conserve the valuable, fast degrading fragile landscape. The implementing agency would be required to help develop concrete conservation action plans. This could be (but not restricted too)

- Creation of a conservation fund drawn from donations, and from contributions from people benefitting from Nature Tourism
- Conservation action for specific vulnerable species and helping protect and re-wild degraded landscapes
- Engaging actively to protect from harmful action
- Working with appropriate agencies to identify and plan for conservation action – example BMC's FPC's
- Instituting and promoting conservation action guidelines

Expected deliverables

1. Trained Pool of Nature Guides
2. Identification, Listing and documentation of Nature Trails and Circuits
3. Events and Festival Calendar accompanied by Nature Guides, Posters and Information
4. Institutional Framework – Support creation and strengthening
5. Organization of Events and Festival
6. Training and Workshops
7. Training modules and concurrent programme implementation documentation
8. Iconic Species – identification, selection, conservation and outreach

9. Nature information guides, pamphlets, posters
10. Positive and consistent engagement in Citizens science
11. Helping Draft ethical nature tourism guidelines – for both service providers and Clients
12. Conservation action
13. Supporting in the process of registering nature Guides, as per existing norms and practices

Thematic Nature Trails/Circuits

1. Bird Trails
2. Flower and Tree Trails
3. High Altitude Ecology Trails
4. Mammal Trails
5. Chilgoza and Thangi Nature Trails
6. Livestock Nature Trails (Yaks)

Geographic Trails / Circuits

1. Chasak Bhatori Nature Trails
2. Sural Bhatori Nature Trail
3. Riverside Nature Trail

1.2.2 Recommended agencies and resources for the promotion of conservation oriented nature tourism amongst selected clientele

Agency	Expertise / Resource	Contact
Himal Prakriti	Himal Prakriti is Trust for nature and works on environmental issues in the Himalaya through education, research, advocacy and capacity building.	himal.prakriti@gmail.com +91 9917789950
Kalpavriksh, Pune	Experts in community based conservation and tourism	Ashish Kothari, Seema Bhatt and Sujatha Padhmanabhan Kalpavriksh 5, Shree Datta Krupa 908, Deccan Gymkhana, Pune, Maharashtra 411004
Ebird India	One of India's largest citizen science programmes. Help with inputs on bird science education. Coordination for Birding Events	Dr Suhel Quader - +91 94801 84064 suhelq@ncf-india.org
Early Birds India	Works on bird education, interpretation, and production of Natural History for Birds Garima Bhatia is also one of India's leading birders and bird photographers	Garima Bhatia garima@ncf-india.org +91 97310 00778
Himalayan Ark	One of the Organizers of the Annual HimalKalasutra – Nature, Culture and Adventure Festival hosted by a mountain community in Uttarakhand	Malika Viridi - malika.virdi@gmail.com +91 9411194041 http://www.himalkalasutra.com/
Nature Science Initiative (NSI)	NSI works to strengthen and facilitate long-term research and biodiversity conservation programs. Including Nature Education, Nature Guide Trainings and production of Natural History Material	Nature Science Initiative 36 Curzon Road Dehradun 248001 Uttarakhand INDIA Tel: +91 135 2651654 http://naturescienceinitiative.org
Seasonwatch	Education and science of trees and Plants, production of Natural History guides for trees	Dr Geetha Ramaswami, Project Head - SeasonWatch Nature Conservation Foundation #361, "Hari Hara", 5th main, Canara Bank Layout, Bangalore 560097, Karnataka, India. Email: sw@seasonwatch.in Whatsapp: +91 7349567602
Ramit Singal	One of India's leading Birders and part of the Ebird India Governing Council	ramitsingal@gmail.com
Nature Conservation Foundation and	NCF combines research, community involvement, conservation education, and policy-level dimensions to help	Dr Yashveer Bhatnagar yash@ncf-india.org +91 94482 75123

Shen Project (Spiti)	conserve the snow leopard – as well as the diversity of life & landscapes	https://www.ncf-india.org/high-altitudes
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Table 5: Recommended resources and agencies for the promotion of nature tourism

1.2.3 Timeline for implementation

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Identifying and Selecting Agencies												
Preliminary Nature Guide Training & Nature Tourism Calendar												
Onsite Nature Trail Surveys												
Initial Nature Guide Selection, Training and Workshops												
Mini Festivals – Focus on Community Participation and Events												
Identifying and Selecting Iconic Species – That represent the cultural and natural heritage of the area												
Exposure Visits of Guides other locations and events												
Revisions in Detailed Implementation Plans												
Preparation of Local Plant, Bird, Butterfly and other Natural History Guides												
Establishing and Promoting Nature Tourism Circuits and Trails												
Second / Advance Nature Guide Training – Multiple Small Groups												
Documenting Natural History Folklore												
Publicity and Promotion of Nature Tourism and Festival												
First Marquee Landscape Nature Festival												
Setting in place – Booking, Payments and record keeping systems												

First Season of Nature Tourism / Nature Guiding Events												
Further Developments												

Table 6: Timeline for implementation – Promotion of nature tourism activities

1.2.4 Expected outcomes

Outcomes	
Social Outcomes	<ul style="list-style-type: none"> ▪ Creation of a pool of trained and registered Nature Guide ▪ Nature Tourism circuits are identified, documented and promoted ▪ Emphasis and reiteration on the values of the culture and bio-diversity of the landscape ▪ Alternative to mass tourism ▪ Increased footfalls of Nature Tourists would attract both regulation and eyes in the forests / alpine landscapes ▪ Nature festival becomes part of the local cultural landscape ▪ Greater awareness and education of bio-diversity heritage ▪ Identification and promotion of iconic species for the landscape
Economic Outcomes	<ul style="list-style-type: none"> ▪ Increase in direct incomes through Nature Watching Activities ▪ Service Providers – Nature Guides, Homestays, Muleteers, Vehicle owners and other suppliers are directly benefited by increase on tourist footfalls through Nature Tourism based events ▪ Link to ancillary activities - New and Traditional goods and services – Crafts, local foods and new valued added products will find a ready market ▪ Reduced extractive stress on the physical landscape as families would be gainfully engaged in Nature Watching and Homestay Activities ▪ Conservation value of the landscape and its specific elements - "nature" is highlighted

Table 7: Expected outcomes – Promotion of nature tourism activities

1.3 Low Risk High Impact Adventure Tourism

1.3.1 Terms of Reference (ToR) for hiring implementation agency

Title of the assignment: Engaging an expert implementation agency for the Promotion of Low Risk High Impact Adventure Tourism in Lahaul-Pangi landscape under UNDP SECURE Himalaya project

About the assignment: Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems (SECURE) is a project undertaken by The Ministry of Environment, Forest and Climate Change (MoEFCC) along with UNDP, and funded by GEF. The project aims to support the Government of India and State Governments to promote sustainable land and forest management in alpine pastures and forests in High range Indian Himalayan Ecosystems that secure sustainable livelihoods and ensure conservation of globally significant biodiversity and threatened species. **Improved and diversified livelihood strategies** and improved capacities of community and government institutions for sustainable natural resource management is a major expected outcome of the project. Promotion of **Low Risk High Impact Adventure Tourism** is one of the major livelihood component under the state-level livelihood strategy developed for Lahaul-Pangi landscape in Himachal Pradesh.

The Pangi – Lahaul Landscape is ideally suited for a variety of adventure activities – ranging from the serious and extreme sport of mountain climbing and skiing to safer and less extreme activities like trekking and camping.

Many of the popular activities, apart from being high-risk activities also require significant infrastructure and a large pool of highly skilled support crew, the former making it an unviable proposition in a depressed economy and resulting in the local community always being at the lowest run off service providers. Added to this is that while such activities are based in the outdoors their infrastructure requirements and impact on fragile landscapes is not always conducive to conservation.

The chosen activities are low investment, low on infrastructure requirements, have a quick turnaround time from design and training to actual implementation, and are uniquely positioned to take advantage of the conducive landscape and environment.

The programme proposes to introduce the sports of Marathons, Trail and Sky Running, Ultimate Frisbee to the landscape.

The temperate to cool climates, the beautiful and accessible altitudinal zones and the innate physical prowess of the community make these an ideal activity to show case the landscape.

Along with this Yoga is sought to be promoted – to tie in essentially with the running activities and to promote positive health among the hard working people of the landscape.

Objectives of the assignment:

The primary objectives of the programme “Promotion of **Low Risk High Impact Adventure Tourism** are

1. To develop and promote outdoor and adventure activities that are relatively low cost and require low infrastructure, are accessible to a wide audience, implementable within a 3 year period
2. To promote sport and work in the long listing and short listing of suitable candidates for various programme activities and training as adventure sport guides
3. To organize landscape based trainings and to help organize advanced trainings in and outside the landscape

4. Organize a series of events to promote these sports to be culminated in an series of annual marquee events
5. Document trails, landscape and events and design and produce information guides and promotional material and specifically work on an events calendar
6. To support the creation of an enterprise based around adventure activities and support and help in the formation of a federation of Adventure activity service providers across the landscape
7. Creating avenues for Conservation action and Conservation awareness

Scope of the work:

v. Trail Surveys, Event Site Surveys

At the time of undertaken the field studies and landscape surveys there was a paucity of information about many aspects of the region like road access, seasonality, locations of villages, facilities available.

It would, thus are a priority for the programme-implementing agency to first survey and then document in fine details the various trails and various locations being chosen for the organizing of events. It is recommended that inputs for such locations be sought from agencies implementing the Nature Tourism Programme and the Homestay ecosystem programme so that that there is concerted and convergent action.

The adventure trails surveys must capture seasonal variations and provide inputs into the range of adventure activities that a feasible across seasons. Through informative pamphlets, posters, social media tools and through various government programmes and information dissemination the programme is expected to highlight the unique and conducive landscape values and its correlated high biodiversity and natural heritage values in conjunction with pro conservation based livelihoods.

vi. Organizing Running Events, Ultimate Frisbee and Yoga Events for Promotion and Training

There is little history or organized sporting and adventure activity in the regions. Schools and youth groups follow the popular and standard activities with little or no exposure to professional support for training.

The programme-implementing agency would be required to design and organize a series of events that demonstrate the sports and encourage participation. This outreach programme would provide the first look at candidate suitable for selection as trainees under the programme.

The programme-implementing agency should also use this opportunity to work with schools and other educational institutions to both promote the sports and well and encourage a culture of “well-being” through sport and Yoga.

vii. Initial Guide Selection, Training, Workshops and Exposure Visits

Based on interest, willingness to explore, and talent the programme-implementing agency would be required to draw up a list of candidates suitable for training.

The selection process itself could be through a series of initial outreach programmes, specific trainings and visits to other locations outside the landscape.

A select group should also be supported to undertake Trip Leader and Wilderness First Response trainings to upgrade their skills and to provide the clientele with a body of highly skilled and confident professionals

viii. Local Events and Mini Festivals – Focus on Community

A secure, confident and knowledgeable community would be one of the foundation blocks for a successful adventure tourism programme. To achieve this the programme implementing agency would be required to organize a series of cluster level events across the landscape. This will achieve three important goals

1. In depth survey of the trails and locations with valuable advice from the community
2. Allowing communities to grow and learn how to manage such events
3. Community participation would mean a buy in to the activities thus ensuring a possible long-term future.

This series of mini events would provide the basis and the personnel that would be needed in order to arrange a larger and professional organized landscape level marquee event.

ix. First Marquee Sky Run / Marathon and Ultimate Frisbee Events (part of Nature Festival)

The grand finale of the two years of surveys, trainings and promotions would be the organizing of a series of events that is opened up to the wider national and global audience.

The programme implementing agency would need to work with other SECURE Himalaya partners to design the large festival and well as establish the runs and yoga programmes and a long term replicable event.

The design of the event, its promotion and in order to bring it to a fruition the agency would need to both work closely with the community and help upgrade their skills to make them, eventually, independent.

x. Selecting Iconic Trails, creating resources – and promoting the Annual Events through a calendar

Based on the two years (or more) of surveys trainings, and organization of various events the programme implementing agency would be required to help identify iconic trails and locations and help promote such locations.

This would be concurrent to helping create an annual events calendar, which would require to be promoted through various popular means and through established Government protocols and setups.

The Annual events calendar would form the basis for regular and sustained Adventure Tourism activities.

xi. Institutional Set up and Setting in place – Booking, Payments and record keeping systems

The binding agent for a successful Adventure tourism programme will be a healthy, transparent and active union of Nature Tourism enterprises. This could be either an umbrella organization for independent operators or a federation comprising cohesive cluster level functional units.

The programme-implementing agency would need to work with the community and the larger SECURE Himalayan institutional partners to help create and establish such institutions. In addition, help the institution and its members with the processes of good record keeping, basic accounts and finance management and being able to handle commercial scale finances.

One component of this sub-activity would also be supporting and helping adventure guides get registered as per existing norms

xii. Training Modules and Documentation

Concurrent to the various activities the implementing agency is expected to have adequate

documentation of the processes undertaken and help prepare training modules for the various components. Such documentation and modules are in order to help with long term monitoring and allow for self-replication.

xiii. First Season of Low Risk High Impact Events

Given the short seasons in which on the ground activities may be undertaken it is proposed that 14 to 18 months be spent on trainings, design of activities and building up to the larger and well-promoted events.

The proposal envisions that the first set of paid events, or events widely promoted among tourists would take place in the autumn season of the second year.

The implementing agency would need to support and guide the first official season of Adventure tourism by helping organize and widely promote the event.

xiv. Conservation action

Apart from betterment of the community through a diversified and hopefully secure livelihood, the principle goal is to conserve the valuable, fast degrading fragile landscape. The implementing agency would be required to help develop concrete conservation action plans. This could be (but not restricted too)

- a) Creation of a conservation fund drawn from donations, and from contributions from people benefitting from Adventure Tourism
- b) Conservation action for specific landscapes and their constituent biodiversity and helping protect and re-wild degraded landscapes
- c) Engaging actively to protect from harmful action
- d) Working with appropriate agencies to identify and plan for conservation action – example BMC's FPC's
- e) Instituting and promoting conservation action guidelines

Expected deliverables:

1. Creating a pool of trained and skilled adventure guides and service providers
2. Identifying and establishing adventure circuits (in consonance with nature trails and homestay clusters being developed through other SECURE Himalaya programmes)
3. Creating an annual events calendar – that also encourages activities in non-traditional tourism months (winter)
4. Promoting the activities at the landscape level and importantly among clientele at the national and global level
5. Organizing local trainings and workshops and promoting the sports through a series of outreach events
6. Organizing mini events at cluster levels with a build up to a larger landscape level event as part of a larger Nature Tourism Festival
7. Supporting in the process of registering Adventure Guides, as per existing norms and practices

Locations and recommendations for Bases for Nature Trails and Promotion of Focal Centers

Thematic Nature Trails / Circuits

Sky runs

1. Sural Bhatori
2. Chasak Bhatori Trails
3. Urgos Valley

Marathons

1. Keylong Landscape
2. Tindi Killar Sural Bhatori

Ultimate Frisbee

1. Schools
2. Locations where flat grounds are available

Yoga

1. Homestay Cluster Villages
2. Locations with adequate spaces (Killar, Sechu Nalla)

1.3.2 Recommended agencies and resources for the promotion of conservation oriented nature tourism amongst selected clientele

Agency	Expertise / Resource	Contact
Kay 2	Working in the outdoor space to bridge social, cultural and economic divides through transformative activities like ultra and sky runs, ultimate frisbee and yoga. With a keen focus on engaging with rural communities already engaged in the upliftment of women and children, Kay2 seeks to establish synergies on the ground through their expertise in the aforementioned areas.	Arvind Bharti - Assistant Professor- Wellness, APU arvind.b@apu.edu.in, arvind.bharti@gmail.com +91 98451 93483 and Kashif kashif@collectively.co.in 9849545716
Nanda Devi Outdoor Leadership School	Wilderness First Aid courses & Trip Leadership Courses https://nols.edu/en/coursefinder/courses/india-trip-leader-TLI/ https://nols.edu/en/wilderness-medicine/why-nols/	Ravi Kumar NOLS India Vania Heritage Cottage Mall Road Ranikhet - 263645 Uttarakhand Telephone +91 5966 221428 E-mail: ravi.kumar@nols.edu & india@nols.edu
Ultimate (Frisbee) Players Association of India (UPAI)	Coordinate Ultimate Frisbee events and provide resources	info@indiaultimate.org https://indiaultimate.org
The Flying Disc School of India	TFSDI - The flying disc school of India is an organisation dedicated to teaching the game of ultimate (Or ultimate frisbee) to students of all age groups.	https://www.facebook.com/tfdsi/ theflyingdiscindia@gmail.com arvind.bharti@gmail.com +91 98451 93483
Hanifl Centre for Outdoor Education & Environmental Study Woodstock School	Wilderness First Aid courses, Trek Leadership Courses	Tehri Road, Mussoorie-248179 Uttarakhand, India Phone +91 9837038050 (WhatsApp) +91 (135) 263 9170 (Landline) Email haniflcentre@gmail.com
India Running	Online hosting of running events and provides online support to events and runners	http://indiarunning.com
India Trail Running Association	Provides guidance to athletes, organizers and associations interested in trail running in India. A neutral platform to share knowledge, resources and to fashion races that adhere to the international standards, rules and regulations and spirit of the sport	https://india-tra.in/

Table 8: Recommended agencies and resources for developing Low Risk High Impact Adventure Tourism

1.3.3 Timeline for implementation

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Identifying and Selecting Agencies												
Trail Surveys, Event Site Surveys												
Organizing Running Events for promotion and training												
Organizing Ultimate Frisbee & Yoga Events for Promotion and Training												
Initial Guide Selection, Training and Workshops												
Guide Training and exposure visits												
Local Events and Mini Festivals – Focus on Community Participation and Events (including educational institutions)												
Selecting Iconic Trails – and promoting the Annual Events												
Revisions in Detailed Implementation Plans												
Preparation of Trail Maps, Promotional Literature and build up to Annual / Yearly events												
Second / Advanced Trail Guide Training – Multiple Small Groups												
Publicity and Promotion of Sky Run and associated events												

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
First Marquee Sky Run / Marathon and Ultimate Frisbee Events (part of Nature Festival)												
Setting in place – Booking, Payments and record keeping systems												
First Season of Low Risk High Impact Events												

Table 9: Timeline for implementation – Low Risk High Impact Adventure Tourism

1.3.4 Expected outcomes

Outcomes	
Social Outcomes	<ul style="list-style-type: none"> Creation of a pool of trained and registered trail running Guides and Crew Trail Running circuits are identified, documented and promoted Emphasis and reiteration on the values of the culture and bio-diversity of the landscape Alternative to mass tourism through increased footfall of tourists sensitive to the landscape and the people Activities becomes part of the local cultural landscape Greater awareness and education of sporting culture and heritage Exposure to the latest in sports and creation of a vibrant outdoor and sporting culture
Economic Outcomes	<ul style="list-style-type: none"> Increase in direct incomes through Adventure Sport Activities Service Providers – Guides, Homestays, Muleteers, Vehicle owners and other suppliers are directly benefited by increase on tourist footfalls through Low Risk High Impact based sporting events Link to ancillary activities - New and Traditional goods and services – Crafts, local foods and new valued added products will find a ready market Reduced extractive stress on the physical landscape as families would be gainfully engaged in facilitating Sporting activities and Homestay Activities Conservation value of the landscape and its specific elements – "nature" & landscape" remain the highlight

Table 10: Expected outcomes - Low Risk High Impact Adventure Tourism

2. Handicrafts – Detailed Implementation Plan

a) Policies/schemes in relation to handicrafts and possibilities for convergence with the project

Policies/Schemes	Possibilities for convergence with the project
Chief Minister's Startup Scheme	The scheme aims to promote employment generation and entrepreneurship development in the state. The scheme is presently active in the state and the Industries Department already trying to promote the scheme in the project landscape though minimal development taking place. The scheme supports innovative projects by providing funding requirements and incubation facilities. The project can work closely with Industries Department to promote innovative ideas for handicrafts development in the identified project villages.
Mukhyamantri Swavalamban Yojana	The scheme started by Himachal Pradesh state government aims to promote self-employment in the state. Under this scheme, 25-30 percent subsidy on actual investments will be given to aspiring entrepreneurs. Traditional handicrafts development is a priority area under this scheme and hence the possibilities of convergence can be explored.
Integrated Tribal Development Project (ITDP) under Tribal Sub Plan	The project is active in both Lahaul and Pangi. The financial achievement for small industries development under ITDP was less in the project landscape for previous years. However, the project can help ITDP to mobilize funds for handicraft development through various schemes and policies. The budget allocated by Tribal Commission for handicrafts and industrial development are underutilized as informed by the Industries Department, hence such funds can be utilized for handicraft development.

Table 11: Policies/schemes in relation to handicrafts and possibilities of convergence with the project

2.1 Reviving wool based traditional handicrafts

2.1.1 Terms of Reference (ToR) for hiring implementation agency

Title of the assignment: Engaging an expert implementation agency in the revival of wool based traditional handicrafts in Lahaul-Pangi landscape under UNDP SECURE Himalaya project

About the assignment:

Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems (SECURE) is a project undertaken by The Ministry of Environment, Forest and Climate Change (MoEFCC) along with UNDP, and funded by GEF. The project aims to support the Government of India and State Governments to promote sustainable land and forest management in alpine pastures and forests in High range Indian Himalayan Ecosystems that secure sustainable livelihoods and ensure conservation of globally significant biodiversity and threatened species. **Improved and diversified livelihood strategies** and improved capacities of community and government institutions for sustainable natural resource management is a major expected outcome of the project. **Revival of wool based traditional handicrafts** is a component under the state-level livelihood strategy developed for Lahaul-Pangi landscape in Himachal Pradesh.

The landscape level study undertaken realized that handicrafts could be one of the potential livelihood options in the project landscape given the existing levels of capacities and easy availability of resources including wool. The community members in both Lahaul and Pangi are skilled in making handicrafts items though the process and nature of crafts differs significantly in both the region. This implies that there is no requirement of extensive capacity development of community **members but requires small incremental developments in terms of introducing new designs, product, process and functional upgradations, and market level interventions**. Handicrafts development in the project villages is crucial from a livelihood perspective since it is amongst the few livelihood options that can be pursued during winters and make the idle hours more productive and incentivizing. The success stories of handicrafts initiatives in similar geographies like SHEN in Spiti and LENA in Ladakh are encouraging and show the potential of small-scale community driven interventions in contributing to local economy and conservation.

The purpose of this ToR is for helping potential implementation agencies in understanding the objectives of the assignment, scope of the work and expected deliverables.

Objectives of the assignment: The major objectives of the assignment are,

- a) To assess the existing processes and practices related to traditional handicrafts and to identify scope for upgradation
- b) To support the handicraft infrastructure development in the region and in process upgradation
- c) To pilot community led handicraft development initiative and in the formation of village/cluster level handicraft groups
- d) To enhance the capacities of community members in handicraft development
- e) To support branding and marketing of community led handicraft initiative

Scope of the work: The Forest Department, under UNDP SECURE Himalaya project, offers an opportunity for an experience implementation agency - with extensive experience in handicraft sector in similar landscape or with similar communities - for the implementation of planned activities under state-level livelihood strategy. The scope of the work includes the following (but not limited to):

i. Assessment study on existing processes and practices and identifying scope for upgradation

It is important to undertake an assessment of the existing processes and practices to understand the areas that require further strengthening. It is required to undertake an assessment of handicrafts in the region by the implementation agency in the following areas,

- a) Traditional handicraft products and designs
- b) Traditional equipment used and processes followed by the communities
- c) Quality and applications of wool produced in the landscape
- d) Potential marketing and sales channels for locally made handicraft products
- e) Possibilities of developing handicraft clusters and landscape level co-operative

The expected outcome of the assessment study is a cluster level/village level plan for developing community led handicraft co-operatives/initiatives in the landscape directly implementable by the agency.

ii. Supporting the infrastructure development and process upgradation

Incremental improvements to existing infrastructure and practices will help in increasing the efficiency and quality of products. The project is planning infrastructure development by assisting **Integrated Tribal Development Project, Industries Department** and other relevant departments in the preparation of Detailed Project Planning (DPRs) and Action Plans or by directly funding the infrastructure requirements in convergence with ongoing schemes in the identified areas. Some of the immediate infrastructure requirement identified by the project are,

- a) Common carding centres
- b) Introduction of spinning technologies/equipment for improving efficiency
- c) Improvements in traditional looms and practices based on assessment undertaken by resource agency

The implementation agency need to support the project in developing the infrastructure in the project landscape in convergence with ongoing schemes/programmes, and the operational plan for the same, in alignment with the livelihood strategy developed, should be included in the assessment study.

iii. Piloting community led handicraft development initiative and in the formation of village/cluster level handicraft groups

The resource agencies are required to identify villages (villages are already identified but the hired agency can suggest changes based on the landscape level assessment) and interested families, and expected to help these villages in the formation of small groups with the assistance from Industries and other relevant departments in convergence with ongoing schemes. The project is planning to hire fellows from various educational institutions for piloting handicraft development projects. The fellows hired under the project expected to help in the preparation of DPRs and the hired agency should help them in undertaking these activities. A landscape level co-operative of handicraft producers expected to establish by organizing these groups formed initially once the piloting stage is completed and the hired agency should undertake these activities in the project landscape. The agency should also support the community members in branding and marketing of their products during initial stages.

iv. Community capacity enhancement

It is important to train community members in various aspects of handicraft development including new designs and processes, usage of newly introduced technologies and equipment, accounts, administration etc. **NIFT, Centre for Pastoralism, and Nature Conservation Foundation** are three major identified organization that can help the project in capacity enhancement of community members. The implementing agency should identify ways to involve these agencies in capacity enhancement and oversee the activities.

v. Branding and marketing

For exploring the potential of handicrafts beyond tourism markets, the project can undertake small initiatives with minimal funding requirements that potentially create large impact on community livelihoods. The hired agency should undertake the following activities (but not limited),

- a) Community participation in national level art and craft festivals
- b) Establishing online channels for brand communication
- c) Introducing story based packaging and attractive label designs
- d) Identifying suitable channels for sales

Expected deliverables:

The major expected deliverables under the assignment are,

1. Landscape level assessment study along with operational plan for implementation in align with the livelihood strategy developed for the landscape
2. Handicraft infrastructure development in the project landscape in convergence with ongoing government programs and schemes
1. Mobilizing community members and forming village/cluster level groups (Some villages are already identified by the livelihood strategy developed but the implementation agency can suggest changes depending on the assessment undertaken)
3. Piloting community led handicraft initiatives in identified villages
4. Formation of landscape level co-operative by organizing small village/cluster level groups formed
5. Branding and marketing of handicraft products
6. Assisting suitable agency in undertaking capacity enhancement activities
7. Assisting project fellows in the formation of community led initiatives
8. Identification of possible ways to partner with government departments to scale up the strategy in convergence with ongoing schemes and undertaking various activities in achieving the expected livelihood outcomes
9. Report on implementation of planned activities

2.1.2 Recommend agencies and resources for handicraft development initiative in the project landscape

Agency	Expertise/Resources	Contact Information
Centre for Pastoralism	Centre for Pastoralism is working in understanding and improving pastoralist ecosystems. The resource agency can undertake landscape level assessment and activities for handicraft development. The agency can also provide expertise in the preparation of DPRs for infrastructure development.	Vasant Saberwal (Director) 55, Shahpur Jat, Siri Fort, New Delhi, Delhi 110049 info@pastoralism.org.in +91.98183.69335 +91.2832.251814
National Institute of Fashion Technology (NIFT)	Research students and groups from NIFT can undertake landscape-level capacity enhancement programme every year. NIFT also can help in identifying potential areas of improvements in terms of design and processes and help in upgradation.	Balbir Saxena Marg, Near Gulmohar Park, Hauz Khas, New Delhi, Delhi 110016 director.delhi@nift.ac.in 011 2654 2000 NIFT Campus, Talpura, Kangra, Himachal Pradesh 176001 0189 226 0873
Nature Conservation Foundation and SHEN Project (Spiti)	NCF combines research, community involvement, conservation education, and policy-level dimensions to help conserve the snow leopard – as well as the diversity of life & landscapes	Nature Conservation Foundation and Shen Project (Spiti) Dr Yashveer Bhatnagar yash@ncf-india.org +91 94482 75123 https://www.ncf-india.org/high-altitudes
School of Media and Cultural Studies, TISS, Mumbai	The school can help in developing landscape level culture focussed handicraft brand and in developing brand communication materials	Prof Jayashankar K P kpi@tiss.edu http://www.monteiro-jayasankar.com/ Tata Institute of Social Sciences, Deonar, Mumbai 400 088, India Phone: +91 22 2552 5660 Fax: +91 22 2552 5050
Looms of Ladakh	Looms of Ladakh is a successful community run handloom co-operative in Ladakh supported by district administration. The project can seek expertise from the initiative in operational aspects.	First Floor, Tourist Information Center, Main Market, Leh, Jammu and Kashmir 194101 Phone: 01982 258 050

Table 12: Recommended agencies and resources – Reviving wool based handicraft

2.1.3 Timeline for Implementation – Revival of wool-based traditional handicrafts

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Identifying and Selecting Agencies												
Assessment of existing processes and practices and scope for upgradation												
Hiring fellows from academic and research institutes												
Preparation of DPRs by hired fellows for improving infrastructure with the assistance from selected resource personnel/agencies												
Identification of villages for forming small village/cluster level groups												
Start initial piloting in villages by mobilizing community members by resource agency												
Capacity enhancement training in new designs and processes by research group (Preferably NIFT)												
Encouraging and supporting community members to participate in exhibitions												
Initiate landscape level online storytelling and sales platform by a hired fellow												
Introducing attractive packaging and labelling practices with the help from resource personnel/agencies												
Inviting voluntary media agencies like Our Better World, Better India to cover the community run initiatives and help in marketing												
Helping in the formation of landscape level co-operative by adding more village/cluster level groups												
Further developments												

Table 13: Timeline for implementation - Reviving wool based handicraft

2.1.4 Expected Outcomes

Expected outcomes	
Social outcomes	<ul style="list-style-type: none"> - Productive utilization of idle hours of community members during winter season - Improved social spaces and empowerment of women - Revival of traditional arts and culture
Economic outcomes	<ul style="list-style-type: none"> - Increased income for participating community members without affecting the existing livelihood options including MGNREGA and agriculture - Handicrafts complement tourism activities and hence it provide more economic benefits to the community members - Improved economic opportunities for unemployed and educated youths with the development of handicrafts and tourism
Environmental outcomes	<ul style="list-style-type: none"> - Reduced dependency on natural resources for meeting the livelihood requirements - Improved attitudes and practices of women towards conservation

Table 14: Expected outcomes - Reviving wool based handicraft

3. Medicinal and Aromatic Plant Implementation Plan and NTFPs

3.1 Cultivation and value addition of selected MAPs, Food Herbs and Spices

3.1.1 Terms of Reference for hiring implementation agency

Title of the assignment: Engaging an expert implementation agency for the Promotion of **Cultivation and value addition of selected medicinal plants, food herbs and spices** in Lahaul-Pangi landscape under UNDP SECURE Himalaya project

About the assignment: Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems (SECURE) is a project undertaken by The Ministry of Environment, Forest and Climate Change (MoEFCC) along with UNDP, and funded by GEF. The project aims to support the Government of India and State Governments to promote sustainable land and forest management in alpine pastures and forests in High range Indian Himalayan Ecosystems that secure sustainable livelihoods and ensure conservation of globally significant biodiversity and threatened species. **Improved and diversified livelihood strategies** and improved capacities of community and government institutions for sustainable natural resource management is a major expected outcome of the project. The **Cultivation and value addition of selected medicinal plants, food herbs and spices** is one of the significant livelihood components under the state-level livelihood strategy developed for Lahaul-Pangi landscape in Himachal Pradesh.

The collection and trade in wild plant resources is a complex and contested phenomenon. Crucially and specially Pangi landscape in the medicinal plant is a valuable and significant contributor to the livelihoods of not just the very poorest who must depend on all available resources and for who forest areas are their only viable livelihood resource. As per NRMCC's surveys, income from collection of Wild Medicinal plants is on par with the other significant livelihoods of Agriculture and Horticulture.

A careful analysis is required to dis-aggregate those medicinal, aromatic and food herbs that are possible to cultivate and those that are largely harvested from the wild. Some plants that are cultivable are also heavily extracted from the wild and hence need well-defined principles to establish provenance. Others that are seemingly cultivated are based on planting material that is exclusively extracted from the wild.

Currently various research agencies have published protocols for the cultivation of a range of prioritized and recommended Medicinal and Aromatic plants (MAP's). These may be found in the publications of National Medicinal Plants boards on agro-techniques for various plants species. And in the Crop List recommended by Medicinal Plant Board

Some additional concerns with Medicinal plants are the basic farm economics –

- 1.) More often than not such high value crops have a 2 – 3 year crop value cycle i.e they are harvested and sold once in 2 to 3 years and in some cases even 4 years over which period the actual income is not necessarily more lucrative than cash crop farming apart from lack of cash flows during the lock in period
- 2) The volatile MAP market means that there is no surety of returns at the time of harvest.
- 3) Cash value of normal (off season) vegetable crops or even some horticultural crops is often higher when measured over a 2 – 3 year period with minimal returns are always being assured for regular crops
- 4) Annual cash needs are met from annual sales which is not the case with long term medicinal plants.

However it is absolutely necessary to make interventions in this sector primarily to engage the community in viable economic activities that compete directly with their difficult ventures into the high alps. However, as has been observed by a few studies, it is seen that when one population

or local community stop the collection of medicinal plants, from the wild, their place is taken up by some other group of people – ensuring a) a continual exploitation of wild resources, b) a root of conflict between long term local communities and non local seasonal collectors. c) the non local seasonal collectors are not bound by local norms or (

It would be, concurrently, necessary to have strict measures preventing the extraction of endangered and vulnerable medicinal herbs, like *Dactylorhiza hatagirea*, while at the same time encouraging the cultivation of other medicinal, aromatic and food plants that do have potential and have existing growing protocols.

Objectives of the assignment: The primary objectives of the programme “Promotion of “Cultivation and value addition of selected medicinal plants, food herbs and spices” are -

1. Identification and Cultivation of Medicinal, Aromatic and Spice plants that are not found or collected from the wild (Rosemary, Lavendar, Mint)
2. Identification and cultivation of some plants that have cultivation protocols but are not cultivated (Alliums)
3. Promotion of some MAP's that are easily grown and value chains exist but have not been linked up (Caraway)
4. In-situ and Ex-situ conservation of MAP's for monitoring, and to make available seed and planting materials through BMC's and MPCDA¹
5. Value addition through minor processing, product creation and packaging
6. Educative and informative documentation of cultivation protocols, value additions, harvest practices and finally the applicable laws for MAPS
7. To support the creation of an enterprise based around cultivated medicinal plants
8. Creating avenues for Conservation action and Conservation awareness
9. Supporting BMC's and helping establish norms for Access Benefit Sharing through cultivated MAP's

Scope of the work:

i) Survey of Cultivable and Vulnerable MAP's and their value chains

As part of the SECURE Himalaya programme the Wildlife Institute of India (WII) Dehradun has been contracted to undertake an “Assessment of medicinal and aromatic plant species including their collection, usage, demand, markets, price trends and life cycle, focusing on landscapes in Himachal Pradesh”

Over a period of a year or more they have assessed MAP's and have made recommendations. Along with WII's study and that undertaken by NRMC a list of Medicinal, Aromatic, Spice and Wild food plants has been generated. The programme implementing agency would require to verify and

1 Medicinal Plant Conservation and Development Area (MPCDA)

ratify the details for these species and clearly identify the specific vulnerabilities and opportunities (over harvesting, immature harvesting, volatile prices, value addition, cultivation potential and success)

ii) Survey of farmers willing to cultivate

There exists a small subset of farmers who are risk takers, innovators and experimenter. The programme implementing agency would need to survey and prioritize a list of farmers with the willingness and capacity to undertake the long term cultivation (and eventually maybe value addition) of MAP's

iii) Awareness and communication of vulnerable MAP's and the dissemination of cultivation protocols (wherever they are viable)

The medicinal plant trade is built up behind veils of intentional obfuscation. Trade names are made up to confuse both the law and the local collectors. End applications are little known.

Better awareness of correct names and identity of MAP's, knowledge of their end uses, their current status in the wild – especially in view of the extreme quantities collected; would go a long way in allowing the community to understand the wild resources, make specific plans and would also help them negotiate better and less volatile prices.

A second layer of confusion exists about which plants are cultivable, in a replicable manner - from seed / legally sourced planting material to harvest. There exists a lot of literature on cultivation protocols – but most of these are under controlled conditions with access to institutional funds. Therefore it is of utmost importance that accurate information of species that are possible to cultivate, their cultivation protocols and sustainable sources of seeds and planting material be disseminated through every channel possible – these channels could be – local language posters and pamphlets, Social Media, Short audio and video communications, and most importantly direct communication with farmer groups

iv. Establishing value addition protocols – Oils, Soap, Dying, Processing, Packaging and establishing market linkages

At the very first instance the Nature and Culture tourism market – homestay service providers and guests provide a ready market for the local uptake of value added products based on MAP's and related plants. This market would also act as an effective word of mouth for the wider spread of products originating from within the landscape.

The programme implementing agency would be required to,

1. Identify value addition processes and suitable products
2. Provide training and help build in the appropriate infrastructure for value addition
3. Support in the registering the products, in pricing and product marketing

v. In-situ conservation and Ex-situ conservation and cultivation plots

WII has identified six locations as Medicinal Plants Conservation and Development Areas. Apart from ratifying these sites the programme implementing agency would be required, if appropriate, to add more sites.

The major part of this component would to help design the methods and tools for both in-situ and ex-situ conservation. In this case ex-situ conservation meaning the controlled and monitored cultivation of MAP's in farm areas with an intent to maintain a sustainable and self-replicating population.

Comparisons between growth, survival and seed production, harvestable material and periods would be monitored between in-situ locations and ex-situ sites.

vi. Training modules and documentation

Concurrent to the various activities the implementing agency is expected to have adequate documentation of the processes undertaken and help prepare training modules for the various activities. Such documentation and modules are in order to help with long term monitoring and allow for self-replication

vii. Access benefit sharing

The current flow of benefits from MAP's is highly variable – based on the requirements and prices offered by middlemen. Rarely if ever is the community of the end user prices or the nature of the product. However both local knowledge of MAP's and their presence with a community's landscape make these resources ideal for categorization and eventual benefit sharing through the protocols available in Bio-diversity Management Committee's or BMC's.

Currently there are only a few BMC's registered with little to no active functioning. Therefore in order to provide legitimate control over MAP's flows the programme implementing agency should attempt to help form more BMC's and to help them navigate and actualize the ABS protocols and benefits

viii. Conservation action

Apart from betterment of the community through a diversified and hopefully secure livelihood the principle goal is to conserve the valuable, fast degrading medicinal plant community and their landscape. The implementing agency would be required to help develop concrete conservation action plans. This could be (but not restricted too)

- a) Creation of a conservation fund from local MAP levys, and from profits earnings from sales of cultivated and / or value added MAP's
- b) Conservation action for specific landscapes and their constituent biodiversity and helping protect and re-wild degraded landscapes
- c) Engaging actively to protect from harmful action
- d) Working with appropriate agencies to identify and plan for conservation action – example BMC's FPC's
- e) Instituting and promoting conservation action guidelines

Expected deliverables:

1. Heightened awareness about the schemes and possibilities for cultivation of a range of MAP's and unique food crops and a move away from wild extractions
2. Formation of a powerful local body that both promotes cultivation of MAP's and restricts wild extraction
3. Cultivation protocols are well established for the chosen set of herbs and spices
4. MAP's value chains for cultivated species are established and well developed proving reliable and steady income to the cultivators

5. Value Addition – through herbal teas, soaps, oils, infusions, etc provide value added incomes and alternate economic and enterprise opportunities
6. Direct reduction in collection from the wild and reduced human traffic into the forest / alpine landscape.
7. In-situ Conservation highlights value of conservation to both the long term viability of MAP's and the availability of seeds and planting material.
8. Organizing trainings, workshops and information dissemination sessions

3.1.2 Recommended agencies and resources for cultivation and value addition of selected MAPs, Food Herbs and Spices

Agency	Expertise/Resources	Contact Information
National Medicinal Plants Board,	National and Central Sector Schemes, Support to BMC's and VFMC's, Training and Cultivation Protocols, Support for Herbal Gardens and In-Situ, Ex-situ Conservation	(Northern Region – I) Dr. Arun Chandan, Regional Director, Research Institute in Indian Systems of Medicine (RIISM), Joginder Nagar, Dist. Mandi, Himachal Pradesh – 175 015 Tel. No. 1908-222970 Mob. 09418010624, 07018001026 E-mail: rcfcnorth@gmail.com; inchargeismhp@gmail.com;
HP State Biodiversity Board	BMC's, Access and Benefit Sharing	O/o Himachal Pradesh Council for Science, Technology & Environment (HIMCOSTE) Vigyan Bhawan, Bemloe, Shimla-1 Himachal Pradesh PIN 171001
State Medicinal Plants Board, Himachal Pradesh	Helping procure planting material, information on legal provisions and Central and State Sector Schemes	Director Ayurveda-cum-Member Secretary, , Directorate of Ayurveda, 26-SDA Complex Kusumpati, Shimla -171009 Ph: 0177-2622262 Fax: 0177-2622010 Email: ayur-hp@nic.in, smpbhp@gmail.com
Herbal Research and Development Institute,	Cultivation Protocols,	Director, Mandal, Gopeshwar - 246 401, District - Chamoli, Uttarakhand, India Email: director_hrdi@yahoo.in Phone No. 01372-254210 Fax No. 01372-254273
Forest Department, Himachal Pradesh	Support to VFMC's, In-Situ Conservation, Information on Access, prohibitions and restricted lists	

Dr G. S Rawat (Dean of the Wildlife Institute of India)	Plant Taxonomist – May be in a position to guide the Medicinal Plants Research	gsrawat59@gmail.com, rawatg@wii.gov.in +91 9690253814
Kilmora – Kumaun Grameen Udyog http://www.kilmora.in/	Production, Packaging and Marketing of value added spices, aromatic products	Kumaun Grameen Udyog Kasiyalekh, Distt. Nainital Uttarakhand 263132 Tel: +91 7055218971, +91 7535977771 email: kilmora@kgu.org.in info@kgu.org.in
State Medicinal Plants Board, Uttarakhand	Information on legal provision	Office of Chief Executive Officer 229 Indira Nagar Colony Dehradun – 248 006 Uttarakhand Telefax : 0135-2769918 E-mail : ceosmpbuk@gmail.com
CropConnect Enterprises Pvt. Ltd.- http://cropconnect.in/	Developing demand driven value chain solutions in agriculture by working closely with farmers and clients. Product Development and with that packaging and marketing	Ms Ishira Mehta ishira.mehta@cropconnect.in Puneet Jhaharia puneet@cropconnect.in E-7, Saket, Ground Floor, New Delhi 110 017, India Email: info@cropconnect.in Tel: +91 965 056 2224
AaroHi https://www.aaroHi.org/	Production, Packaging and Marketing of value added spices, aromatic products	Pankaj Tewari pankaj@aaroHi.org Neha Jacob neha@aaroHi.org
Togchand Thakur	Medicinal Plant Cultivator, Keylong / Lahual	Phone: 9418318364

Table 15: Recommended resources and agencies – Cultivation and value addition of selected MAPs

3.1.3 Timeline for implementation of activities

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct

	to Mar	to Jun	to Sept	to Dec	to Mar	to Jun	to Sept	to Dec	to Mar	to Jun	to Sept	to Dec
Identification of resource and implementing agencies												
Survey of Cultivable and Vulnerable MAP's and their Value Chains												
Survey of farmers willing to cultivate												
Establishing Value Addition protocols – Oils, Soap, Drying, processing, packaging and establishing market linkages												
Awareness and Communication of Cultivable MAP's and the Cultivation Protocols												
Initiation of Ex-situ and Farmer Cultivation and monitoring of growth and production												
Awareness and Communication of Endganged and Vulnerable MAP's and impacts of overharvesting on wild populations												
Design on In-Situ Conservation Plots to highlight a) Value of rotational harvests, b) Correct Practice for harvest c) Monitoring and comparing In-Situ and Ex-situ plots for growth, population studies and seed production												

Table 16: Timeline for implementation - Cultivation and value addition of selected MAPs

3.1.4 Expected outcomes

Outcomes	
Social Outcomes	<ul style="list-style-type: none"> ▪ Heightened awareness about the schemes and possibilities for cultivation of a range of MAP's and unique food crops and a move away from wild extractions ▪ Formation of a powerful local body that both promotes cultivation of MAP's and restricts wild extraction ▪ Cultivation protocols are well established for the chosen set of herbs and spices
Economic Outcomes	<ul style="list-style-type: none"> ▪ Cultivate MAP's value chains are established and well developed proving reliable and steady income to the cultivators ▪ Value Addition – through herbal teas, soaps, oils, infusions, etc

	provide value added incomes and alternate economic and enterprise opportunities
Environmental Outcomes	<ul style="list-style-type: none"> ▪ Direct reduction in collection from the wild and reduced human traffic into the forest / alpine landscape ▪ In-situ Conservation highlights value of conservation to both the long term viability of MAP's and the availability of seeds and planting material

Table 17: Expected outcomes - Cultivation and value addition of selected MAPs

4. Agriculture and Horticulture Implementation Plan

a) Policies/schemes in relation to Agriculture and Horticulture and possibilities for convergence with the project

Strategy	Scheme	Possibilities for convergence with the project
Promoting Weather Based Crop Insurance	Restructured Weather Based Crop Insurance Scheme (RWBCIS)	The scheme help the farmers in reducing the risks associated with unanticipated climate events and recovering the costs associated with cultivation. The project can promote the scheme in the landscape through awareness creation and supporting institutions.
	Agriculture Technology Management Agency (ATMA) scheme	The awareness creation and communication efforts under the strategy can be supported with ongoing ATMA scheme with the assistance from Horticulture and Agriculture Departments
Promoting Beekeeping for Pollination Services and Entrepreneurship Development	Honey Mission	The scheme under The Khadi and Village Industries commission provide support for capacity enhancement of farmers involved. The agency hired by the project can encourage and support farmers to undertake training under the Honey Mission
	Propagation of Scientific Beekeeping Amongst Forest Dwellers and Fringe Communities	NBB has recently started the scheme focusing on forest dwellers and fringe communities as a poignant and powerful spectrum for inculcating scientific beekeeping for production of honey and other hive products, besides pollination. The planned capacity enhancement activities, infrastructure requirements, production and marketing of honey by the agency can be supported by the scheme
	Horticulture Technology Mission	Development of Beekeeping is a major component under the mission. The hired agency under the project should try to seek financial assistance on the supply of bee colony with hive
	Mukhya Mantri Madhu Vikas Yojana	The Mukhyamantri Madhu Vikas Yojana aimed at encouraging farmers to take up beekeeping and production of bee products in the state. The planned training activities, costs associated in raising bee colonies, infrastructure for honey processing can be supported under the scheme
Promotion of poly-house farming	Dr Y S Parmar Kisan Swarozgar Yojana	PThe scheme supports the construction of location specific model and nearly 85 percent subsidy will provided to farmers. The proposed activities can supported with the scheme once new design developed by the expert agency hired by the project.
	Mukhya Mantri Greenhouse Renovation Scheme	Under this scheme, 50 % subsidy will provided to the farmers for the replacement of poly sheet after 5 years of setting up of poly-house or damage due to natural calamities. The project

		can encourage the farmers to avail the subsidy and pilot on new designs that are adaptive to local conditions
Enhancing Irrigation Practices	Rajiv Gandhi Micro Irrigation Scheme	State Government is committed to promote Agriculture in the State by increasing the productivity of crops. For efficient system of irrigation, the Government has launched crucial Project named 'Rajiv Gandhi Micro-Irrigation Scheme' with an outlay of Rs.154 Crore over a period of 4 years. The project can work with Agriculture department to promote the scheme in project villages through awareness creation and co-ordinating with various agencies.
	Dr Y S Parmar Kisan Swarozgar Yojana	Project components included construction of location specific models of houses with micro irrigation facility. For this, 85% project assistance provided to the farmers. Also for creation of water sources individually and collectively by a group of farmers (Low/medium lift, pumping machinery), 50% subsidy will provided. The project can promote the scheme in the landscape with the support from the relevant departments.

Table 18: Policies/schemes in relation to Agriculture and Horticulture and possibilities of convergence with the project

4.1 Promotion of Weather Based Crop Insurance

4.1.1. Recommended resources and expertise in the promotion of Weather Based Crop Insurance

Resource	Expertise/Resources	Contact Information
Agriculture Insurance Company of India Ltd.	The agency is responsible for all the Payouts arising out of adverse weather incidence. It can help the project in the promotion of the scheme and awareness generation.	Agriculture Insurance Company of India Ltd., Regional Office, Cabin No. 7, 3rd Floor, Agro Mall, Sector-20, Panchkula (Hr.) – 134117 Phone / Fax 0172-2538046 E-mail: ro.chandigarh@aicoindia.com
Village Level Entrepreneurs (VLEs)	Project can encourage VLEs to actively promote the schemes in their respective Panchayats	Tek Ram (Killar Panchayat) 9418168700 kteksharma007@gmail.com Suresh Kumar (Purthi) 9418225176 9418442448 sureshkumarsharma845@gmail.com

Table 19: Recommended resources and expertise in the promotion of Weather Based Crop Insurance

4.1.2 Timeline for implementation of activities

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Planning of village/landscape level awareness campaign												
Connecting with responsible insurance agency												
Co-coordinating with departments and responsible insurance agency												
Hiring a team for conducting communication campaign with the help from departments												
Conducting awareness generation campaign through mid-media activities and village level campaign												
Assistance to farmers in registration by coordinating with VLEs, Insurance agency, banks and departments												
Ensuring Crop Cutting Experiment conducted by coordinating with authorities and departments												
Further promotion in other project villages												

Table 20: Timeline for implementation – Promotion of Weather Based Crop Insurance

4.1.3 Expected Outcomes

Outcomes	
Social Outcomes	<ul style="list-style-type: none"> Improved livelihood security Reduced risks associated with climatic conditions Improved awareness on schemes and services
Economic Outcomes	<ul style="list-style-type: none"> Recovery of costs of cultivation in case of crop failure due to unanticipated climatic conditions Improved access in banking and financial services

Table 21: Expected outcomes – Promotion of Weather Based Crop Insurance

4.2 Promoting Beekeeping for Pollination Services and Entrepreneurship Development

4.2.1 Terms of Reference (ToR) for hiring implementation agency

Title of the assignment: Hiring of Resource Agency for Promoting Beekeeping in Pangti Lahaul Landscape of Secure Himalaya Project

About the assignment: Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems (SECURE) is a project undertaken by The Ministry of Environment, Forest and Climate Change (MoEFCC) along with UNDP, and funded by GEF. The project aims to support the Government of India and State Governments to promote sustainable land and forest management in alpine pastures and forests in High range Indian Himalayan Ecosystems that secure sustainable livelihoods and ensure conservation of globally significant biodiversity and threatened species.

The assignment 'Engaging an agency for Promoting Beekeeping in Lahaul Pangti Landscape under the SECURE Himalaya Project' by UNDP intended to hire the services of an expert agency to support state governments in undertaking activities for achieving outcome 2 of the project. This project component identifies the need to develop sustainable livelihoods in the project landscapes. In order to achieve this, the assignment identifies improving the existing livelihoods through beekeeping for ensuring improved economic and associated benefits to the community. This intervention falls under the Agriculture and Horticulture domain of Livelihood Strategy of Lahaul Pangti Landscape.

Agriculture and Horticulture: Agriculture and horticulture are the primary livelihood option for the community members in Lahaul-Pangti landscape. Over the years, the region has witnessed shift from traditional to commercial crops and practices. This makes the communities highly vulnerable to market related uncertainties and price fluctuations. Recently, climate change and related factors are also directly started affecting the agricultural practices. The farmers reported losses due to change in climatic patterns, crop diseases and market failure. Majority of the existing schemes, like schemes related to poly-house farming, solar fencing etc., are less adaptive to local conditions and requires situational adjustments. In this context, it is important to mitigate the risks associated with existing practices and promote alternative and sustainable solutions. The recommended strategy in the sector primarily designed to mitigate the risks associated with existing practices and to Increase livelihood security through alternative and sustainable solutions.

Traditional beekeeping is a common activity in the region but lack of awareness on the importance of pollination services and the possibilities of entrepreneurship development are major issues. The relevant departments are already promoting beekeeping for Pollination services; private players like Dabur are also intervened in this area. Improving traditional beekeeping practices can significantly improve the productivity of crops. In addition, there is a potential for the development of beekeeping enterprises that can enhance the income of community members through the sales of honey products.

Objectives of the assignment:

The major objectives of the assignment are:

- To promote Beekeeping as potential livelihood option in the project landscape
- To establish beekeeping enterprises in the landscape
- To train selected farmers from villages on technical and organization management skills
- To ensure market accessibility for farmer's products and for ensuring sustainable linkages with other livelihood options like agriculture, horticulture and tourism

Scope of the work: The Forest Department, under UNDP SECURE Himalaya project, offers an opportunity for an experience implementation agency - with extensive experience on developing livelihoods in similar landscape or with similar communities - for the implementation of planned activities under state-level livelihood strategy. The scope of the work includes the following (but not limited to):

i. Co-ordinate with authorities and departments:

Horticulture department is a major stakeholder in the promotion of beekeeping practices in the landscape. In addition, the livelihood strategy developed for the landscape identifies following major stakeholders with influential capabilities on project objectives,

- a) National Bee Board to implement the scheme on Propagation of Scientific Beekeeping Amongst Forest Dwellers & Fringe Communities
- b) State Beekeeping and Extension Centre for implementation of activities under Honey Mission
- c) State Horticulture department for organizing awareness campaigns and community capacity building support, also to support the initiative through Madhu Vikas Yojana

The hired agency required to co-ordinate with these authorities and other major stakeholders throughout the implementation process whenever required.

ii. Communication and awareness

As mentioned, lack of awareness on the importance of beekeeping for improving pollination services and other benefits associated with beekeeping entrepreneurship development is a major barrier for the promotion of beekeeping in the region. The hired agency required to conduct awareness and communication campaign in convergence with ongoing schemes and various departments. Developing communication materials and content, identification of various agencies for undertaking activities such as workshops will also be the responsibility of the hired agency.

iii. Identification of farmers and support in capacity building

The hired agency is required to identify the villages, interested farmers and provide trainings with the support from Honey Mission, National Bee Board Scheme (Propagation of Scientific Beekeeping Amongst Forest Dwellers & Fringe Communities) or any other schemes/programmes with potential for convergence with the project. The hired agency also expected to set up apiaries in the identified villages in convergence with ongoing schemes. The project has identified a number of possible villages for intervention. However, the hired agency required to identify suitable villages for actual intervention and farmers based on the criteria developed as a part of livelihood strategy and after undertaking field level assessment.

iv. Formation of small farmers group

The hired agency expected to mobilize and organize the farmers into small groups at the village level. This is a necessity for the project from a strategic perspective since it can help the activities to attain minimum scale required to meet operational and market requirements. This can also help in gender mainstreaming and mutual learning amongst community members.

v. Developing beekeeping infrastructure

The project identified suitable programmes/schemes for convergence, which includes,

- a) Schemes under National Bee Board and The Khadi and Village Industries Commission (KVIC)

b) Mukhya Mantri Madhu Vikas Yojana

These schemes/programs can be utilized to raise bee colonies and for developing honey processing infrastructure. The hired agency/fellows required to coordinate with relevant departments and implement the activities for developing beekeeping infrastructure in the project landscape.

vi. Strengthening access to information, market, finance and technology

This will be a crosscutting activity/component in the promotion of beekeeping in the landscape. The enhanced access to information for the community members and stakeholders expected to achieve through communication and awareness programs. The hired agency required to support the farmers in branding and marketing their products through various channels, and meeting financial and technological requirements in convergence with ongoing schemes.

Expected deliverables:

1. Landscape level assessment study along with operational plan for implementation in align with the livelihood strategy developed for the landscape
2. Development of communication plan for awareness generation and implementation of activities
3. Identification of suitable villages for intervention and mobilizing community members (The villages required to be selected considering the possible villages suggested by the livelihood strategy document and based on the criteria provided for selection)
4. Undertaking capacity enhancement activities in convergence with ongoing schemes
5. Organizing the intervention farmers into group of village/cluster level producers
6. Development of beekeeping infrastructure in identified villages in convergence with ongoing schemes
7. Ensuring access to information, market, finance and technology for farmers (The plan for the same should be included in the operation plan developed as a part of assessment study by the agency)
8. Report on implementation of planned activities

4.2.2 Recommended Resources and Expertise for Promoting Beekeeping

Resource	Expertise/Resources	Contact Information
National Bee Board	NBB can help the project in organizing training, providing necessary equipment for infrastructure development and assistance in honey processing and marketing	Department of Agriculture, Cooperation & Farmers Welfare Ministry of Agriculture and Farmers Welfare, Govt. of India "B" Wing, IInd Floor, Janpath Bhawan, Janpath, New Delhi-110001. Phone- 011-23325265, 23719025, Fax- 011-23320445. Email: nationalbeeboard.2006@gmail.com
State Beekeeping and Extension Centre	Assistance in conducting beekeeping training programmes under Honey Mission of KVIC	In-charge, State Beekeeping Extension Center, Khadi & Village Industries Commission, Near Play Ground Committee Gsali Kangra – 176 001 (Himachal Pradesh) Shri. R. Bhardwaj Div Office, KVIC, Dharmashala Mo. no.09805401860 , Phone- 01892-222919
CropConnect Enterprises Pvt. Ltd.- http://cropconnect.in/	Technical expertise in the marketing and sales of honey products	Ms Ishira Mehta ishira.mehta@cropconnect.in Puneet Jhajharia puneet@cropconnect.in E-7, Saket, Ground Floor, New Delhi 110 017, India Email: info@cropconnect.in Tel: +91 965 056 2224
AaroHi https://www.aaroHi.org/	Technical expertise in the marketing and sales of honey products	Pankaj Tewari pankaj@aaroHi.org Neha Jacob neha@aaroHi.org
Kilmora Kilmora.in	Technical expertise in the marketing and sales of honey products	Kumaun Grameen Udyog Kasiyalekh, Distt. Nainital Uttarakhand 263132 Tel: +91 7055218971, +91 7535977771 email: kilmora@kgu.org.in info@kgu.org.in
Qtrove.com	Marketing and sales of honey products and potential partner in promoting beekeeping enterprises	Vinamra Pandiya Founder and CEO Phone: 8237098982
Indian Origin	Potential agency for undertaking honey promotion	Indian Origins No. 55, Bhawani Kunj (behind Sector-D/2, Vasant Kunj), New Delhi - 110070 Telephone +011-26895338

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Table 22: Recommended resources and agencies – Promotion of beekeeping for pollination services and entrepreneurship development

4.2.3 Timeline for implementation of activities

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Co-coordinating with authorities and departments												
Identifying agencies for active promotion of beekeeping in the landscape												
Identification and selection of farmers and villages												
Awareness and communication campaign												
Training farmers and support in infrastructure development												
Support in the formation of small farmers group												
Developing beekeeping infrastructure in convergence with ongoing schemes												
Processing units with the support from existing schemes												
Strengthening access to information, market, finance and technology												
Further Developments												

Table 23: Timeline for implementation - Promotion of beekeeping for pollination services and entrepreneurship development

4.2.4 Expected Outcomes

Outcomes	
Social Outcomes	<ul style="list-style-type: none"> Increased awareness on the importance of pollination services Enhanced livelihoods through the development of beekeeping enterprises Women and youths are empowered through their engagement and participation

Economic Outcomes	<ul style="list-style-type: none"> ▪ Increased income for farmers through improved productivity ▪ Economic benefits to local communities through entrepreneurship development ▪ Income and livelihood security through natural alternative
Environmental Outcomes	<ul style="list-style-type: none"> ▪ Healthy bee populations and pollinators improving natural ecosystem

Table 24: Expected outcomes - Promotion of beekeeping for pollination services and entrepreneurship development

4.3 Promotion of Poly-house Farming

4.3.1 Terms of Reference (ToR) for hiring implementation agency

Title of the assignment: Hiring a Resource Agency for Promoting Poly-house Farming in Pangl Lahaul Landscape of Secure Himalaya Project

About the assignment: Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems (SECURE) is a project undertaken by The Ministry of Environment, Forest and Climate Change (MoEFCC) along with UNDP, and funded by GEF. The project aims to support the Government of India and State Governments to promote sustainable land and forest management in alpine pastures and forests in High range Indian Himalayan Ecosystems that secure sustainable livelihoods and ensure conservation of globally significant biodiversity and threatened species.

The assignment 'Engaging an agency for Promoting poly-house farming in Lahaul Pangl Landscape under the SECURE Himalaya Project' by UNDP intended to hire the services of an expert agency to support state governments in undertaking activities for achieving outcome 2 of the project. This project component identifies the need to develop sustainable livelihoods in the project landscapes. In order to achieve this, the assignment emphasis on improving the existing livelihoods through pol-house farming ensuring improved economic and associated benefits to the community. This intervention falls under the Agriculture and Horticulture domain of Livelihood Strategy of Lahaul Pangl Landscape.

Agriculture and Horticulture: Agriculture and horticulture are the primary livelihood option for the community members in Lahaul-Pangl landscape. Over the years, the region has witnessed shift from traditional to commercial crops and practices. This makes the communities highly vulnerable to market related uncertainties and price fluctuations. Recently, climate change and related factors are also directly started affecting the agricultural practices. The farmers reported losses due to change in climatic patterns, crop diseases and market failure. Majority of the existing schemes, like schemes related to poly-house farming, solar fencing etc., are less adaptive to local conditions and requires situational adjustments. In this context, it is important to mitigate the risks associated with existing practices and promote alternative and sustainable solutions. The recommended strategy in the sector primarily designed to mitigate the risks associated with existing practices and to Increase livelihood security through alternative and sustainable solutions.

Poly-house farming can help the community members in reducing the overdependence on markets and Public Distribution System (PDS) during winter in meeting food requirements. It can also help them in selling the excess produce to markets and thereby providing an alternative source of income. However, the functional schemes related to poly-houses in the region failed to benefit the communities due to the inability of existing designs of poly-houses to resist excess wind, snowfall and climatic conditions. If better designs adaptive to local conditions introduced with the support from ongoing schemes, then poly-houses can improve the livelihoods by reducing the excess market dependency and by providing attractive income to farmers through the sales of off-season vegetables and produces.

Objectives of the assignment:

The major objectives of the assignment are:

- To promote poly-house farming as potential livelihood option in the project landscape
- To study the present situation and develop a design for the poly-houses that are most adaptive to local conditions
- To build the capacities and skills of community members on poly-house farming

Scope of the work: The Forest Department, under UNDP SECURE Himalaya project, offers an opportunity for an experience implementation agency - with extensive experience in undertaking similar assignment in similar landscape or with similar communities - for the implementation of planned activities under state-level livelihood strategy. The scope of the work includes the following (but not limited to):

a) Situational assessment and design development:

The hired agency is required to assess the climatic and environmental conditions and develop models for testing and piloting at later stages

b) Piloting new designs:

The hired agencies are required to pilot the developed designs of poly-house in the landscape with the assistance from Agriculture and Horticulture departments

c) Preparation of DPRs:

Presently, the departments in both Lahaul and Pangi are willing develop agricultural infrastructure to support farmers but lacking in resources and capacities for implementation. The hired agency expected to work closely with the departments in the preparation of DPRs for the promotion and scaling of poly-house farming in the project landscape

d) Identification of interested farmers and capacity enhancement:

The hired agency required to identify the suitable villages, interested farmers, and co-ordinate with the departments in helping them to access the existing schemes. Awareness on existing schemes and the benefits can communicated to farmers as a part of communication efforts under various strategies proposed for the landscape. The two major active schemes that can promoted by the project are,

1. Dr Y S Parmar Kisan Swarozgar Yojana
2. Mukhya Mantri Green House Renovation Scheme

The interested farmers are need to train on scientific farming with poly-houses. The ongoing ATMA scheme is one of the potential options for the project in capacity building of community members. The hired agency under the project required to work with Agriculture department and expert agencies in ensuring adequate skill requirements of farmers.

e) Coordinating with authorities in further developments:

The hired agency required co-ordinate with the authorities in further development of poly-houses. The agency can work closely with ITDP, relevant departments and authorities in passing special provisions for the promotion of poly-houses and capacity enhancement

Expected deliverables:

1. Landscape assessment study and operational plan for the promotion of poly-houses in the project landscape including community capacity building plan
2. Developing a poly-house design suitable for the local conditions in co-ordination with agriculture and horticulture departments and piloting the design
3. Identification of interested farmers and training on poly-house farming
4. Helping interested farmers in accessing subsidies through various schemes
5. Co-ordination with authorities and departments in further promotion
6. Report on implementation of planned activities

4.3.2 Recommended Resources and Expertise for Promoting Poly-house farming

Agency	Expertise/Resources	Contact Information
Spiti Ecosphere	Spiti Ecosphere is successfully developed poly-houses in Spiti. Ecosphere can be a resource agency for the project to implement the proposed activities	Ishita Khanna, Founder Main Market Kaza, Kaza, Spiti, Himachal Pradesh 172114 094188 60099
Sonam Jorgyes	Sonam Jorgyes is an Ashoka fellow and social innovator from Ladakh. Sonam is developing and introducing technological innovations to the agricultural communities in Ladakh. He can be a resource personnel for the project in providing necessary technical expertise	Sonam Jorgyes Project co-ordinator TISS LAHDC project +91 1982 256204
CSK HP Krishi Vishvavidyalaya	Secure Himalaya can support a Project with CSKHP Krishi Vishvavidyalaya Palampur for Designing new Polyhouses. This can be experimented in KVK Kusumseri or on site in villages	Dr. Akhilesh Sharma, Head Department of Vegetable Science and Floriculture, CSK HP Krishi Vishvavidyalaya Mobile: +919816612008 Phone: +911894230390 (O) Fax: +911894230406; +911894230521 Email: asharmaakhil1@gmail.com
Krishi Vigyan Kendra, Kukumseri	The project can associate with KVK and submit a project proposal to National Mission for Himalayan Studies as a part of experimenting new designs	Programme Coordinator Contact No. +91 94181 -93270 (M) Email address: pckvkls@gmail.com

Table 25: Recommended resources – Promotion of poly-house farming

4.3.4 Timeline for implementation of activities

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Identification of a resource agency to develop poly-house design												
Study and development of poly-house design with the assistance from resource agency												

Piloting new designs												
Preparation of DPRs												
Identification of interested farmers												
Capacity enhancement through ongoing schemes												
Coordinating with authorities in further developments												
Further promotion of poly-houses												

Table 26: Timeline for implementation – Promotion of Poly-house farming

4.3.5 Expected Outcomes

Outcomes	
Social Outcomes	<ul style="list-style-type: none"> ▪ Decreased dependency on markets in meeting livelihood requirements ▪ Extended farming period except for few months for farmers practicing poly-house farming
Economic Outcomes	<ul style="list-style-type: none"> ▪ Increase in income through the sales of surplus vegetables and food items ▪ Increased savings for community members due to decreased dependency in outside markets for food items

Table 27: Expected outcomes - Promotion of Poly-house farming

4.4 Enhancing Irrigation Practices

4.4.1 Recommended resources/expertise in enhancing irrigation practices

Agency	Expertise/Resources	Contact Information
Krishi Vigyan Kendra, Kukumseri	The project can approach KVK for necessary technical support	Programme Coordinator Contact No. +91 94181 -93270 (M) Email address: pckvkls@gmail.com
Himalayan Plastics Limited	Himalayan Plastics is the empaneled company for providing Micro-irrigation systems	Suresh Pal Sharma, Marketing Manager Himalayan Plastics Ltd. Industrial Estate Chambaghat Solan, 173213 9816034865

Table 28: Recommended resources and expertise in enhancing irrigation practices

4.4.2 Timeline for implementation of activities

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Co-coordinating with agriculture department												
Planning of awareness sessions and training programmes												
Contacting empanelled companies												
Conducting awareness sessions in selected villages												
Organizing training for farmers												
Identification and selection of resource person to prepare DPRs												
Preparation of DPRs												
Further promotion of schemes												

Table 29: Timeline for implementation – Enhancing irrigation practices

4.4.3 Expected outcomes

Outcomes	
Social Outcomes	<ul style="list-style-type: none">▪ Promotion of scientific farming practices in the landscape▪ Increased awareness on government schemes and benefits▪ Decreased efforts in irrigation will result in productive hours for community members to engage in other activities▪ Climate resilient irrigation facilities for the communities
Economic Outcomes	<ul style="list-style-type: none">▪ Improved agricultural productivity through enhanced irrigation facilities▪ Increase in income through improved productivity of agricultural produces▪ Increase in overall land under irrigation

Table 30: Expected outcomes – Enhancing irrigation practices

5. Animal Husbandry and Dairying implementation plan

a) Policies/schemes in relation to Animal Husbandry and Dairying and possibilities for convergence with the project

Strategy	Scheme	Possibilities for convergence with the project
Exploring The Potential of Milk Products	Agriculture Technology Management Agency (ATMA) scheme	The project can work with Animal Husbandry department in capacity building of community members in convergence with ongoing ATMA scheme in the landscape
	National Mission on Himalaya Studies	The project can partner with the mission to fund the recommended studies and implementation of activities under Himalayan Research Fellowship Scheme
	Chief Minister Start-up Scheme	The fellows hired by the project and activities involved in small scale entrepreneurship development can be supported by Chief Minister Start-up Scheme
	Mukhya Mantri Swavlamban Yojana	The schemes aims to develop self-employment and entrepreneurship amongst youths in the state. The project can work with Industries Department in the implementation of the scheme in the landscape and supporting infrastructure and entrepreneurship development
	Mukhya Mantri Yuva Ajeevika Yojana	
Promotion of Backyard Poultry as an Alternative Livelihood Option	Backyard Poultry Scheme	Under the scheme, 2-3 week old chicks of coloured varieties (Chabro, Kroilers) supplied to farmers (50-100 chicks/unit) in rural areas with certain inputs. The scheme is functional in Pangri but the department is facing issues due to increased mortality rates while transportation. The project can further promote the scheme through communication interventions in the landscape and encourage the department to pilot new breed
	Agriculture Technology Management Agency (ATMA) scheme	Training for community members interested in backyard poultry can be provided in convergence with ongoing ATMA scheme

Table 31: Policies/schemes in relation to Animal Husbandry and Dairying and possibilities of convergence with the project

5.1 Exploring the Potential of Milk Products

5.1.1 Terms of Reference (ToR) for hiring implementation agency

Title of the assignment: Engaging an expert research and implementation agency in exploring the potential of milk products in the Lahaul – Pangri landscape under SECURE Himalaya project

About the assignment:

Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems (SECURE) is a project undertaken by The Ministry of Environment, Forest and Climate Change (MoEFCC) along with UNDP, and funded by GEF. The project aims to support the Government of India and State Governments to promote sustainable land and forest management in alpine pastures and forests in High range Indian Himalayan Ecosystems that secure sustainable livelihoods and ensure conservation of globally significant biodiversity and threatened species. **Improved and diversified livelihood strategies** and improved capacities of community and government institutions for sustainable natural resource management is a major expected outcome of the project. **Exploring the potential of milk products** is a component under the state-level livelihood strategy developed for Lahaul-Pangri landscape in Himachal Pradesh.

The milk production is higher in the region but presently the local communities are not economically benefitted from it due to non-availability of easily accessible markets and less local demand. Traditionally, the milk produced and the products made like Ghee and *Churpi* are used for self-consumption. Researching the potential of milk products like Ghee, *Churpi*, and Cheese etc. may provide the community with a source of income and an alternative livelihood option especially during winters. Technological intervention for value addition requires lesser investment since the communities are already involved in making these products. Another advantage of value adding milk products is that the shelf life will be higher and hence delay in market linkages will not affect income-earning potential. There is a niche market for milk products with higher fat content and the existing products can be marketed amongst selected clientele like Tibetan Buddhist communities. The project will support the sector by identifying such Unique Selling Proposition and helping in market linkages as a part of landscape branding efforts.

The purpose of this ToR is for helping potential partner agencies in understanding the objectives of the assignment, scope of the work and expected deliverables.

Objectives of the assignment: The major objectives of the assignment are,

- a) To undertake an assessment study in the project landscape to understand the potential of value adding milk products and for developing an operational plan for implementation in alignment with the livelihood strategy developed
- b) To support project fellows in implementing their entrepreneurial interventions in the landscape
- c) To support infrastructure requirements of value addition in the project landscape and in community capacity enhancement
- d) To support branding and marketing of milk products
- e) To support overall value chain development of milk products in the project landscape

Scope of the work: The Forest Department, under UNDP SECURE Himalaya project, offers an opportunity for an experience implementation agency - with extensive experience in similar landscape or with similar communities - for the implementation of planned activities under state-level livelihood strategy. The broad scope of the work includes the following (but not limited to):

i. Assessing the potential of milk products

The partnering research agency is expected to undertake studies to understand the potential of milk products in the landscape and help the project in implementation of activities. The major areas that the project may require assistance from the partner agency are,

- a) Studying the potential of existing milk products like Ghee, Churpi etc. from supply and demand side
- b) Understanding the properties of existing products (from a market perspective) and areas of improvements
- c) Studying the potential of new products like artisanal cheese

The expected outcome of the assessment study is a cluster level/village level plan directly implementable by the agency for value adding milk products in the landscape through community led interventions.

ii. Community capacity enhancement

The hired agency required to assess the community capacity requirements for value adding milk products and should start various landscape level initiatives in community capacity enhancement. The hired agency may collaborate with various skill development initiative, ongoing government schemes or programs. The capacity enhancement plan should be based on the assessment study undertaken by the agency that identifies capacity requirements and operation plan for implementation.

iii. Infrastructure development

Depending on the nature of value addition and scale of activities, the agency should identify ways to fund the infrastructure requirement in the project landscape and implement the activities for infrastructure development.

iv. Branding and marketing support for community led interventions

The agency should also support the branding and marketing of milk products made through community led interventions. The project is planning to hire aspiring entrepreneurs through its livelihood development fellowship programme. The agency should also support the fellows working in the area of dairy products by providing timely guidance and assistance in implementation of the activities. The operational plan that will be developed by the implementation agency should consider the project fellowship as a major channel for implementing the proposed activities.

Expected deliverables:

The major expected deliverables under the assignment are,

- 2. Assessment study and implementation plan (in align with the livelihood strategy developed for the landscape) for value addition of milk products
- 3. Identification of infrastructure requirements under the proposed implementation plan and implementation of activities in developing infrastructure
- 4. Mobilizing community members and undertaking activities for enhancing the capacities of community members
- 5. Piloting the activities in the identified villages (Some villages are already identified by the livelihood strategy developed but the implementation agency can suggest changes depending on the assessment undertaken)

6. Formation of landscape level producer groups/co-operatives by organizing small village/cluster level groups
7. Supporting the project fellows in starting dairy based community led initiatives/enterprises
8. Supporting the branding and marketing of milk products made through community led interventions
9. Identification of possible ways to partner with the government departments to scale up strategy in convergence with ongoing schemes and undertaking various activities in achieving the expected livelihood outcomes
10. Report on implementation of planned activities

5.1.2 Recommended resources and expertise in dairy development

Resource	Expertise/Resources	Contact Information
Centre for Pastoralism	Centre for Pastoralism aims in understanding and improvement of pastoralist ecosystems. The centre can be one of the potential partner for undertaking recommended studies and activities	Vasant Saberwal (Director) 55, Shahpur Jat, Siri Fort, New Delhi, Delhi 110049 info@pastoralism.org.in +91.98183.69335 +91.2832.251814
Institute of Himalayan Bio-resource Technology	The institute can be one of the potential research agency for the project in case partnership with CFP is not possible	Dr. Sanjay Kumar Director CSIR-Institute of Himalayan Bioresource Technology (Council of Scientific & Industrial Research) Post Box No. 6 Palampur (H.P.) 176061, INDIA Tel: +91-1894-230411, Fax: +91-1894-230433 E-mail: director@ihbt.res.in
CropConnect Enterprises Pvt. Ltd.- http://cropconnect.in/	Technical expertise in the marketing and sales of milk products	Ms Ishira Mehta ishira.mehta@cropconnect.in Puneet Jhajharia puneet@cropconnect.in E-7, Saket, Ground Floor, New Delhi 110 017, India Email: info@cropconnect.in Tel: +91 965 056 2224
Aarohi https://www.aarohi.org/	Technical expertise in the marketing and sales of milk products	Pankaj Tewari pankaj@aarohi.org Neha Jacob neha@aarohi.org
Kilmora Kilmora.in	Technical expertise in the marketing and sales of milk products	Kumaun Grameen Udyog Kasiyalekh, Distt. Nainital Uttarakhand 263132 Tel: +91 7055218971, +91 7535977771 email: kilmora@kgu.org.in info@kgu.org.in
Qtrove.com	Marketing and sales of milk products and potential partner in promoting small scale enterprises	Vinamra Pandiya Founder and CEO Phone: 8237098982
Indian Origin	Technical expertise in the marketing and sales of milk products	Indian Origins No. 55, Bhawani Kunj (behind Sector-D/2, Vasant Kunj), New Delhi - 110070 Telephone +011-26895338

Table 32: Recommended resources and agencies – Exploring the potential of milk products

5.1.3 Timeline for implementation of activities

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Collaboration with research institutes/agencies												
Exploring the potential of milk products by partnering institute												
Hiring fellows or aspiring entrepreneurs for the development of small scale dairy enterprises												
Preparation of DPRs												
Capacity enhancement of community members with the support from ongoing schemes												
Small scale infrastructure development												
Developing range of products												
Branding and marketing of products												
Further developments												

Table 33: Timeline for implementation - Exploring the potential of milk products

5.1.4 Expected Outcomes

Outcomes	
Social Outcomes	<ul style="list-style-type: none"> Alternative livelihood option for the community members during winter Increased investments in livestock in terms of capital and capacities Increased value for traditional practices and products Increased employment opportunities for youths and women through entrepreneurship development
Economic Outcomes	<ul style="list-style-type: none"> Increased income through the sales of milk products Community members with homestays will economically get benefitted with the sales of products to tourist segments

Table 34: Expected outcomes - Exploring the potential of milk products

5.2 Promotion of Backyard Poultry as an Alternative Livelihood Option

5.2.1 Recommended resources and expertise in the Promotion of Backyard Poultry

Resource	Expertise/Resources	Contact Information
Department of Animal Genetics and Breeding, DGCN College of Veterinary and Animal Sciences, CSKHPKV	The institute can assist the project in conducting awareness sessions, distribution of new breeds and in documenting the learnings	CSKHPKV Palampur (HP) 176062 Dr. Y.P. Thakur, Head, Department of Animal Genetics & Breeding Phone: 01894 230321 Email: ypthakur@hillagric.ac.in
Dr. Varun Sankhyan	The department also conducts 7 days training course in Backyard Poultry from time to time for the functionaries of Extension Agencies. The project can contact the department in	Director Department of Animal Genetics & Breeding Dr G C Negi College of Veterinary & Animal Sciences Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya, Palampur, HP-176062 Fax: 01894:230321 Phone: 9418534054 Email: sankhyan@gmail.com

Table 35: Recommended resources and expertise – Promotion of backyard poultry as an alternative livelihood option

5.2.2 Timeline for implementation of activities

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Coordinating with departments and institutions												
Planning and implementation of communication activities												
Organizing awareness camps and identifying interested community members												
Conducting training workshops on backyard poultry												
Supporting the distribution of new breeds												

6. General Strategies

6.1 GIS Enabled Entitlement Tracking

6.1.1 Recommended agencies and resources for the development of GIS Enabled Entitlement Tracking

Expertise	Expertise / Resource	Contact
GIS Enabled Entitlement Tracking (GEET)	GEET is an initiative from the Ministry of Rural Development to improve reach, response and review of the implementation of social security scheme. The initiative supported by UNDP and FES and hence the project can look for collaboration.	Rural Development Department, Jharkhand State Livelihood Promotion Society (JSLPS) SRC, 3rd Floor, FFP Building, HEC Campus Dhurwa, Ranchi - 834004 Jharkhand, India Email: geetjharkhand@gmail.com Phone No: 0651-2401783
Foundation for Ecological Security	GEET is developed by FES and the project can seek expertise and support for developing a similar application for the landscape	PB No. 29, Anand 388 001, Gujarat, India. Tel: +91 (2692) - 261402 / 261238 / 260537 Fax: +91 (2692) - 262087 email: ed@fes.org.in www.fes.org.in

Table 38: Recommended resources and agencies for the development of GIS enabled entitlement tracking

6.1.2 Timeline for implementation

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Identifying and selecting expert agency												
Developing database and GIS enabled application												
Deployment and initial training with the Government Departments at the landscape level												
Identification of village/panchayat level enumerators by UNDP project officials												
Training for the enumerators with the assistance from departments												
Initial demonstration and installation by enumerators												
Promoting the application during events and festivals												
Monitoring and updating the dashboard by departments												

Table 39: Timeline for implementation - GIS enabled entitlement tracking

6.2 Livelihood Development Fellowship Programme

6.2.1 Fellowship Programme Proposal and Request for EoI

Title: Inviting **Expression of Interest (EoI)** from various government agencies, non-profit organizations, trusts and foundations who are willing to collaborate with 'SECURE Himalaya Livelihood Development Fellowship' a unique livelihood development initiative of Himachal Pradesh Forest Department under UNDP SECURE Himalaya Project supported by GEF

About SECURE Fellowship: Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems (SECURE) is a project undertaken by The Ministry of Environment, Forest and Climate Change (MoEFCC) along with UNDP, and funded by GEF. The project aims to support the Government of India and State Governments to promote sustainable land and forest management in alpine pastures and forests in High range Indian Himalayan Ecosystems that secure sustainable livelihoods and ensure conservation of globally significant biodiversity and threatened species. **Improved and diversified livelihood strategies** and improved capacities of community and government institutions for sustainable natural resource management is a major expected outcome of the project. Livelihood development fellowship is a unique program under the state-level livelihood strategy developed for Lahaul-Pangi landscape in Himachal Pradesh. Under the envisaged programme, the project will provide an opportunity for passionate minds from renowned academic institutions and various realms of development sector to work in the project landscape for a period of 13 months in improving the livelihoods of local communities through various innovative interventions with the potential of scaling up. For the first year of livelihood development fellowship, the project is planning to select 5 to 6 applicants and the cohort size may further expanded thereafter. The selected fellows are expected to utilize the livelihood strategy developed for the landscape as a general guiding document in initiating the interventions. Some of the key areas of focus under the fellowship programme include,



- **Promoting innovation and entrepreneurship:** The aspiring fellows are expected to start new and innovative entrepreneurial intervention with the potential for scaling up in the Lahaul-Pangi project landscape in improving and diversifying livelihoods. The project may support innovative interventions beyond the fellowship period depending on the progress achieved towards the end of the fellowship period and potential for further scaling
- **Community capacity enhancement:** Community capacity enhancement is major focus under the fellowship programme. The fellows are expected to start various capacity

enhancement interventions that may support the development of new livelihood options for the community members in the project landscape

- **Strengthening institutions:** Presently, the government and community institutions in the landscape are lacking capacities and resources in implementing various schemes, programs and initiatives. The aspiring fellows will work closely with communities and government institutions and devise innovative ways to utilize the existing levels of capacities and in further strengthening of institutions
- **Enhancing external positive engagement and actions:** The livelihood fellowship programme expected to bring various agencies, stakeholders and people together which will further leads to the development of interventions and initiatives with the potential of enhancing the livelihoods in the landscape

Expression of Interest from potential partners: In order to launch the Livelihood development fellowship in the project landscape, the Forest Department recognize the need for partnering with various government agencies, non-profit organizations, trusts and foundations. The identified areas for possible collaborations are,

- i) Supporting the initiative by providing necessary incubation and mentorship support to innovative entrepreneurial interventions of selected fellows
- ii) Supporting the fellowship by providing possible support in convergence with ongoing schemes/programs under various government departments relevant for the project landscape
- iii) Supporting the fellowship programme by providing necessary assistance to the selected fellows in covering their operational expenses during the period of fellowship
- iv) Recognizing the fellowship programme as a partner initiative under ongoing similar programs of foundations/organizations/agencies and providing necessary outreach and operational support

Himachal Pradesh Forest Department invites all the potential partners to express their interest in collaborating with the unique fellowship programme for the development of sustainable livelihoods in the Lahaul-Pangi landscape of Himachal Pradesh. The potential partners can show their interest by filling and submitting EoI form attached herein. The initial stages involved in the partnering process are,

- a) Potential partner submitting EoI form
- b) Identifying possible areas of partnerships in mutual consensus
- c) Agreeing to the fellowship programs terms and conditions and
- d) Signing letter of intent with the department

General terms and conditions for various agencies:

1. Non-profit foundations with ongoing similar fellowship programs:

Expected Roles and responsibilities: Non-profit foundations with ongoing similar fellowship programs (Eg: SBI Youth for India fellowship, Clinton Fellowship etc.) are expected to,

- Recognize the fellowship programme as a partner initiative
- Providing fellowship grant to the selected fellows for the project landscape in covering their operational expenses
- Provide outreach support for the initiative through websites, social media etc. of the potential partner
- Provide support in the application process of selecting fellows

- Provide support to the fellows in the overall development of initiative during fellowship period and beyond
- Provide incubation and acceleration support to the fellow initiative if applicable

Expected benefits for partner organizations:

- Leveraging the project capacities to scale up impact and reach of the partner's fellowship programme
- Chance to co-fund impactful livelihood development initiatives in the Himalayan region

2. Non-profit organizations with entrepreneurship/livelihood development support initiatives

Expected Roles and responsibilities: Non-profit organizations with entrepreneurship/livelihood development support initiatives (Eg: UNDP Youth Colabs) are expected to,

- Connect aspiring fellows with government, mentors and incubators
- Provide possible access resources to meet fellow's operational and financial requirements
- Provide necessary support in scaling up interventions

Expected benefits for partner organizations:

- Chance to co-create impactful livelihood development initiatives in the Himalayan region
- Taking actions towards achieving Sustainable Development Goals (SDGs)

3. Government agencies through their ongoing schemes/programs

Expected roles and responsibilities: Government agencies/departments with ongoing schemes/programs (Chief Minister Startup Scheme, Mukhya Mantri Swavlamban Yojana, Mukhya Matri Yuva Aajevika Yojana) are expected to,

- Support the fellows through grants under the various provisions of existing schemes
- Provide financial support to meet operational requirements in convergence with ongoing schemes
- Provide support in the development of landscape level infrastructure
- Provide necessary incubation and mentorship facilities

Expected benefits for partner organizations:

- Channel for effectively implementing ongoing schemes and programs
- Chance to co-fund impactful livelihood development initiatives in the state

4. Educational institutions with focus on social entrepreneurship/social sciences/livelihoods/other relevant areas

Expected roles and responsibilities: Educational institutions with focus on social entrepreneurship/social sciences/livelihoods/other relevant areas (TISS, APU etc.) are expected to,

- Encourage students to apply for the fellowship programme
- Conduct workshops/sessions for the fellows
- Provide incubation facilities at possible capacities

- Provide mentorship support
- Provide access to various funding channels through existing network of partners

Expected benefits for partner organizations

- Potential chance to partner with state government initiative and other project partners
- Chance to support fellows who are committed to the development of livelihoods in the Lahaul-Pangi project landscape

EoI Sample Format:

Name of potential partner	
Legal status	
Possible areas of partnership with the initiative	
Expected outputs with partnership	
Expectations through partnership	
Commitment period	
Probable month of signing Letter of Intent with State Government	
Contact information	
Remarks	

Note: Some of the potential partners for the project are listed below. Potential areas of partnership and contact details for sending above request for EoI are given in Annexure 1 under recommended agencies and resources,

1. SBI Foundation - Youth for India Fellowship
2. American India Foundation – Clinton Fellowship
3. Department of Industries – Himachal Pradesh
4. Department of Rural Development – Himachal Pradesh
5. TISS Centre for Social Entrepreneurship
6. Social Alpha
7. Centralized Placement Cell, TISS
8. University Placement Committee, Azim Premji University
9. UNDP Youth Co-labs
10. ALC India

6.2.2 Recommended agencies and resources for launching Livelihood Development Fellowship Programme

Resource	Expertise / Resource	Contact
Centralised Placement Cell, TISS, Mumbai	<p>The project can be a recruitment partner with Placement Cell, TISS. The placement Cell can identify the most suitable candidates for the fellowship from different schools</p> <p>Recommended centres for hiring fellows are,</p> <ol style="list-style-type: none"> 1. Centre for Social Entrepreneurship 2. Centre for livelihoods and social innovation 3. School of Rural Development 4. Centre for the Study of Contemporary Culture (For communication interventions and branding efforts) 	<p>Ms Leela Banerjee Officer – Training and Placements , Mumbai campus +91 22 2552 5906 leela.banerjee.tiss.edu cpc@tiss.edu cdfc@tiss.edu</p>
Centre for Social Entrepreneurship	<p>Students of Social Entrepreneurship are experienced in ideating and implementing their entrepreneurial ventures. Some of the students who are not continuing with their ventures but looking for other opportunities can be supported under the fellowship programme</p>	<p>Prof Samapti Guha Professor and Chairperson, TISS, CSE samapti@tiss.edu Phone: +91-22-2552-5814 Mobile: +91 9819462418</p>
Clinton Fellowship, American India Foundation	<p>Clinton Fellowship can be a partner for the envisaged fellowship programme in the landscape. The fellowship already has good outreach and hence a suitable option for the project to consider</p>	<p>Mather Joseph Country Director, American India Foundation Phone: 9871003552</p>
SBI Youth for India Fellowship	<p>The fellowship program is one of the well-known fellowship programmes in India. The project can consider SBI foundation as one of the potential partner in launching the fellowship programme</p>	<p>Nixon Joseph President and COO SBI Foundation nixon@youthforindia.org coo.sbfoundation@sbi.co.in</p>
Social Alpha Fellowship	<p>Social Alpha fellowship is a collaborative initiative of Tata Trusts. The fellowship focuses on promoting social entrepreneurship amongst aspiring youths. The project can explore potential areas of collaboration</p>	<p>Manoj Kumar Co-founder and CEO Phone: 9845293846 Email: manoj@socialalpha.org</p>
Prof Satyajit Majumdar	<p>Professor Satyajit can be a resource person for the fellowship programme and in guiding the fellows throughout the programme. He may also able to introduce the practical concepts to the</p>	<p>Satyajit Majumdar Room No 305, Academic Building No 2, Naoroji Campus (New Campus), Tata Institute of Social Sciences, Deonar, Mumabi - 400 088, Maharashtra, India</p>

	fellows through workshops and programmes	+91 22 2552 5815 satyajit@tiss.edu
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Table 40: Recommended resources and expertise –Livelihood development fellowship programme

6.2.3 Timeline for implementation

Activity	Year 1 (2020)				Year 2 (2021)				Year 2 (2021)			
	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sept	Oct to Dec
Collaboration with ongoing government initiatives and fellowship programs												
Developing terms of fellowship												
Developing portal												
Promotion of fellowship programme												
Hiring fellows												
Initial orientation and workshops												
Field immersion												
Incubation of selected initiatives												
Acceleration												
Further developments												

Table 41: Timeline for implementation - Livelihood development fellowship programme

Baseline Survey Tools

CHECKLIST OF QUESTIONS FOR BASELINE SURVEY

The sections below provide a comprehensive checklist of questions for the various livelihood activities as envisaged under the SECURE Himalayas project being undertaken by UNDP.

Section A (Identification) and Section B (household characteristics) are **general sections** of the survey and should be administered with every household along with the activity specific surveys. Section C to Section L are **activity specific surveys** in line with the livelihood activities as elucidated in the Livelihood Strategy report submitted to UNDP.

The sections on specific livelihood activities, aim to capture the current income/increase in income from these activities specifically. The specific sections should thus be administered with the households being targeted under the relevant livelihood intervention.

For every question mentioned in each section, the relevant tool that should be administered with the appropriate stakeholder has also been highlighted. The listed questions across the questions can be used as a part of:

- a) Quantitative surveys administered with the relevant community members
- b) Qualitative discussions such as focused group discussions with the relevant community members
- c) Qualitative interactions such as in depth interviews with relevant department officials

A. IDENTIFICATION				
Q.NO	QUESTIONS AND FILTERS	CODING CATEGORIES		SKIP TO
1.	State			
2.	District			
3.	Block Name	Block name will be listed in the CAPI		
4.	Gram Panchayat Name	Gram Panchayat name will be listed in the CAPI		
5.	Village Name	Village name will be listed in the CAPI		
6.	Hamlet Name (Please write)			
7.	Household Identification Number (from listing data)			
8.	Name of the Respondent			
9.	Father's/ Husband's Name			
10.	Gender of the Respondent	Male	1	
		Female	2	
		Other	88	
11.	Phone Number			
12.	Social Group	General	1	
		Other Backward Caste	2	
		Scheduled Caste	3	
		Scheduled Tribe	4	
13.	Religion	Hindu	1	
		Muslim	2	
		Christian	3	
		Sikh	4	
		Others	88	

B. HOUSEHOLD CHARACTERISTICS				
Sr. No	QUESTIONS	OPTIONS		SKIP TO
1.	Status of house	Owned	1	
		Rented	2	
		Others	88	
2.	House type/structure	Kutchra	1	
		Pukka	2	
		Mixed	3	
3.	Principal source of cooking (Single Response)	Fuelwood	1	
		Cow dung cakes	2	
		Kerosene	3	
		Coal	4	
		Gas(LPG)	5	
		Other_____	88	
4.	Main source of lighting (Single Response)	Kerosene oil	1	
		Other oil	2	
		Gas	3	
		Electricity	4	
		Solar	5	
		Other	88	
5.	Main source of drinking water (Single Response)	Piped Water within household	1	
		Public Piped Water	2	
		Tube-well/ Borehole	3	
		Hand-pump within household	4	
		Public Hand Pump	5	
		Protected well	6	
		Unprotected well	7	
		Protected spring	8	
		Unprotected spring	9	
		River/stream/canal/lake/pond	10	
		Rainwater collection	11	
		Tanker/truck	12	
		Other	88	
6.	Do you have access to a pucca toilet?	Yes	1	
		No	2	
7.	What is the type of ration card	Antyodaya	1	
		BPL	2	
		APL	3	
		Do not have Roshan card	4	
8.	Do you or anyone in your household have a MGNREGA card?	Yes	1	
		No	2	
9.	How many members are there in your family? Include yourself and those who have migrated for work / study?	Number -		

Sr. No.	Question	Options	Skips	Tool
C. Development of Homestay Ecosystem				
1.	How many households in the project villages have homestays?			MIS/Project documents
2.	When did you start your homestay?			Quant HH with relevant community
3.	How many rooms does your homestay have?	1-2		Quant HH with relevant community
		3-4		
		5-6		
		More than 6		

4.	What was the expenditure incurred on running the homestay in the past year?					
	Equipment Bought	Option	Quantity	Price (per unit)	Total Cost (Rs.)	Tool
	Room furniture	A				Quant HH with relevant community
	Crockery	B				
	Bed and Bath items	C				
	Staff	D				
	Food Items	E				
	Water	F				
	Transport	G				
	Electricity	H				
	Other	I				

5.	Occupancy Rate			
a.	Annual			Tool
	Total No. of Rooms Occupied	Total No. of Available Rooms	Occupancy Rate (%)	Quant HH with relevant community
b. Monthly				
	Total No. of Rooms Occupied	Total No. of Available Rooms	Occupancy Rate (%)	
	•			

6.	Gross Income Received from Homestay in Past Year?			Tool
	No. of Days Occupied			Quant HH with relevant community
	Rate per day (Rs.)			
	Total			

7.	Challenges Faced in Running Homestay?				Tool
a.	Lack of funds	1			Quant HH with
b.	Difficult Terrain & weather causing lack of tourists	2			

c.	Lack of Promotion causing lack of tourists	3			relevant community
d.	Remoteness of Homestay	4			
e.	Lack of time during tourist season	5			
f.	None	0			
g.	Other, please mention	88			

8.	Training & Workshops				Tool
	Type	Number			
a.	No. of trainings conducted				MIS
b.	No. of workshops conducted				MIS
c.	No. of exposure visits conducted				MIS
9.	Participation in Training				Quant HH with relevant community
		Yes	1		
		No	2	Skip to 12	
10.	If yes, what were you trained on?				Quant HH with relevant community
11.	If yes, how has the training benefitted you?				Quant HH with relevant community
12.	If no, what were the reasons for not participating?				Quant HH with relevant community
13.	Awareness & Access to Schemes				Quant HH with relevant community
13a.	Awareness				
i.	Mukhya Mantri Swavlamban Yojana	Yes	1		
		No	2		
ii.	Mukhya Mantri Yuva Ajeevika Yojana				
		Yes	1		
	No	2			
iii.	Himachal Pradesh Homestay Scheme, 2008				
		Yes	1		
	No	2			
iv.	Soft Bank loans				
		Yes	1		
	No	2			
13b.	Source of Awareness				
		Friends/Relatives/Neighbors	1		
		Radio/Television/Mobile	2		
		Newspaper/Pamphlet/Brochure	3		
		Through Government Department	4		
		Front line workers	5		
		MGNREGA	6		
	Other	88			

13c.	Access/Availed Benefits				
i.	Mukhya Mantri Swavlamban Yojana				
		Yes	1		
		No	2		
ii.	Mukhya Mantri Yuva Aajeevika Yojana				
		Yes	1		
		No	2		
iii.	Himachal Pradesh Homestay Scheme, 2008				
		Yes	1		
		No	2		
iv.	Soft Bank loans				
		Yes	1		
		No	2		
	If no, reasons for not availing benefits?	Lack of literacy	1		
		Excessive documentation	2		
		Lack of awareness	3		
		Other, please specify	88		
14.	Is there an association of homestay owners/ operators in the landscape?	Yes	1		Quant HH with relevant community
		No	2		
15.	Activeness of Forum				Qualitative discussion (IDI) at Tehsil level with concerned department
	Does this forum have meetings?				
	If yes, how often?				
	If no, why not?				
	How many individuals participate?				
	Who are these individuals? (designations)				
	What is discussed in these meetings? Are minutes kept?				
	Challenges faced as part of this forum?				
	Is there a system to provide feedback?				
	If yes, is feedback incorporated in the system?				
16.	Participation in Forum				Quant HH with relevant community
a.	Do you use this forum?				
		Yes	1		
		No	2		
b.	If no, why not? (if selected 2 in previous question)				
c.	If yes, for what purpose?				
d.	What are the benefits of having this forum?				

Sr. No.	Question	Options	Skips	Tool
D. Impact Adventure Tourism & Lahaul-Pangi Valley Adventure Weeks				
1.	How many households in the project villages own adventure tourism companies?			MIS/Project documents
2.	How many adventure tourism companies have been registered?			MIS/Project documents
3.	How many companies/individuals have been certified?			MIS/Project documents
4.	How many adventure weeks have been organised?			MIS/Project documents
5.	When did you start your company?			Quant HH with relevant community
6.	Is it registered?	Yes	1	
		No	2	
7.	Activities offered by company (multiple answer question)	Water sports	1	Quant HH with relevant community
		Rock Climbing	2	
		Mountaineering	3	
		Trekking	4	
		Others, please specify	88	

8.	What was the expenditure incurred by the company in the past year? (Ask for each activity chosen)					
	Equipment Bought	Option	Quantity	Price (per unit)	Total Cost (Rs.)	Tool
a.						Quant HH with relevant community

9.	Gross income earned by Company in Past Year?		Tool
	No. of bookings (ask for each activity)		Quant HH with relevant community
	Rate per booking (Rs.) (ask for each activity)		
	Total (ask for each activity)		

10.	Challenges faced in running Company?					Tool
a.	Lack of funds	1				Quant HH with relevant community
b.	Difficult Terrain & weather causing lack of tourists	2				
c.	Lack of promotion causing lack of tourists	3				
d.	Remoteness of landscape	4				
e.	Lack of time during tourist season	5				
f.	High risk	6				

g.	Lack of trained staff	7			
h.	None	0			
i.	Other, please mention	88			

11.	Training & Workshops				MIS/Project documents
	Type	Option	Number	Skips	
a.	No. of trainings conducted				
b.	No. of workshops conducted				
c.	No. of exposure visits conducted				Quant HH with relevant community
12.	Participation in Training				
		Yes	1		
		No	2	Skip to 12	
13.	If yes, what were you trained on?				
14.	If yes, how has the training benefitted you?				MIS/Project documents/Qualitative discussions with relevant departments
15.	If no, what were the reasons for not participating?				
16.	How many courses have been developed for youth on adventure sports? (probe: basic course in mountaineering, search & rescue course)				
17.	Have you participated in adventure week/events/festivals?	Yes	1		Quant HH with relevant community
		No	2		
18.	If yes, how many times have you participated?				Quant HH or Qual FGD's with relevant community
19.	What are the challenges you face in participating in these?				
20.	What are the benefits of participating in these?				

Sr. No.	Question	Tool
E. Promotion of Conservation Oriented Nature Tourism, Pangi Eco Tourism Society & Organization of Contests, Competitions and Drives		
1.	How many households in the project villages have certified nature guides?	MIS/Project documents
2.	Have they been engaged in the organised adventure weeks?	MIS/Project documents
3.	How many trainings, workshops and exposure visits have been held for nature guides? <ul style="list-style-type: none"> Who conducts these trainings Who all participate in these? How frequently are these held? What is discussed as part of these? 	MIS/Project documents
4.	How many nature trails and circuits have been identified? When were these identified?	MIS/Project documents
5.	What are the different mediums through which literature has been developed on nature tourism? (e.g.: social media, education literature, posters, pamphlets etc.)	MIS/Project documents
6.	Is there a nature tourism entity that exists in the landscape?	MIS/Project documents/ Qualitative discussions with relevant departments
7.	Does this entity have meetings? If yes, how often? If no, why not?	
8.	How many individuals participate? What are the designations of these individuals?	
9.	What is discussed as part of these meetings? Are minutes of the meeting kept?	
10.	What are the challenges faced as part of this entity?	
11.	Is there a system to provide feedback? If yes, is feedback incorporated in the system? Can you give us an example?	Qualitative discussions with relevant departments
12.	What are the challenges faced in coordinating/converging with other departments/stakeholders? What are the advantages/benefits of having convergence of different departments/stakeholders?	
13.	Are sensitization events such as environmental or cultural days conducted? If yes, how often are these conducted?	MIS/Project documents
14.	What are the various policies, regulatory mechanisms in place currently to specifically manage these regions? <ul style="list-style-type: none"> What are the challenges in implementing these? What are the various benefits of having these in place? 	Qualitative discussions with relevant departments

15.	When did you/your family member start providing services as nature guide?		Quant HH with relevant community
16.	What is the expenditure incurred on this livelihood in the past year?		Quant HH with relevant community
17.	What is the gross income you received as part of this livelihood in the past year?		Quant HH with
	No. of bookings received in the past year:		

	Rate of 1 booking:			relevant community
	Total:			
18.	What are the various challenges you face as part of this livelihood?			

Sr. No.	Question		Options		Skips	Tool
19.	Did you participate in any sensitization events?		Yes	1		Quant HH with relevant community/ Qual discussions (FGDs) with nature guides
			No	2		
20.	If no, reasons for not participating?					
21.	Have you participated in trainings/workshops?		Yes	1		
			No	2		
22.	If yes, what are the benefits of these trainings?					
23.	What challenges do you face as part of these training sessions?					
24.	Is there a feedback system as part of the sessions? If yes, are these feedbacks incorporated in the trainings? Can you give us an example?					
25.	Are you aware of a nature tourism entity existing in the landscape?		Yes	1		
			No	2		
26.	Do you use this entity?		Yes	1		
			No	2		
27.	If no, why not?					
28.	If yes, for what purpose?					
29.	No. of new local products produced & sold					
	Products Sold in Market	Quantity sold in past year (kg)	Price of Sale (Rs.)	Total Income earned through Sale	Point of sale	Quant HH with relevant community/ Qual discussions (FGDs) with nature guides
30.	Reduced collection of NTFPs from the wild					
	Type of NTFP's Collected last year	Quantity collected last year (kg)	Quantity Sold (kg)	Quantity Consumed (kg)	Sale Price (Rs.)	Quant HH with relevant community/ Qual discussions (FGDs) with nature guides

Sr. No.	Question								Tool
F. Reviving Wool Based Traditional Handicraft									
1.	Is there a plan developed for community led handicraft development initiative?								MIS/Project documents
2.	How many households have been identified as part of this initiative?								
3.	How many training sessions have been held for the identified households?								
4.	Is there a conservation institution at community level? <ul style="list-style-type: none">No. of members in the institutionNo. of meetings heldFrequency of holding meetingsNature of discussions of meetings								
5.	What are the various activities undertaken by the household during winters?								Quant HH survey with relevant individuals chosen for this intervention
6.	Have you been engaged in making wool based traditional handicraft?					Yes	1		
						No	2		
7.	Since when have you been engaged in this livelihood?								
8.	What kinds of products do you make?								
9.	For each product listed:								Quant HH survey with relevant individuals chosen for this intervention
	Type of Product	Total Units Made	Time taken to make 1 unit	Units Kept at Home	Units Sold	Sale Price per Unit	Point of Selling	Expenditure incurred on producing 1 unit	
10.	What are the challenges faced in producing and selling wool based handicrafts?								
11.	What are the various benefits of engaging in this livelihood?								

12.	Awareness & Access to Schemes			Quant HH survey with relevant individuals chosen for this intervention
12a.	Awareness			
i.	Chief Minister’s Startup Scheme	Yes	1	
		No	2	
ii.	Mukhyamantri Swavalamban Yojana	Yes	1	
		No	2	
iii.	Integrated Tribal Development Project (ITDP) under Tribal Sub Plan	Yes	1	
		No	2	
12b.	Source of Awareness	Friends/Relatives/Neighbors	1	
		Radio/Television/Mobile	2	
		Newspaper/Pamphlet/Brochure	3	
		Through Government Department	4	
		Front line workers	5	
		MGNREGA	6	
		Other	88	
12c.	Access/Availed Benefits			
i.	Chief Minister’s Startup Scheme	Yes	1	
		No	2	

ii.	Mukhyamantri Swavalamban Yojana	Yes	1	
		No	2	
iii.	Integrated Tribal Development Project (ITDP) under Tribal Sub Plan	Yes	1	
		No	2	
	If no, reasons for not availing benefits?	Lack of literacy	1	
		Excessive documentation	2	
		Lack of awareness	3	
		Other, please specify	88	

Sr. No.	Question	Options		Tool
13.	Have you participated in trainings/workshops?	Yes	1	Quant HH survey with relevant individuals chosen for this intervention
		No	2	
14.	If yes, what are the benefits of these trainings?			
15.	What challenges do you face as part of these training sessions?			
16.	Is there a feedback system as part of the sessions? If yes, are these feedbacks incorporated in the trainings? Can you give us an example?	Yes	1	
		No	2	
17.	Are you aware of a handicraft conservation institution existing at the community level?	Yes	1	
		No	2	
18.	If yes, do you use this entity?	Yes	1	
		No	2	
19.	If no, why not?			
20.	If yes, for what purpose?			

Sr. No.	Question	Tool
G. Cultivation & Value Addition of Selected MAPs, Food Herbs and Spices Developing Aarogaya Vatika & Herbal Café in Sural Developing Seed Bank Sea buckthorn Value Chain Hazelnut Value Chain		
1.	Is there a document detailing cultivation protocols for MAPs?	MIS/Project documents
2.	Is there a document detailing value addition protocols?	
3.	Have any capacity building and training modules been developed?	
4.	How many BMC's currently exist and how many new BMC's are to be formed?	
5.	How many trainings have been undertaken for: <ul style="list-style-type: none"> • Cultivation & Value addition of MAPs, Food herbs and spices • Aarogaya Vatika and Herbal Café • Cultivation and Value addition of Sea buckthorn and Hazelnut • Management of Seed bank 	
6.	Formation of local body promoting MAP cultivation and preventing wildlife extraction	MIS/Project documents/ Qualitative discussions with relevant departments
	<ul style="list-style-type: none"> • Has this local body been formed? • Do they have meetings? • If yes, how frequently? • Are minutes kept? • What is discussed in these meetings? • How many members participate • Who all participate? • Challenges faced as part of this body? • Is there a system to provide feedback? If yes, is feedback incorporated in the system? 	
7.	Herbal Cafe	MIS/Project documents/ Qualitative discussions with Herbal Café
	<ul style="list-style-type: none"> • When was the café formed? • No. of staff/SHGs hired to manage café • Activities undertaken as part of managing Herbal Café? • Wages received for management of café? • Wages received daily/weekly/monthly? • Income goes to SHG or individual SHG members? 	
8.	Technological Investment	MIS/Project documents/ Qualitative discussions with relevant departments
	<ul style="list-style-type: none"> • Types of technological input/machinery being distributed as part of activity? • For each type: <ul style="list-style-type: none"> ➤ No. distributed till now ➤ Challenges in distributing these 	

9.	Increase in Income from cultivation and sale of MAPs						
	Type of MAP's Collected last year	Quantity collected last year (kg)	Quantity Sold (kg)	Quantity Consumed (kg)	Sale Price (Rs.)	Expenditure Incurred (transport)	Quant HH with relevant community/Qual discussions (FGDs) with

							relevant community
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10.	Are you currently growing any MAP's?	Yes	1		Quant HH with relevant community/ Qual discussions (FGDs) with relevant community
		No	2		
11.	If yes, which MAP's?				
	Type of MAP	Qty. being Grown	Year of Plantation	Expenditure Incurred in Procurement of Raw Material, transport	
12.	If no, why not?				
13.	What challenges did you face in procuring and cultivating these?				

14.	Increase in Income from cultivation and sale of Hazelnut and Sea buckthorn						
	Type of NTFP	Quantity collected last year (kg)	Quantity Sold (kg)	Quantity Consumed (kg)	Sale Price (Rs.)	Expenditure Incurred (transport)	Quant HH with relevant community/ Qual discussions (FGDs) with relevant community

15.	Are you currently growing any hazelnut and sea buckthorn plants/trees?	Yes	1		Quant HH with relevant community/ Qual discussions (FGDs) with relevant community
		No	2		
16.	If yes, which please mention for each:				
	Tree/plant being grown	Qty. being Grown	Year of Plantation	Expenditure Incurred in Procurement of Raw Material, transport	
17.	What challenges did you face in procuring and cultivating these?				
18.	If not growing these, why not?				

Sr. No.	Question	Options		Tool
19.	Have you participated in trainings/workshops?	Yes	1	Quant HH survey with relevant individuals chosen for this intervention
		No	2	
20.	If yes, what are the benefits of these trainings?			
21.	What challenges do you face as part of these training sessions?			
22.	Is there a feedback system as part of the sessions?	Yes	1	
		No	2	
23.	If yes, are these feedbacks incorporated in the trainings? Can you give us an example?			
24.		Yes	1	

	Are you aware of a local body promoting MAP cultivation and preventing wildlife extraction?	No	2	
25.	If yes, do participate in this forum?	Yes	1	
		No	2	
26.	If no, why not?			
27.	If yes, for what purpose? What are the advantages of having this forum?			

Sr. No.	Question	Tool
H. Agriculture: Promotion of Bee-Keeping for Pollination Services		
1.	Is there a document detailing out a communication plan for awareness generation and implementing activities?	MIS/Project documents
2.	Number of households engaged in bee-keeping?	
3.	Number of bee-colonies established per household?	

Sr. No.	Question	Options		Tool
4.	How many bee-colonies does your household have?			Quant HH survey with relevant individuals chosen for this intervention
5.	When did you start this livelihood activity?			

6.	Qtty of honey produced in the past year (kg)	Qtty of honey consumed at home (kg)	Qtty of honey sold (kg)	Rate of Selling per kg (Rs.)	
7.	What are the challenges/hindrances faced in this livelihood activity?				
8.	What support is required to overcome these challenges?				

9.	Awareness & Access to Schemes			Quant HH survey with relevant individuals chosen for this intervention
9a.	Awareness			
i.	Honey Mission	Yes	1	
		No	2	
ii.	Propagation of Scientific Beekeeping Amongst Forest Dwellers and Fringe Communities	Yes	1	
		No	2	
iii.	Horticulture Technology Mission	Yes	1	
		No	2	
iv.	Mukhya Mantri Madhu Vikas Yojana	Yes	1	
		No	2	
9b.	Source of Awareness	Friends/Relatives/Neighbors	1	
		Radio/Television/Mobile	2	
		Newspaper/Pamphlet/Brochure	3	
		Through Government Department	4	
		Front line workers	5	
		MGNREGA	6	
		Other	88	

9c.	Access/Availed Benefits			
i.	Honey Mission	Yes	1	
		No	2	
ii.	Propagation of Scientific Beekeeping Amongst Forest Dwellers and Fringe Communities	Yes	1	
		No	2	
iii.	Horticulture Technology Mission	Yes	1	
		No	2	
iv.	Mukhya Mantri Madhu Vikas Yojana	Yes	1	
		No	2	
	If no, reasons for not availing benefits?	Lack of literacy	1	
		Excessive documentation	2	
		Lack of awareness	3	
		Other, please specify	88	

Sr. No.	Question	Tool
I. Agriculture: Promotion of Weather Based Crop Insurance		
1.	Number of households having taken WBCI?	MIS/Project documents

2.	Awareness & Access to Scheme			Quant HH survey with relevant individuals chosen for this intervention
2a.	Awareness			
	Weather based crop insurance	Yes	1	
		No	2	
2b.	Source of Awareness			
		Friends/Relatives/Neighbors	1	
		Radio/Television/Mobile	2	
		Newspaper/Pamphlet/Brochure	3	
		Through Government Department	4	
		Front line workers	5	
		MGNREGA	6	
	Other	88		
2c.	Access/Availed Benefits			
	Weather based crop insurance	Yes	1	
		No	2	
2d.	If no, reasons for not availing benefits?	Lack of literacy	1	
		Excessive documentation	2	
		Lack of awareness	3	
		Other, please specify	88	

Sr. No.	Question						Tool
J. Agriculture: Promotion of Poly House Farming							
28.	Crops Grown (past year)						
a.	Kharif						
	Type of Crop Grown	Quantity Produced (kg)	Quantity Sold (kg)	Quantity Consumed (kg)	Sale Price (Rs.)	Expenditure Incurred (transport)	Quant HH with relevant community/ Qual discussions (FGDs) with relevant community
b.	Rabi						
	Type of Crop Grown	Quantity Produced (kg)	Quantity Sold (kg)	Quantity Consumed (kg)	Sale Price (Rs.)	Expenditure Incurred (transport)	
c.	Summer						
	Type of Crop Grown	Quantity Produced (kg)	Quantity Sold (kg)	Quantity Consumed (kg)	Sale Price (Rs.)	Expenditure Incurred (transport)	
29.	What are the various methods/techniques for growing the crops in non-production seasons?						
30.	What risks do you face in non-production season and what ways are employed to overcome risk?						
31.	What are the present challenges of growing and selling crops in non-production season?						

Sr. No.	Question	Tool
K. Agriculture: Enhancing Irrigation Practices		
1.	What is your current land holding size (in bhiga)?	Quant HH with relevant community/Qual discussions (FGDs) with relevant community
2.	How much of this is cultivable (in bhiga)?	
3.	Out of landholding which is cultivable- how much is irrigated (in bhiga)?	
4.	Has there been a change in land holding under irrigation?	Yes 1
		No 2
5.	If yes, has it increased?	Yes 1
		No 2
6.	What are the reasons for this?	
7.	How has it benefited you?	
8.	Has it decreased?	Yes 1
		No 2
9.	What are the reasons for this?	

10.	Awareness & Access to Scheme			Quant HH survey with relevant individuals chosen for this intervention
10a.	Awareness			
i.	Rajiv Gandhi Micro Irrigation Scheme	Yes	1	
		No	2	
ii.	Dr Y S Parmar Kisan Swarozgar Yojana	Yes	1	
		No	2	
10b.	Source of Awareness			
		Friends/Relatives/Neighbors	1	
		Radio/Television/Mobile	2	
		Newspaper/Pamphlet/Brochure	3	
		Through Government Department	4	
		Front line workers	5	
		MGNREGA	6	
		Other	88	
10c.	Access/Availed Benefits			
i.	Rajiv Gandhi Micro Irrigation Scheme	Yes	1	
		No	2	
ii.	Dr Y S Parmar Kisan Swarozgar Yojana	Yes	1	
		No	2	
10d.	If no, reasons for not availing benefits?	Lack of literacy	1	
		Excessive documentation	2	
		Lack of awareness	3	
		Other, please specify	88	

Sr. No.	Question	Tool
L. Agriculture: Animal Husbandry & Dairying		
1.	Number of livestock kept in your household?	Quant HH survey with relevant individuals chosen for this intervention
2.	How many of these produce milk?	
3.	No. of trainings undertaken with households <ul style="list-style-type: none"> ➤ Frequency of conducting trainings ➤ Topics training is provided on ➤ Individual/agency providing training ➤ Challenges faced as part of training 	MIS/Project documents/Qualitative discussions with relevant departments
4.	Presence of landscape level producer group/co-operative ? <ul style="list-style-type: none"> ➤ Objective of cooperative ➤ Structure of cooperative ➤ Meetings conducted by cooperative (Probe for: frequency of conducting meetings, minutes of meeting) ➤ Topics of discussion in meeting ➤ Individuals participating in meeting 	

5.	Households reporting income from selling milk								Quant HH survey with relevant individuals chosen for this intervention
	Type of livestock	No. of this type	Milk Produced per day (litre)	Qty. kept at home (litre)	Qty. Sold (litre)	Price per litre (Rs.)	Point of Sale	Expenditure Incurred (transport)	

6.	Households reporting income from selling milk products								Quant HH survey with relevant individuals chosen for this intervention
	Type of milk product made at home	Qty. Made per month (kg)	Qty. kept at home (litre)	Qty. Sold per month (litre)	Price per kg (Rs.)	Point of Sale	Expenditure Incurred (transport, electricity)		

Sr. No.	Question	Options		Tool
7.	Have you participated in trainings/workshops?	Yes	1	Quant HH survey with
		No	2	

8.	If yes, what are the benefits of these trainings?			relevant individuals chosen for this intervention
9.	What challenges do you face as part of these training sessions?			
10.	Is there a feedback system as part of the sessions?	Yes	1	
		No	2	
11.	If yes, are these feedbacks incorporated in the trainings? Can you give us an example?			
12.	Are you aware of a landscape level producer group/co-operative?	Yes	1	
		No	2	
13.	If yes, do participate in this cooperative?	Yes	1	
		No	2	
14.	If no, why not?			
15.	If yes, for what purpose? What are the advantages of having this forum?			

Sr. No.	Question		Options		Tool
Promotion of Backyard Poultry: Number of households rearing poultry					
1.	Does your household rear poultry		Yes	1	Quant HH survey with relevant individuals chosen for this intervention
			No	2	
2.	Poultry Reared				
	Type of Poultry Reared	Breed Reared	Number		
3.	What are the challenges faced in rearing poultry				
4.	What are the advantages of rearing poultry?				

Annexure 2

1. Exploration tools

Community members

1. What are the major income generating sources for your family or community members? What are the major activities involved in those livelihood options, and what are the major resources required? Who all are involved in those activities presently from source to the final markets? (Probe: Livelihoods includes agriculture, horticulture, tourism, livestock etc.) What are the final produces of these livelihood activities, and how much produce is generated? (**Probe:** Produces like Different value added products made of horticultural produces, agricultural and horticultural produces, craft products etc.)
2. What are the major challenges for you in pursuing the present livelihood option/options? (**Probe:** Challenges in terms of scarcity of resources, access to markets, access to credit, harsh climatic conditions etc.)
3. Who all are presently supporting you in generating income through different sources? How they are supporting you? (**Probe:** SHGs, Government, Banks, NGOs, Local organizations, marketing agencies, Co-operatives, relatives, local enterprises, religious organizations, community leaders)
4. Are you able to meet all your basic requirements with the present levels of income that you are generating? (**Probe:** Requirements including food, education and health of family members, safe shelter, energy and drinking water) What do you think the support required for meeting your livelihood requirements (**Probe:** Support like healthcare facilities, access to markets, crop or livestock insurance)? Do you think increasing your income alone will be sufficient for you to meet these requirements? If no, why do you think so?
5. What are the major expenses for you from the income generated through various activities? (**Probe:** Expenses like healthcare, education of family members, crop damage, accessing markets, energy requirements) and how much you are spending for these expense areas?
6. What are the major challenges you are facing to shift from present sources of income to new sources or livelihood options? (**Probe:** Like shifting from seasonal agriculture to setting up homestays)
7. What are the resources that you think is required for enhancing your income earning potential? (**Probe:** Like Infrastructure for value addition, financial resources, credit and banking services, water for irrigation)

8. Are you presently benefitted from any government policies or schemes? (**Probe:** Schemes like MGNREGA) are you aware about any of government schemes but not able to access? If you are eligible, why you are not presently benefitted of these schemes?
9. What are the immediate requirements in your village that if met, can help you to enhance your income earning potential or reduce your expenses from present levels? (**Probe:** Like Better road connectivity, healthcare facilities, educational institutions, mobile networks)
10. What are the technological requirements that you think is required to improve your livelihoods? (**Probe:** Like Technology for meeting irrigation requirement, farming throughout the year, value addition of agricultural and horticultural resources)
11. How you are meeting your livelihood requirement when there are limited sources available especially during winter season?
12. Which are the sources of information relevant for your livelihoods or are you possessing any resources through which external information relevant for livelihoods can be accessed? (**Probe:** Like Newspaper, telephone, internet, television, community leaders, middleman)
13. What are the present sources of credit services for you or your community members? (**Probe:** Like SHGs, Banks, Relatives)
14. Can you tell which are the local or external organizations or people that helping you or community members in earning income or accessing different services and facilities? (**Probe:** Like NGOs, enterprises, SHGs, religious leaders, political leaders)
15. How are you dealing with issues affecting your livelihoods like changing climatic conditions, seasonality of produces, limited availability of resources and markets, limited accessibility to services, wildlife conflicts etc. (**Probe:** Like by finding new income opportunities, shifting to other places)
16. Do you think the younger generations in your village are skilled enough and ready to deal with market and environmental realities around any available livelihood options in the region? (**Probe:** Like skills required for starting tourism initiatives and getting customers)
17. Are you aware of any new opportunities in the region that can enhance your income but not presently pursued due to various constraints or factors? (**Probe:** Opportunities related to Tourism, MAP, greenhouses etc. and constraints like culture and tradition, skills)
18. What are the major challenges you foresee related to livelihoods? (**Probe:** Like Excess resource constraints, Change in climatic conditions, Knowledge and skill gaps to meet the changing market requirements)

Agriculture and Horticulture

19. What are the major produces from agricultural or horticultural activities that you/your family/community members are involved presently?
20. How much is produced on an average, and how much it is contributing to the total income of family members?
21. What are the major stages involved to make the final sales product? Who all are involved in each stages? What are the major expenses in each stages? (Probe: Stages including pre-production, production, post-production, marketing and sales; How much dependent are these stage on natural resources)
22. What are the major challenges for generating adequate income from each produces? (Probe: Including Limited value addition, limited market accessibility, only used for consumption purposes, no demand in the market, limited infrastructure, irrigation related issues, climatic conditions and destruction of crops) How you are dealing with these challenges)
23. Are you aware about any practices within your community that helping the farmers to generate adequate levels of income? If yes, why you are not adopting these practices?
24. Which are the organizations, agencies or people that you know, helping the community members in agriculture by providing technical inputs, access to markets, credits etc.
25. Are you aware or benefitted from any government schemes presently?
26. What are the additional resources or support that you require in enhancing income-earning potential through agricultural and horticultural activities? (Probe: Like new seeds for cultivation, technologies like credit services, access to markets, irrigation facilities, greenhouses, infrastructure and technologies for value addition)

Tourism

27. Are you/your family/community members are involved any tourism related activities presently? If yes, who all are involved and what they are doing?
28. What are the major challenges that your community or the region facing with regard to the development of tourism considering the fact that many similar places like Spiti is developed in terms of tourism? (Probe: Like inadequate infrastructure, limited access to place, not skilled enough to market, illiteracy, climatic conditions)
29. Are you aware of any successful initiative, organization, or people involved in tourism activities? How they succeeded? What they do?
30. Are you skilled in any art and craft forms that are unique to your culture and tradition? (Probe: Skills similar to making Chamba chappal, Zama pottery, Coconut Jarish etc. to

explore the possibilities of enhancing tourism potential) Can you recall any traditional practices that are unique to your community?

Medicinal and Aromatic Plants

31. Are you/your family/community members are involved or skilled in making any medicinal/aromatic products from the naturally available plants? Where these plants are found and how it is used by the community members? (Probe: Products like Ratanjot, Shilajit, Ginseng; uses including commercial sales, traditional medicine)
32. Are you aware about any community members or group that are skilled in identifying and using different medicinal plants? Who are they, and what they do traditionally?
33. Are you aware about any organizations or people trying to collect medicinal plants from the region and sell outside by making different products involving community? Who are they, and what they do? (Probe: Any enterprises, NGOs, SHGs or organizations)
34. Do you think there is a potential of available medicinal plants outside the region? If yes/no, why do think so?
35. What are traditional medicines that are used in your community when there is some sickness? Can you show us these medicines if you are having it in your household, and how it should be used?

2. Villages covered as a part of exploration study

Sr. No.	Landscape	Permanent/Census village	Panchayat
1	Lahaul Landscape	Urgos (Urgus)	Tingret
2		Udaipur	Udaipur
3		Salgaraon	Tindi
4		Tindi	Tindi
5	Pangi Landscape	Chasak	Sechu
6		Chasak Bhatori	Sechu
7		Saichu	Sechu
8		Chaloli	Dharwas
9		Sach (Panchayat)	Sach
10		Kupha	Killar
11		Jhalwas	Karyas
12		Pregaraon	Karyas
13		Purthi	Purthi
14		Tai	Sural
15		Sural Bhatori	Sural

Table 42: Villages covered as a part of exploration study

3. Criteria for filtering livelihood options

3.1 Assessing livelihood options identified from exploration study

Sector	Potential livelihood option	Relation to Conservation	Operational/ Experimental	Potential for convergence	Potential for replicability	Impact on income	Investment required	Sustainability	Enabling environment
Agriculture and Horticulture	Promotion of weather based crop insurance scheme	Positive	Operational	High	High	High	Low	High	Conductive
Agriculture and Horticulture	Beekeeping for pollination services and entrepreneurship development	Positive	Operational	High	High	High	Low	High	Conductive
Handicrafts	Reviving wool based handicrafts using locally available resources	Positive	Operational	High	High	High	Low	High	Conductive
Tourism	Promotion of conservation oriented tourism amongst selected clientele	Positive	Experimental	High	High	High	Medium	High	Conductive
Tourism	Promotion of homestay ecosystem	Positive	Experimental	High	High	High	Medium	High	Conductive
Animal Husbandry	Promoting backyard poultry as an alternative livelihood option	Positive	Operational	High	High	Medium	Low	High	Conductive
Agriculture and Horticulture	Promotion of poly-house farming	Positive	Experimental	Medium	High	Medium	Medium	High	Conductive

Dairy	Exploring the potential of milk products	Positive	Operational	Medium	High	High	Medium	High	Conductive
Tourism	Promotion of low risk high impact adventure tourism	Positive	Experimental	High	High	High	Medium	High	Conductive
Agriculture and Horticulture	Enhancing irrigation practices	Positive	Operational	High	Medium	Medium	Medium	Medium	Conductive
MAPs	Cultivation of selected MAP, herbs and spices	Positive	Experimental	Medium	Medium	Low	High	High	Conductive
Agriculture and Horticulture	Cultivation of Cherry and similar fruit plants	Positive	Experimental	Low	Low	Medium	High	Low	Conductive
Others	Exploring products like Natural Dye, Soaps, Hazelnut and Walnut Oil	Neutral	Experimental	Low	Medium	Medium	High	Medium	Conductive
Agriculture and Horticulture	Promoting natural farming	High	Operational	Medium	Medium	Low	Medium	Medium	Neutral
Agriculture and Horticulture	Establishment of FPO and aggregation mechanism for agricultural produces	Neutral	Operational	Medium	Medium	Medium	High	Medium	Conductive
Agriculture and Horticulture	Market development for processed agricultural and horticultural produces	Neutral	Experimental	Medium	Medium	Medium	High	Medium	Conductive

Table 43: Assessing livelihood options identified from exploration study

3.2 Scoring livelihood options based on assessment

Sector	Potential livelihood option	Relation to Conservation	Operational/ Experimental	Potential for convergence	Potential for replicability	Impact on income	Investment required	Sustainability	Enabling environment	Weighted average
Weights		5	2	4	4	5	5	4	2	
Agriculture and Horticulture	Promotion of weather based crop insurance scheme	10	10	10	10	8	10	9	9	9.48
Agriculture and Horticulture	Beekeeping for pollination services and entrepreneurship development	10	9	9	9	9	7	9	8	8.77
Handicrafts	Reviving wool based handicrafts using locally available resources	10	9	9	9	7	8	7	8	8.35
Tourism	Promotion of conservation oriented tourism amongst selected clientele	10	4	9	9	9	5	10	9	8.32
Tourism	Promotion of homestay ecosystem	10	4	7	9	9	5	9	8	7.87
Animal Husbandry	Promoting backyard poultry as an alternative livelihood option	8	9	9	8	6	8	8	8	7.87

Agriculture and Horticulture	Promotion of poly-house farming	9	7	7	8	8	7	7	8	7.67
Dairy	Exploring the potential of milk products	7	7	6	8	8	7	9	9	7.54
Tourism	Promotion of low risk high impact adventure tourism	7	3	7	8	8	7	9	8	7.35
Agriculture and Horticulture	Enhancing irrigation practices	9	8	8	7	6	5	6	7	6.90
MAPs	Cultivation of selected MAP, herbs and spices	10	3	6	6	5	5	7	6	6.25
Agriculture and Horticulture	Cultivation of Cherry and similar fruit plants	9	3	4	5	5	5	4	6	5.32
Others	Exploring products like Natural Dye, Soaps, Hazelnut and Walnut Oil	5	4	5	6	6	5	5	6	5.29
Agriculture and Horticulture	Promoting natural farming	9	5	5	5	3	4	6	5	5.29
Agriculture and Horticulture	Establishment of FPO and aggregation mechanism for agricultural produces	5	6	5	6	7	3	5	6	5.25

Agriculture and Horticulture	Market development for processed agricultural and horticultural produces	5	2	5	5	6	2	6	6	4.67
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Table 44: Scoring livelihood options based on the assessment

Annexure 3

Livelihood Situation Analysis

a) Comparison of agricultural productivity in Lahaul and Spiti regions

S. No.	Name of vegetable crop	Kharif 2018-19		Productivity (MT/ Ha)	Productivity in Spiti (MT/Ha)
		Area (ha)	Production (MT)		
1.	Peas (green)	1060	12189	11.5	1
2.	Cauliflower	824	20600	25	20
3.	Potato	650	9750	15	1.2
4.	Cabbage	47	1173	25	20
4.	Other vegetables (Broccoli, Lettuce, Celery, Chinese Cabbage, Red Cabbage, carrot, beans, cucurbits, capsicum etc.	207	4107		

Table 45: Comparison of agricultural productivity in Lahaul and Spiti regions

b) Comparison of MGNREGA engagement in Lahaul and Pangti

	Panchayats	No of families completed 100 days	Percentage of households completing 100 days	Average no. of days of employment
Pangti				
1	Dharwas	214	82%	110
2	Hudhan Bhattori	169	82%	107
3	Karel	256	85%	109
4	Karyas	383	76%	106
5	Killar	352	84%	107
6	Kothi	244	82%	108
7	Kumar	189	85%	108
8	Luj	228	88%	110
9	Mindhal	178	81%	108
10	Purthi	392	81%	105
11	Rei	230	93%	114
12	Sach	332	88%	109
13	Sahli	202	88%	110
14	Sechu	170	77%	105
15	Shoon	229	89%	111
16	Sural	121	52%	87
Lahaul				
1	Barbog	0	0.0	15
2	Barpa	12	16.7	61
3	Chimrat	0	0.0	30
4	Darcha	0	0.0	28
5	Gaundhla	0	0.0	25
6	Goharma	0	0.0	27
7	Goshal	0	0.0	22

8	Jahalma	0	0.0	28
9	Jobrang	0	0.0	31
10	Kardang	0	0.0	14
11	Keylong	0	0.0	22
12	Khangsar	0	0.0	25
13	Koksar	0	0.0	32
14	Kolong	1	1.8	39
15	Mooling	0	0.0	15
16	Mooring	2	2.1	38
17	Nalda	1	1.5	41
18	Ranika	0	0.0	22
19	Shakoli	4	3.6	34
20	Shansha	0	0.0	30
21	Sissu	0	0.0	38
22	Tandi	0	0.0	25
23	Thirot	10	10.0	55
24	Tindi	2	0.9	34
25	Tingrat	0	0.0	24
26	Triloknath	4	1.9	40
27	Udaipur	1	0.9	29
28	Yurnath	1	2.7	51

Table 46: Comparison of MGNREGA engagement in Lahaul and Pangti

c) List of SHGs formed in Pangti region

S. No.	Name of Gram Panchayat	Name of SHG	Date of Formation	Number of Members	Credit Mobilization	Activity
1.	Sechu	SHG Murchh	11/12/14	6		
		NRLM Group Chasak 2 Sechu	03/10/14	7		
2.	Kumar	SHG Parmar Bhattori	24/01/13	11		
		Bhardi Mata SHG Kumar	24/04/14	10		
		Kuldevta SHG Kumar	08/01/14	10		
3.	Dharwas	Shiva SHG Dharwas	12/01/14	9		
		Shakti NRLM Group Chaloli	31/12/14	7		
		Kali Mata NRLM Group Chaloli	-	9		
		Laxmi SHG Dharwas	-	-		
4.	Sach (Panchayat)	Sanrakshak SHG	05/09/14	10		
		Swavivek SHG Sach	02/09/2014	10		
		Pragti SHG Findru	16/09/14	10		
		Unmukat SHG Sach	05/09/14	10		

5.	Killar	Hansoon Nag NRLM Group Mahaliyat	04/07/11	12		
		Singhasni Mata NRLM Group Kuffa	11/12/14	14		
		Bhagwati SHG	24/02/12	9	50,000	Sweater Weaving
		Kutasni Mata NRLM Group Karhoti	12/12/14	9		
		Panihar Nag Devta Group Seri Bhatwas	13/12/14	12		
6.	Karyas	Adarsh SHG	-	10		
		Astha NRLM group Jhalwas	23/12/14	10		
		Shiv NRLM Group Parghwal	23/07/14	8	50,000	Sweater Weaving
		Baleen Mata NRLM Parghwal	12/06/14	10		
		Jagriti NRLM Group Jalwas	20/05/14	10		
		Thanik Kathwani NRLM Group Parghwal	01/07/15	12		
7.	Purthi	Shitla Mata Group	22/12/14	7		
		Malasni Mata SHG	22/12/14	7		
		Dharwali SHG Thandal	22/12/14	7		
		Manehi Nagni Mata SHG Thandal	22/12/14	7		
		Laxmi SHG Thandal	22/12/14	7		
		Chamunda SHG Thandal	22/12/14	8		
8.	Sural	Fava Charanji SHG Bhatori Sural	27/08/13	10		
		Shiv Shakti SHG Sural	30/09/14	10		
		Jagriti SHG Sural Kanwas	30/09/14	10		
		Tashi Chholing SHG Bhatori Sural	30/09/14	10		

		Khandoma SHG Bhatori Sural	30/09/14	10		
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Table 47: List of SHGs in Pangri

e) Village-wise population overview (Source: Census, 2011)

Landscape	Village Name	Panchayat	Total Households	Total Population of Village	Total Male Population of Village	Total Female Population of Village	Total Scheduled Tribes Population of Village
Pangri	Chaloli (13)	Dharwas	53	296	132	164	292
	Rusmas (14)	Sural	41	228	106	122	189
	Tai (15)	Sural	63	319	159	160	313
	Sural Bhatori (16)	Sural	41	216	112	104	209
	Seri Bhatwas (21)	Killar	37	162	84	78	162
	Praghal (28)	Karyas	87	471	226	245	444
	Hughal (25)	Karyas	82	396	190	206	392
	Jhalwas (20)	Karyas	104	573	288	285	569
	Ghangit (27)	Karyas	60	374	185	189	371
	Pre Garaon (3)	Karyas	27	132	70	62	128
	Mahliat (33)	Killar	215	824	442	382	442
	Kupha (23)	Killar	171	617	352	265	506
	Thamoh (34)	Killar	93	433	220	213	382
	Parmas (22)	Killar	101	387	191	196	380
	Sach (47)	Sach	147	608	309	299	558
	Khinan (46)	Kumar	3	11	8	3	0
	Kuthal (48)	Sach	86	456	222	234	266
	Ghisal (49)	Sach	58	276	143	133	276
	Purthi (82)	Purthi	105	517	263	254	508
	Mojhi (73)	Sechu	15	78	47	31	78
	Saichu (65)	Sechu	73	294	149	145	273
	Chasak (66)	Sechu	78	417	216	201	414
	Chasak Bhator (68)	Sechu	21	121	64	57	120
Lahaul	D.P.F.Urgus (177)	Tingret		0			
	Khanjar (186)	Tingret	15	66	33	33	65
	D.P.F.Khanjar (187)	Tingret		0			
	D.P.F.Bhujund (108)	Tindi		0			
	Bhujund (109)	Tindi	35	180	86	94	173
	Baraur (124)	Tindi	28	113	55	58	113
	D.P.F.Baraur (123)	Tindi		0			
	Tindi (129)	Tindi	101	514	239	275	511
	D.P.F.Lohni (122)	Tindi	28	99	44	55	61
	D.P.F.Harsar (134)	Tindi		0			
	Harsar (132)	Tindi	1	2	2	0	2

	D.P.F.Thanwani (137)	Tindi	7	39	16	23	39
	Kurched (140)	Tindi	15	67	32	35	57
	D.P.F.Salgaraoon (144)	Tindi		0			
	Salgaraoon (143)	Tindi	55	271	146	125	265
	Udaipur (160)	Udaipur	237	809	430	379	588
	D.P.F.Udaipur (161)	Udaipur		0			

f) Village-wise socio-economic overview (Source: Census, 2011)

Lands cape	Name	Total working population	Main workers	Main Cultivators	Marginal Workers	Margin al Cultivators	Literate (Population)	Male (Liter ate)	Femal e (Liter ate)
Lahaul	Baraur (124)	69	31	21	38	37	66	37	29
	Bhujund (109)	112	63	51	49	49	109	63	46
	D.P.F.Baraur (123)	0	0	0	0	0	0	0	0
	D.P.F.Bhujund (108)	0	0	0	0	0	0	0	0
	D.P.F.Harsar (134)	0	0	0	0	0	0	0	0
	D.P.F.Khanjar (187)	0	0	0	0	0	0	0	0
	D.P.F.Lohni (122)	71	48	15	23	15	51	26	25
	D.P.F.Salgaraoon (144)	0	0	0	0	0	0	0	0
	D.P.F.Thanwani (137)	25	16	11	9	9	24	9	15
	D.P.F.Udaipur (161)	0	0	0	0	0	0	0	0
	D.P.F.Urgus (177)	0	0	0	0	0	0	0	0
	Harsar (132)	2	0	0	2	2	0	0	0
	Khanjar (186)	39	39	34	0	0	39	22	17
	Kurched (140)	47	24	13	23	16	38	24	14
	Salgaraoon (143)	176	97	64	79	77	171	105	66
	Tindi (129)	311	58	2	253	253	337	183	154
	Udaipur (160)	386	377	93	9	2	622	361	261
Pangi	Chaloli (13)	175	29	0	146	110	180	93	87
	Rusmas (14)	148	21	0	127	98	140	71	69
	Chasak (66)	172	92	39	80	43	256	149	107
	Chasak Bhator (68)	53	10	2	43	36	67	39	28
	Ghangit (27)	180	48	4	132	82	299	157	142

	Ghisal (49)	172	21	2	151	115	170	105	65
	Hughal (25)	250	29	0	221	213	247	131	116
	Jhalwas (20)	379	49	0	330	321	394	209	185
	Khinan (46)	9	9	0	0	0	4	4	0
	Kupha (23)	443	176	4	267	262	454	292	162
	Kuthal (48)	257	53	4	204	168	264	150	114
	Mahliat (33)	538	181	4	357	333	578	351	227
	Mojhi (73)	46	7	1	39	37	44	32	12
	Parmas (22)	221	72	6	149	129	260	150	110
	Sach (47)	296	189	33	107	41	426	252	174
	Praghwai (28)	350	58	1	292	248	242	133	109
	Pre Garaon (3)	41	23	0	18	5	79	47	32
	Purthi (82)	164	140	63	24	10	299	174	125
	Saichu (65)	174	55	0	119	90	195	109	86
	Seri Bhatwas (21)	105	14	0	91	0	94	61	33
	Sural Bhatori (16)	146	18	1	128	106	111	75	36
	Tai (15)	253	43	3	210	150	225	138	87
	Thamoh (34)	378	62	0	316	312	299	175	124

g) Village-wise household overview in percentages of households (Source: Census, 2011)

Area Name	Using tap water from treated source	Households using tap water from un-treated source	Households having electricity	Households using Fire-wood	Households availing banking services	HH Condition		
						Good	Livable	Dilapidated
Khanjar (186)	0	100	100	100	100	0	93.3	6.7
Bhujund (109)	100	0	86.5	97.3	94.6	27	64.9	8.1
Baraur (124)	100	0	92.9	100	100	25	71.4	3.6
Tindi (129)	100	0	97.1	99	97.1	95.1	4.9	0
D.P.F.Lohani (122)	95	2.5	52.5	72.5	62.5	7.5	85	7.5
Harsar (132)	33.3	0	0	100	16.7	0	83.3	16.7
D.P.F.Thanwani (137)	57.1	14.3	42.9	100	85.7	85.7	14.3	0
Kurchad (140)	100	0	100	100	100	100	0	0

Salgarao n (143)	100	0	100	98.2	100	100	0	0
Udaipur (160)	99.2	0.8	98.8	0.8	87.3	92. 2	7.3	0.4
Chasak (66)	100	0	100	98.7	100	62	38	0
Chasak Bhator (68)	57.1	42.9	0	100	100	76. 2	23.8	0
Sural Bhatori (16)	100	0	100	100	100	70	30	0
Ghangit (27)	43.3	56.7	98.3	86.7	100	95	5	0
Ghisal (49)	100	0	0	100	100	36. 8	57.9	5.3
Hughal (25)	5.3	94.7	94.7	96.1	100	35. 5	64.5	0
Jhalwas (20)	85.7	14.3	96.9	48	100	92. 9	7.1	0
Khinan (46)	0	0	0	100	0	0	0	100
Kupha (23)	100	0	93.2	39	98.6	43. 8	56.2	0
Kuthal (48)	97.7	1.2	23.3	94.2	100	69. 8	29.1	1.2
Mahliat (33)	76.3	0.5	98.6	58.3	96.7	61. 6	37.9	0.5
Mojhi (73)	100	0	100	100	100	0	93.3	6.7
Parmas (22)	38.4	61.6	92.9	36.4	81.8	77. 8	21.2	1
Praghw al (28)	0	100	94.3	81.8	90.9	47. 7	52.3	0
Pre Garaon (3)	96.3	3.7	74.1	96.3	100	3.7	96.3	0
Rusmas (14)	19	81	100	92.9	100	100	0	0
Sach (47)	97.1	0.7	97.1	76.4	72.1	30. 7	67.1	2.1
Purthi (82)	70.9	19.4	99	68	100	16. 5	83.5	0
Saichu (65)	66.7	1.4	100	90.3	90.3	13. 9	80.6	5.6
Seri Bhatwas (21)	8.1	91.9	94.6	37.8	100	40. 5	59.5	0
Tai (15)	18.3	81.7	96.7	96.7	100	100	0	0
Thamoh (34)	65.2	34.8	98.9	98.9	98.9	85. 9	14.1	0

h) Registered homestays in Lahaul and Spiti District (Source: Department of Tourism)

Name of Homestay	Owner's Name and Address	Registration No.	Date of Issue
Koksar Valley Homestay	Sh. Gian Chand S/o Late Sh. Tashi Ram, Vill Dimpuk, PO Koksar, Distt L&S	LS-TSM/2018-274	21-07-2018
Lahaul Home Stay	Sh. Bir singh Village Sumnam, PO Tandi District L&S	10-50-2010-MNL-TD-2065	06-07-2019
Thakur Home Stay	Sh. Karam singh VPO Jispa District L & S	10-36/2012-MNL-TD-3458	01-10-2014
Tashi Yongkil Home Stay	Sh. Jagdish Chand VPO Sissu District L & S	10-51/2012-MNL-TD-3457	01-10-2014
Lingup (Norbu Linga) Home Stay	Smt. Sunita Manepa W/o Randhir Singh Manepa VPO Keylong District L & S	10-20/2013-MN-TA-3456	01-10-2014
Yoterpa Home Stay	Sh. Prem Lal Village Rupsang, PO Sissu District L & S	LS/TSM/2019-392	01-10-2019
D.L. Home Stay	Sh. Kishan Chand VPO Jahlamani District L & S	LS-TSM/2019-393	01-10-2019
Cherry Home Stay	Sh. Sonam Thakur Village Shashin PO Sissu District Lahaul & Spiti	LS-TSM/2019-391	01-10-2019
Tashi Chhering Home Stay	Sh. Giyalsan Village Shukto, PO Karpat, Sub-Teh. Udaipur, District Lahaul & spiti.	10-4/2014-MNL-TD-4229	23-09-2014
Sambala Home Stay,	Sh. Gian Chand Village Tingret PO Karpat Sub-Teh. Udaipur District Lahaul & Spiti.	10-5-2014-MNL-TD-4228	23-09-2014
Ghepan Home Stay, Koksar	Sh. Jigmed VPO Koksar District Lahaul & Spiti.	10-06/2014-MNL-TD-4230	23-09-2014
Laharje Home Stay, Trilokinath	Sh. Parma VPO Trilokinath, District Lahaul & Spiti.	10-14/2014-MNL-TD-4703	22-11-2014
Harrapa Home Stay, Hinsu	Sh. Abhirender Singh Village Hinsu PO Trilokinath, Distt. Lahaul & Spiti.	10-15/2014-MNL-TD-4704	22-11-2014
Dogra Home Stay, Trilokinath	Sh. Sukh Ram VPO Trilokinath, Distt. Lahaul & Spiti.	10-10/2014-MNL-TD-4928	29-12-2014
Shurthang Home Stay	Sh. Puran Chand S/O Kashi Ram Vill. Surthang PO Sissu, Distt. Lahaul & Spiti.	10-20/2014-MNL-TD-4929	29-12-2014
Merup Home stay	Sh. Ram Singh S/o Gopi Ram VPO Udaipur, Distt. Lahaul & Spiti.	06/2015-MNL-TD-6521	25-02-2015

Neel Kanth Homestay	Sh. Gopal Dass S/o Sh. Ram Singh VPO Udaipur, Distt. Lahaul & Spiti.	10-02/2015-MNL-TD-6464	24-02-2015
Himalayan Home Stay	Sh. Yangzor VPO Jispa, Distt. Lahaul & Spiti.	10-3/2015-MNL-TD-6476	25-02-2015
Gemoor Khar Home Stay	Sh. Ashok Thakur S/O Sh. Khushal Chand Vill. Gemur Distt. Lahaul & Spiti.	101/2016-KLU-TD-609	06-04-2016
Snow Town home stay	Sh. Sachin Kumar S/o Suresh Vill. Shashin PO Sissu Distt. Lahaul & Spiti.	10-06/2016-KLU-TD-3492	22-12-2016
Drillbu Home Stay,	Sh. Norbu Ram S/o Sh. Dorje VPO Keylong, Distt. Lahaul & Spiti.	10-12/2017-KLU-TD-307	05-02-2017

Tashi Khang Homestay,	Sh. Tashi Ram S/o Sh. Chhering Dorje VPO Sissu, Distt. Lahaul & Spiti.	10-13/2017-KLU- TD-308	05-02-2017
Chandra Valley Home Stay,	Sh. Sonam Angrup S/o Sh. Ram Chand Vill. Shashin PO Sissu, Distt. Lahaul & Spiti.	10-14/2017-KLU- TD-309	05-02-2017
Sange Home Stay,	Sh. Phunchog S/o Norbu Ram Vill. Shashin PO Sissu, Distt. Lahaul & Spiti.	10-15/2017-KLU- TD-310	02/5.2017
Sunrise Home Stay,	Sh. Gian Chand S/o Sh. Norbu Ram Vill Shahin PO Sissu Distt. L&S.	LS-TSM/2018-229	21-07-2018
Keshing Home Stay	Thupten Dorje S/o Sh. Dharam Chand VPO Koksar, Distt. Lahaul & Spiti.	10-26/2017-KLU- TD-690	15-06-2017

Fobrong Home stay	Sehdev Singh Vill. Udgos PO Karpart Sub-Teh. Udaipur District L&S	LS-TSM/2018-83	20-01-2018
Woods Villa Home stay	Sh. Jagat Singh S/o Late Sh. Tenzin Phunchog Vill. PO Sissu Distt L&S	LS-TSM/2018-212	06-08-2018
Jojumgo Home stay	Sh. Mohan Lal S/o Sh. Rinchen Vill Gompathang PO Sissu Distt L&S	LS-TSM/2018-141	05-05-2018
Welcome Heritage homestay	Sh. Lal Chand Katoch S/o Sh. Phunchog Dugia VPO Gondhla Distt L&S	LS-TSM/2018-198	06-06-2018
Padma Karpo Home Stay	Sh. Tashi S/o Sh. Nawang Rigzin, Vill Khangsar PO Gondhla, Distt L&S	LS-TSM/2018-146	05-09-2018

Rigzin Home Stay	Sh. Sonam Tandup S/o Sh. Dhundu Ram Vill. Dimpuk PO Koksar, Distt. L&S	LS-TSM/2018-278	21-07-2018
Gemur House Home Stay	Sh. Dorje S/o Sh. Chhoru Ram, VPO Gemur, Distt L&S	LS-TSM/2018-280	21-07-2018
Himalayan Edelweiss Home Stay	Sh. Chhewang S/o Late. Sh. Chhetan Dorje, Vill Talling PO Koksar, Distt L&S	LS-TSM/2018-273	21-07-2018
Himalayan Silver Birch Homestay	Sh. Tashi Norboo, S/o Sh. Padma Tashi VPO Koksar, Distt L&S	LS-TSM/2018-266	18-07-2018
Dekid Homestay	Sh. Surender kumar S/o Late, Sh. Urgian VPO Koksar Distt L&S	LS-TSM/2018-269	18-07-2018
Padma Gialson Homestay	Sh. Urgian Dorje S/o Late Sh. Chhewang, VPO Koksar Distt L&S	LS-TSM/2018-270	18-07-2018

La-yul Homestay	Sh. Rattan Katoch S/o Sh. Lobzang Tandup VPO Koksar Distt L&S	LS-TSM/2018-274	18-07-2018
Parkhang Homestay	Sh. Om Prakash S/o Sh. Gian Chand Vill tailling PO Koksar	LS-TSM/2018-284	23-07-2018
Zangmo Homestay	Km. Suman D/o Raghuveer Chand, VPO Sissu, Distt L&S	LS-TSM/2018-282	21-07-2018
Shashni Homestay	Sh. Kushal Chand S/o Late Sh. Chhering Dorje, Vill Gompathang, PO Sissu, Distt L&S	LS-TSM/2018-283	21-07-2018
Snow Pine Homestay	Sh. Gombo Ram S/o Sh. Sonam, VPO Koksar, Distt L&S	LS-TSM/2018-279	21-07-2018
Himalayan Hills Homestay	Sh. Amar Singh S/o Late Sh. Ram Nath VPO Sissu, Distt L&S	LS-TSM/2018-281	21-07-2018

Tashi Homestay	Sh. Dorje S/o Sh. Tashi Ram, Vill Dimpuk, PO Koksar, Distt L&S	LS-TSM/2018-275	21-07-2018
Atitihi Homestay	Sh. Tara Chand S/o Sh. Panchhi Ram Vill Shashin PO Sissu Distt L&S	LS-TSM/2018-235	23-07-2018
Cypress Homestay	Sh. Rajesh Kumar S/o Sh. Dorje, Vill Laling PO Koksar Distt L&S	LS-TSM/2018-234	22-07-2018
Ibex Home Stay	Sh. Amar Singh S/o Late Sh. Chhimed Chhering VPO Koksar Distt L&S	LS-TSM/2018-	18-07-2018
Khayul Home Stay	Sh. Dorje S/o Dumdu Ram, Vill Dimpuk, PO Koksar Distt L&S	LS-TSM/2018-277	21-07-2018
Valley View Home Stay	Sh. Sonam Tobge S/o Sh. Lachhi Ram Alias Dundu Ram Vill. Dimpuk PO Koksar Distt L&S	LS-TSM/2018-276	21-07-2018

Lhamo Homestay	SH. Dorje Ram S/o Sh. Sonam VPO Koksar Distt L&S	LS-TSM/2018-267	18-07-2018
Krishna Home Stay	Sh.Prem Chand S/o Sh. Soje Ram VPO Triloknath	LS-TSM/2018-304	30-07-2018
Lotus Home Stay	Smt. Tashi Dekit W/o Sh, Bansal Lal VPO Koksar Distt L&S	LS-TSM/2018-268	18-07-2018
Rohtang Home Stay	Sh. Phurboo Chhering S/o Sh. Dharmu VPO Koksar	LS-TSM/2018-265	18-07-2018
Cold Desert Home Stay	Sh. Ravinder Singh S/o Sh. Bishan Dass, Vill Kuthbihal PO Koksar Distt L&S	LS-TSM/2018-298	28-07-2018
Ranika Home Stay	Sh. Pawan Kishor S/o Sh. Sham Lal Vill kirting PO Shansha Distt L&S	LS-TSM/2018-289	26-07-2018

Boktpa's Home Stay	Sh. Jai Singh Boktapa S/o Sj\h. Rigzin Vill Bokta PO Tandi,	LS-TSM/2018-290	26-07-2018
Gate of Himalaya Home Stay	Sh. Chhimed Sonam S/o Sh. Chhering Anrup, Vill Tailing PO Koksar Distt L&S	LS-TSM/2018-288	26/07/23018
Chandra Bhaga Home Stay	Smt. Sonam Bodh W/o Sh. Om Prakash VPO Goushal Distt L&S	LS-TSM/2018-285	24-07-2018
Kongma Home Stay	Sh. Pama Chhering S/o Sh. Sonam Ram Vill Tailing PO Koksar Distt L&S	LS-TSM/2018-286	24-07-2018
Vikrant Home Stay	Sh. Chhetan Phunchog S/o Sh. Hari Singh VPO Keylong Distt L&	LS-TSM/2018-297	28-07-2018

The Elegent touch HomeStay	Sh. Rigzin Sandup S/o Chhering Dandup Vill Teeno PO kolong Distt L&S	LS-TSM/2018-	
Saptdhara Home Stay	Miss Hira Devi D/o Late Sh. Bhag Singh, Vill Kukumseri, PO Triloknath Distt L&S	LS-TSM/2018-303	30-07-2018
Hill Queen Home Stay	Sh. Prem Chand S/o Bheemi Ram, Vill Kirting PO Shansha Distt L&S	LS-TSM/2018-291	26-07-2018
Bok Farka Home Stay	Sh. Chhewang Yangjor S/o Sh. Dorje VPO Gemour Distt L&S	LS-TSM/2018-	28-07-2018
Padma Home Stay	Sh. Himal Chand S/o Sh. Tara Chand Vill Ralling PO Gondhla Distt L&S	LS-TSM/2018-299	28-07-2018

Khampa Home Stay	Sh. Suresh Kumar S/o Kishan Dass Vill Wari PO Malang Distt L&S	LS-TSM/2018-296	28-07-2018
Suraj Home Stay	Sh. Wangial S/o Sh. Chhesar, VPO Keylong Distt L&S	LS-TSM/2018-302	30-07-2018
Gephan Peak Home Stay	Sh. Bhalwant Singh S/o Sh. Lobzang Vill Shashin PO Sissu Distt L&S	LS-TSM/2018-239	25-06-2018
Snow Star Home Stay	Sh. Devi Singh S/o Sh. Panchi Ram, VPO Sissu Distt L&S	LS-TSM/2018-258	07-12-2018
Khandoling Home Stay	Sh. Rajiv Chand S/o Late Sh. Nihal Chand, VPO Sissu Distt L&S	LS-TSM/2018-261	13-07-2018
Vijay Home Stay	Sh. Ram Lal S/o Ram Chand, Vill Shashin PO Sissu Distt L&S	LS-TSM/2018-260	13-07-2018

Tanzin Home Stay	Sh. Neel Chand S/o Sh. Dharmu VPO Sissu, Distt L&S	LS-TSM/2018-262	13-07-2018
Padma Home Stay	Sh. Amar Chand S/o Late Sh. Sonam VPO Koksar Distt L&S	LS-TSM/2018-271	18-07-2018
Sunrise Home Stay,	Sh. Ram Lal S/o Surender Lal VPO Udaipur, Distt L&S	25/2017-KLU-TA-691	14-06-2017

Appendix 4: Livelihood component - Secure Himalayas project

The project identifies four different interlinked outcomes that are aimed at achieving the project objectives. The expected outcomes are,

Outcome 1: Improved management of high range Himalayan landscapes for conservation of snow leopard and other endangered species and their habitat and sustaining ecosystems

Outcome 2: Improved and diversified livelihood strategies and improved capacities of community and government institutions for sustainable-based natural resources management and conservation to reduce pressure on fragile ecosystems

Outcome 3: Enhanced enforcement, monitoring, prosecution and effective trans-boundary cooperation to reduce wildlife crime and related threats

Outcome 4: Lessons learned by the project through participatory M&E, including gender mainstreaming practices, are used to fight poaching and IWT and promote community-based conservation at the national and international levels

As mentioned above, Outcome 2 of the project focuses on livelihood development in the project landscape as a resultant of three major expected outputs which is described as follows,

- Participatory community-based village plans for enhancing and diversifying livelihoods and improving natural resources management are developed – Under this project output activities including bio-physical and socio economic resource mapping, formation of institution for participatory community-based village level micro planning process, development of participatory livelihood management plans, and grant allocation for village micro plan implementation will be undertaken as outlined in the project document
- Pilot projects on sustainable community-based natural resources management, and sustainable livelihood activities are supported – Based on the participatory community village microplanning and value chain initiatives, the project will support sustainable livelihood improvement and diversification practices
- New and enhanced value chain products and services providing ecologically sustainable livelihood are developed and implemented by local communities – The major activities that will be undertaken to achieve this output will be i) Selection of value chain, ii) mapping and analysis of value chain and iii) implementation of value chain interventions will be carried out to achieve this output.

The results framework developed by UNDP for Outcome 2, which describes key indicators and targets given below.

Results framework for livelihood component

Source: SECURE Himalayas Project Document - UNDP

Outcome 2	Objective and outcome indicator
Improved and diversified livelihood strategies and improved capacities of community and government institutions for sustainable-based natural resources management and conservation to reduce pressure on fragile ecosystems	Indicator 2.1 Extend under sustainable natural resource management
	Indicator 2.2 (a) Average percentage increase in community incomes from sustainable livelihood, natural resource management and business activities (calculated for each community)
	Indicator 2.3 Number of community members trained, adopting community-based agricultural, agro-pastoral, natural resource management and livelihood activities

Table 48: Results framework for livelihood component – SECURE Himalaya project

Annexure 5:

Best Practices and Initiatives in Similar Landscapes

This section describes the best practices identified in similar landscapes and lessons learned. The development of livelihood strategies and detailed implementation plan for each landscape required to reflect on these practices. The agencies/stakeholders involved in developing livelihood strategy for each of the project landscapes required to identify more such practices relevant for the project, importantly the practices within the project areas. The identified practices in each landscape expected to be a part of final strategy document.

1. Spiti Ecosphere

Location/Context: Spiti, Himachal Pradesh

Key Personnel/Organization: Ishita Khanna, Founder

About: Ecosphere is a social enterprise, which is a collaborative effort of local community and professionals from diverse background. The initiative focus on creating sustainable livelihoods that linked to nature and culture conservation. Ecosphere under the leadership of Ishita Khanna is building a green economy in the remote villages of Indian Himalayan region. The initiative in response to environmental degradation developed innovative solutions to create alternative livelihood options for the community members in the landscape. The initiative started by developing a range of products and marketing channels for the indigenous plants in the region thereby reviving sustainable farming practices and ensuring local ownership. Ecosphere tapped the potential of increasing demand for eco-friendly products by forming small groups and training local community members to become micro-entrepreneurs. The groups trained to cultivate and produce native crops, including Seabuckthorn, as well as on traditional handicrafts, tourism and eco-friendly enterprises.

Primary stakeholders: Local community members, women, volunteer travellers, local institutions and organizations

Experience and lessons learned:

- **Leveraging the potential of locally available resources and traditional knowledge:**

Ecosphere started by identifying the potential sources for alternative livelihoods at home in the region. The initiative started by selecting Seabuckthorn berry and the black pea, two indigenous crops uniquely equipped to the local conditions, which could generate revenue throughout the year. Seabuckthorn is naturally drought resistant, and both enhances soil fertility and prevents erosion, making it an ideal plant for mixed farming. The plant used for centuries in Asia and Europe for its nutritional and medicinal value, the plant faced indiscriminate extraction for purposes of fencing and fuel, due largely to a decline in local knowledge and traditional horticulture.

- **Enhancing the capacity of community members:**

The initiative launched an employment programme for local community members, training groups to manage and harvest the crops as micro-entrepreneurs. The initiative mobilized more than half of the village in the landscape and provided necessary training and tools to conserve, commercialize and enhance the potential of available resources. Ecosphere formed female producer groups by involving one woman from each family and hence ensuring equitable sharing of benefits.

- **Focussing on market needs:**

The initiative created an impressive product line ranging from Seabuckthorn tea to squash, concentrate, jam, sauce and instant powder. These products linked with regional and national distribution networks, and as a result, the products are selling at premium price at high-end stores like FabIndia. The initiative identified unique target segments and developed new ways of positioning the products by capitalizing on the growing demand for healthy alternative products.

- **Innovative solutions for harsh climatic conditions:**

Spiti's cold, desert-like conditions are not suitable for green vegetable cultivation, meaning that when transportation ceases during the winter, local inhabitants must survive without vegetables. However, as part efforts made by Ecosphere to secure a green future for Spiti, the initiative is helping set up low-cost greenhouses to grow green leafy vegetables year-round.

- **Conserving natural resources through tourism:**

In another effort to conserve natural resources while ensuring cultural preservation, Ecosphere launched a carefully managed ecotourism enterprise, with activities that include home-stays, trekking, mountain biking, safaris, white water rafting and innovative Legend Trails. By training local youth as nature guides, the initiative enabled more than fifty households in five villages to benefit from Spiti Ecosphere's community-based tourism package. The benefits derived used for conservation efforts in the community through a conservation fund.

- **Providing alternative livelihood options and preserving culture:**

Spiti has unique and diverse handicrafts ranging from wool, metalwork, to clay. To preserve this rich tradition of handicrafts as well as to create an additional source of income for women, women self-help groups have formed to take care of quality upgradation, skill enhancement, economic analysis, and marketing of various handicrafts.

4. Himmotthan, Tata Trusts

Location/context: Himachal Pradesh, Uttarakhand and, Jammu and Kashmir

Key Personnel/Organization: Tata Trusts

About: Himmotthan works on developing sustainable community institutions for ecologically and environmentally sustainable livelihoods. The society works among the rural mountain communities by developing sustainable enterprises linked to livestock, agriculture, NTFPs, and intervening for better education, access to safe water, sanitation and energy. Himmotthan has developed partnership with 19 Non-profit organisations, covering 531 villages across eight mountain districts. This supports Himmotthan in implementing the projects in difficult terrain with timely outcomes.

Primary stakeholders: Rural mountain communities in the Himalayan region, SHGs, Non-profit organizations, government

Experience and lessons learned:

- **Enhancing the potential of community institutions for impact:**

The Community institutions are in the core of Himmotthan's strategies and have always played a pivot role in all the interventions of Himmotthan. Community institutions such as Self-Help Groups (SHGs) and federations have proven to be an effective means of financial inclusion by

providing the poor households with an opportunity to save regularly, and ready access to credit for consumption and production needs. Further, livelihood enterprises through federations help in aggregation of small quantum of produce, add value to produce and negotiate with markets and suppliers for better prices. Himmotthan developed community led enterprises including cattle feed units, Community Facility Centres (CFCs), Dairy units, weaving and knitting units, and rural tourism initiatives.

- **Integrated approach for providing alternative livelihood options for the community members:**

Himmotthan follows an integrated approach for livelihood development in the Himalayan region. Inter-sectoral co-ordination at the community level is one of the reasons that helping the initiative in rapid scaling and social value creation. The initiative presently working on developing tourism, agriculture and horticulture, finance, handicrafts, livestock, energy, education, WASH and natural resources management.

- **Convergence with policies and institutions:**

The initiative leveraged the potential of existing schemes, policies and institutions for community development. MGNREGA and Uttarakhand Rural Livelihood Mission (URLM) are the two major schemes that presently leveraged by Himmotthan for livelihood development under various initiatives.

5. Looms of Ladakh, Project Laksal

Location/context: Ladakh

Key Personnel/Organization: Project Laksal supported by district administration and Ladakh Autonomous Hill Development Council (LAHDC)

About: Looms of Ladakh women co-operative is the fruit of a skill development initiative, Project Laksal that aims to bring unemployed women artisan from remote villages of Ladakh. The women are receiving training from designers to produce market demanding knitted and woven products. The raw materials are sourced locally from nomads and livestock rearing communities of Ladakh who are the sources for world famous Changthangi Pashmina, Camel wool, Yak wool and Sheep wool. The initiative focuses on women empowerment and financial independency by developing the skills of artisans from remote villages in making designer products. The district administration and LAHDC provided initial seed funds and capital requirements.

Primary stakeholders: Women artisans in remote villages of Ladakh, Livestock rearing communities

Experience and lessons learned:

- **Potential for value addition of local resources:**

One of the reasons for the success of Looms of Ladakh may attributed to the realization of potential for value addition of locally available resources by involving community members. Nearly 450 quintals of Pashmina produced every year in Leh directly sold to traders in Kashmir and other parts of the world. The local communities derive small economic benefits whereas most of the value added through the processes in the value chain outside Ladakh. Looms of Ladakh is

one of the first initiatives in Ladakh that makes finished products by involving local community members. The prices for wool fluctuating every year but Looms of Ladakh ensured security for local artisans and livestock rearing communities from market related uncertainties.

- **Importance of skill enhancement:**

Providing extensive training for local artisans is one of the core activities involved in the project. The initiative collaborated with institutes like NIFT Delhi to provide trainings. These training programmes meant for enhancing the skill of local artisans and making them realize the importance of design, size, standardization and finishing.

- **Importance of branding and marketing:**

Looms of Ladakh realized the importance of branding and marketing through accessible channels. The initiative created attractive labels, communication materials, and tags for their products. Exhibitions are one of the major sales channel for the initiative presently and the members are exploring the possibilities of expanding its operations to e-commerce channels.

- **Project SHEN**

Location/context: Spiti, Himachal Pradesh

Key Personnel/Organization: Nature Conservation Foundation (NCF)

About: Project SHEN is a handicraft development initiative of Nature Conservation Foundation and Snow Leopard Trust in Spiti, Himachal Pradesh. The project started in 2013 with initial piloting by involving local women artisans from two villages. There were majorly two reasons for the initiation of the project as a part of conservation, one was the realization that women are more affected with the loss livestock since it may lead to increased working hours and stress and secondly, direct engagement of women in conservation was minimal in the NCF project. SHEN ensured women participation in conservation efforts; it also served as a platform for women empowerment and provided alternative livelihood options during winter. NCF provides necessary training for women through various workshops, and provide designs and raw materials for making handicrafts products. The initiative encourages women to participate in different exhibitions, like Dastkar festival in Delhi, to show case their products and thereby providing a platform for knowledge transfer and increased exposure. SHEN project leveraged the potential of online platforms also for sales along with exhibitions.

Primary stakeholders: Community members primarily women

Experience and lessons learned:

- **Importance of involving women in conservation efforts:**

The study undertaken by NCF to understand the attitude of local people towards snow leopard revealed that, women had poor attitude towards wild carnivores than men. This perhaps because women are more affected when snow leopard or wolves kill their livestock. The non-monetary costs for women from such incidents are higher and hence including women for conservation was a necessary requirement. This realization resulted as Project SHEN, which provide alternative livelihood option for women during winters through handicrafts.

- **Importance of ensuring community engagement and participation:**

NCF consider Project SHEN as a medium to ensure community engagement and participation towards securing livelihoods and for conservation. *"There should be two aspects for livelihood*

development in relation to conservation, one is for engagement and participation of community members and another is to meet actual livelihood requirements, and SHEN ensures increased engagement and participation”, says Dr Yash Veer Bhatnagar from NCF.

▪ **Leh Livelihoods Initiative**

Location/context: Ladakh

Key Personnel/Organization: Tata Trusts

About: The Leh Livelihoods Initiative is a collaborate effort of Tata Trusts, Ladakh Autonomous Hill Development Council (LAHDC) and NABARD. The initiative focuses on addressing a wide range of issues to facilitate holistic development and improve the quality of small-scale farmers in Ladakh. Focus areas for interventions include water resource development, protected farming, horticulture development, high-tech farming, infrastructure development, and capacity building programmes. The initiative implement situation-specific interventions that are both ecologically and socially sensitive.

Primary stakeholders: Small-scale farmers, government institutions

Experience and lessons learned:

▪ **Importance of incremental innovations to existing practices:**

The project provided solutions for value addition in the crop of apricot through better post harvesting techniques thereby improving economic benefits of this important cash crop of Ladakh. A major thrust is on improving techniques of sun drying and systems of marketing of dried fruits. The project is promoting best techniques through training of farmers and demonstration on the farms. Improvement in quality starts with the use of harvesting nets so that tender fresh fruits not damaged while harvesting. These incremental innovations to existing practices resulted in better price realization for farmers.

▪ **Convergence with schemes, policy and institutions:**

The initiative has undertaken repairs and renovation of irrigation channels in convergence with MGNREGA. Water distributed to nearly 49 families through these channels facilitating irrigation across 78 acres.

▪ **Introducing climate resilient livelihood options:**

The initiative introduced climate resilient livelihood options like greenhouse farming. Use of these structures for protected farming has benefitted the community members, as fresh vegetables are available during winters for consumption.

▪ **Bees and Pollination Project**

Location/context: Uttarakhand and Himachal Pradesh

Key personnel/organization: ICIMOD under Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI)

About: The Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI) is a collaborative programme implemented across the borders of China, India and Nepal. The programme aims to achieve long-term conservation of ecosystems, habitats and biodiversity, while encouraging sustainable development, enhancing resilience of communities in the landscape, and safeguarding cultural linkages among local populations. The initiative is

promoting bee keeping for pollination services and bee keeping enterprises as an additional source of income for the community members. Institutional strengthening, human resource development and policy reorientation are some of the focus areas of the project.

Primary stakeholders: Remote, rural people who have resources and opportunity to practice sustainable bee keeping with indigenous bees, Young people including women, government and non-government organizations

Experience and lessons learned:

- **Importance of raising awareness about better livelihood practices**

Lack of awareness amongst farmers, extension workers, and professionals about the significance of pollinators and pollinations is one of the main problems in promoting bee keeping for managed pollination as well as protection of naturally occurring pollinators. Moreover, emergence of cash crop farming resulted in decreasing indigenous knowledge on the importance and need for managed crop pollination for enhancing crop yield and quality. ICIMOD is raising awareness by developing and disseminating a range of awareness materials.

- **Entrepreneurship development for improving the livelihoods**

The initiative realized the importance of Chyura tree on community livelihoods around KSL-CDI pilot location in the Bin and Munakot blocks of Pithoragarh. The uses of Chyura includes soil and water conservation, livestock fodder, beekeeping for honey production and ghee for cooking. The community-based pilot project under the initiative aims to promote entrepreneurship to produce and market Chyura honey, ghee and ghee based value-added products. These efforts not only resulted in improved income generation but also represent an advance in soil and water conservation and wasteland development.

- **Community-based Ecotourism Development Programme**

Location/context: Himachal Pradesh

Key personnel/organization: Great Himalayan National Park

About: The Great Himalayan National Park (GHNP) is located in the Banjar sub-division of Kullu district of Himachal Pradesh, India, in the far western Himalaya. GHNP is a relatively recent addition to a network of protected areas in northern India and adjacent countries that increasingly provide protection to the Himalaya. A buffer zone extending 5 kilometres from the park's western boundary, classified as an eco-zone, includes approximately 2300 households in about 160 villages. Most of the eco-zone's population are poor and depend on natural resources for their livelihoods. The community members now moved away from exploiting the park's resources, they now work in areas as diverse as basket making, vermicomposting, organic farming, medicinal plant cultivation, ecotourism and many other income generation activities.

Primary stakeholders: Community members in the classified eco-zone of GHNP

Experience and lessons learned:

- **Community-based tourism as an alternative source of livelihood and for conservation efforts**

The community-based eco-tourism' development programme in the GHNP eco-zone envisage conserving the rich cultural and ecological heritage of the Park, so that various benefits from this conservation endeavour, including the benefits by way of tourism, could continue to accrue to generations to follow. Some of the best practices under the programme are,

- i) Promotion of community-based ecotourism involving various categories of eco-tourists such as nature lovers, students, teachers, others in the buffer zone of the GHNP
- ii) Development of infrastructure for sustainable community-based ecotourism with emphasis on socio-economic development of the most-weaker sections of the community
- iii) Women's empowerment through WSCGs, and ecotourism related income generation activities
- iv) Networking for federating the community-based ecotourism for securing collective economic and social gains

▪ **Sarmoli Nature Tourism Programme**

Location/context: Munsiri, Uttarakhand

Key personnel/organization: Himal Prakriti and Himalayan Ark

About: Himal Prakriti - A Trust for Nature, was set up in March 2006 with a vision to promote nature conservation and sustainable livelihoods in the Himalaya. Himal Prakriti is working to strengthen and support processes for the democratic governance of natural resources. Himal Prakriti is also working on a range of activities that includes research and conservation action, nature based education, advocacy and policy interventions, and exploring and promoting suitable low cost technology innovations in remote Himalayan villages. Himalayan Ark was set up in 2004 through the Sarmoli-Jainti Van Panchayat to turn tourism into a 'non-extractive' livelihood option for the residents of Sarmoli village in Munsiri, with the conservation of forest resources as a core value. It has evolved over the year as a social enterprise, run by a team led by the women of the region. The homestays offer an additional source of income for local women.

Primary stakeholders: Local community members, women and youths

Experience and lessons learned:

▪ **Recognizing the potential of responsible tourism in conservation**

The Himalayan Ark offers around 25 homestays in Munsiri. These homestays range from single to three roomed establishments and involve activities for tourists relating to the agricultural cycle and the forest-river dynamics. In addition to homestay programme, the initiative developed a range of activities for securing livelihoods and conservation in the region. This includes bird festivals, forest fairs, exhibitions, marathons etc. The initiatives are directly contributing to local economy and encouraging the community members to conserve the natural resources. Last year Sarmoli hosted over 600 guests and made contribution of nearly 45 lakhs to secure livelihoods through various initiatives.

▪ **Enhancing the potential of local talent**

The open knowledge digital workshop organized by Himal Prakriti and Himalayan Ark helped the initiative in identifying the potential of local talent and how it can leveraged for increasing

local engagement and livelihood development. *Voices of Muniari* is an online initiative by local community members who trained in digital skills and photography. This platform encourage the community members of Sarmoli to share their stories directly to the world using various social media platform. The account has not only grown in reach and engagement, it has grown as a platform for storytelling and photography.

- **Global Himalayan Expedition**

Location/context: Ladakh

Key personnel/organization: Global Himalayan Expedition

About: Global Himalayan Expedition (GHE) leverages tourism to improve livelihoods through education, access to power and light, as well as revenue-generating activities. GHE leverages tourism and solar power to bring sustainable energy, digital education, wireless connectivity and livelihood creation to remote villages in Ladakh, one of the most elevated and coldest inhabited regions of the world. Specifically, GHE organizes leadership expeditions to and homestays in these remote locations, where participants, as part of their trip, contribute with funding and help set up micro-grids running on solar power. The region has ideal conditions for solar panels, with abundant sunlight due to the altitude, and clean and thin air.

Primary stakeholders: Community members of remote villages in Ladakh, volunteer travellers

Experience and lessons learned:

- **Leveraging volunteer tourism for developing livelihood solutions**

The GHE offers tourists the opportunity to travel to the most remote reaches of the Himalayas, while having a *Thangible*, positive impact on the lives of local communities through expanded access to electricity. It offers impactful experience for the visitors and indigenous communities through their unique expedition approach focus on adventure and social impact. The model is self-sustaining as the micro-grids are community owned with the villagers paying monthly rental charges to finance maintenance and scalability. Thus, once tourists have provided initial funding and support in setting up the system, it can operate more or less independently. The grids' contributions are three-fold; i) sustainable solar power and energy efficient lights; ii) access to internet technology and digital education; iii) income generation through promoting village home stays and marketing of local village products.

- **Himalayan Farmstays**

Location/context: Ladakh

Key personnel/organization: Himalayan Institute of Alternatives

About: HIAL is a collaborative exercise between learners and facilitators in Ladakh. People in Ladakh and other mountain regions are not only an ethnic and linguistic minority but also one that faces challenges of climate change and technological advancement. HIAL is building a higher education system where young people can study and find indigenous solutions to the problems of their own environments. Himalayan Farmstays is a community-based tourism organization under HIAL that aims to create a sustainable environment and to promote cultural heritage of the

region. It has been working with local farmstays, offering accommodation in Ladakhi villages, and curating experiences for visitors and guests. The idea behind Himalayan Farmstays is to generate alternative livelihood option and to minimize unskilled migration from traditional villages.

Primary stakeholders: Community members and villagers in Ladakh, Unemployed youths

Experience and lessons learned:

- **Creating alternative livelihoods through tourism**

Himalayan Farmstays is creating alternative livelihood for the community members and thereby decreasing the youth migration. The initiative also preserves local tradition and culture through increased local engagement. Majority of the benefits from tourism activities presently derived by external agencies through unsustainable tourism practices. The initiative also aims to take travel economy to the villages in Ladakh so that local community will benefitted.

- **Dhara Vikas**

Location/context: Sikkim

Key personnel/organization: Department of Rural Management and Development

About: Dhara Vikas is an innovative programme to revive and maintain drying springs in the northeastern state of Sikkim. A robust climate adaptation strategy for drought-prone districts, Dhara Vikas is helping to alleviate the problem of rural water scarcity by reducing surface runoff of rainwater and allowing more water to percolate down to recharge underground aquifers, which, in turn, ensures increased discharge from springs. Besides its significant impact on crop patterns and yields, the programme has also worked on developing a village spring atlas and a water source atlas for the state. Water access to the population through this initiative has also led to improved sanitation practices (NITI Aayog, 2015).

Primary stakeholders: Community members of South and West districts in Sikkim

Experience and lessons learned:

- **Integration with on-going development activities for impact:**

One of the reasons behind the success of Dhara Vikas programme is the convergence model it followed. This programme built on partnerships between the Government Departments, communities and Civil Society organizations. Skills in para-hydrogeology were build; knowledge transfer achieved leading to an impact. Most of the investment came through convergence model of using donor funds for research, capacity building and facilitation, and with MGNREGA for implementation works.

- **Livestock Insurance Scheme**

Location/context: Spiti, Himachal Pradesh and Ladakh, Jammu and Kashmir

Key personnel/organization: Nature Conservation Foundation

About: Conserving species such as large carnivores alongside human habitation often involves monetary and non-monetary costs to local communities. NCF realized that, in order to make

wildlife conservation beneficial for the local communities, there is a need to estimate and offset economic costs associated. In addition, centrally administrated conservation programmes have limited applicability in wildlife habitats traditionally used by local communities. In 2002, as a part of the conservation programme initiated by Nature Conservation Foundation, a unique livestock insurance programme was set up in Kibber village. The programme intended to share and offset the economic losses that local people were facing due to livestock predation by carnivores. The attitude of people towards wildlife conservation changed resulting from the insurance programme and other efforts by NCF.

Primary stakeholders: Livestock herding communities, local community members

Experience and lessons learned:

- **Community lead solution for conservation and securing livelihoods**

The community managed livestock insurance programme operate on a village level and works similar to any other insurance programme. The participating community members contribute premiums for any animal they want to ensure thereby ensuring self-sustainability. If a family loss livestock, they can claim for the loss and receive reimbursement. The complete process and insurance fund operated and managed by the local community members. The initiative also succeeded in reducing the number of cases and conservation by changing the behaviour of community members towards conservation, introducing anti-predatory livestock herding measures, and setting aside graze-free areas with community agreement.

- **Medicinal and Aromatic Plants Programme**

Location/context: Nepal

Key personnel/organization: The Mountain Institute

About: The local people in mountain villages of Nepal have used medicinal plants for healing ailments and traded them for meeting their livelihood requirements. The trade of Medicinal and Aromatic Plants (MAPs) has been a part of livelihoods for these communities for a long time. However, the survival of these plant species threatened by over extraction in last few decades. The Mountain Institute's (TMI) Himalayan Program along with local communities in 2001, initiated training highland farmers to grow medicinal and aromatic plants on their plots and degraded lands. The program resulted in improved livelihoods and provided an alternative option to unsustainable extracting of medicinal plants for income generation.

Primary stakeholders: Highland farmer communities in Nepal

Experience and lessons learned:

- **Providing livelihood options that positively related to conservation of natural resources**

The initiative succeeded in helping farmers to grow, harvest and sell medicinal plants for meeting their livelihood requirements. This has reduced the dependency of local community members on wild harvesting. It also saves wild areas a chance to regenerate and saves wild plants from depletion. The initiative realized that, activities associated with wild harvesting such as grazing livestock in the forest while collecting plants or hunting can have devastating effect on fragile mountain environments. Conserving wild medicinal plants helped the conservation of forest and pasture land ecosystem.

- **Mountain Bounties**

Location/context: Kullu, Himachal Pradesh

Key Personnel/organization: Jagriti, a Community-based Organization in Kullu

About: Mountain Bounties is an initiative by Jagriti that focuses on sustainable harvesting of wild local plants and contributing to the conservation of forest resources thereby providing alternative livelihood options to the community members. With the support from GEF-UNDP Small Grant Programme, Jagriti trained women to use the seed from the wild apricot and other trees to produce oils, soaps, teas and dried herbs like mint and basil for sale. The women trained in various aspects involved in the production process from planting new trees to packaging and sales. Over the years, Jagriti expanded its operation by introducing new products, awareness generation and skill enhancement programmes, and providing innovative solutions to livelihood issues.

Primary stakeholders: Community members and women groups

Experience and lessons learned:

- **Innovative solutions to decrease dependency on forest resources and improved livelihoods**

Jagriti realized that, though the women community members are interested in earning income through various available options, there are many constraints for them to participate in such activities. Collecting wood for cooking and household level responsibilities occupied most of the time of women in the region. Jagriti introduced alternatives that are more efficient to existing *Chullahs* and for heating purposes. This encouraged the local community to reduce their dependency on wood for cooking and heating.

- **Awareness generation for conservation**

Jagriti also focus on awareness generation amongst the women's group about the danger of deforestation, the importance of biodiversity conservation and sustainable use of local resources. The women are following sustainable practices for the collection of forest resources, they are aware of how much quantity to collect and importantly, how to collect the produces.

- **Conservation Education Programme**

Location/context: India, Kyrgyzstan and Pakistan

Key Personnel/organization: Snow Leopard Trust and Nature Conservation Foundation

About: As a part of the conservation efforts and initiatives for the protection of endangered snow leopard, Snow Leopard trust runs a series of environmental education programme for the community members. These programs strengthen the ongoing conservation efforts and inspire future nature conservationists. Some of the components under the programme includes Eco-camps for children, nature clubs in schools, and herder education programme. These programmes helped the initiative in developing a positive attitude towards conservation and increased awareness.

Primary stakeholders: Schools, teachers, children and herder communities

Experience and lessons learned:

▪ Importance of awareness generation in conservation and livelihood security

Children are important stakeholders in conservation and future caretakers of environment. The eco-camps that focuses on raising awareness about local biodiversity, landscapes, and the need for conservation helping the initiative in fostering positive attitude towards local wildlife. The nature clubs initiated in schools are helping the students in participating in ecologically focussed activities like hiking through the habitats, conducting nature celebration, and engagement in environmentally focussed games and activities. The herder education program directly linked to conservation and livelihoods. It helps the herder communities not only understand the role they play in their local ecosystem, but recognize the vital importance of their contribution to conservation.

▪ Nature Guide Training Course

Location/context: Mukteshwar, Uttarakhand

Key personnel/organization: Titli Trust and Centre for Ecology Development and Research (CEDAR)

About: Titli Trust is non-profit organization established in 2009 with the purpose of conserving nature and protecting the environment. The organization aims to promote conservation research, education and action. Nature Guide Training Course is an upcoming initiative of Titli Trust in collaboration with CEDAR, a non-profit organization established with the objective of popularizing and enhancing the knowledge of Himalayan ecosystems.

The training programme offered by the collaborative initiative expected to train and develop the skill set of aspirants to become nature guides. The duration of the programme is for one year and targets to develop ten candidates as nature guide for the coming year. The programme encourages aspirants to choose nature guiding as a livelihood option. In addition, the initiative expected to conserve the Himalayan ecosystem by promoting sustainable tourism practices.

2. Landscape level best practices

A case on best practice identified for Lahaul and Pangi landscape given here. Similarly, more landscape level best practices needed to identified for each landscape and should include in the strategy document along with those in similar landscapes.

Case: Community led tourism initiatives - Urgos, Lahaul and Spiti

Urgos is a remote village in Lahaul and Spiti district of Himachal Pradesh. Despite the remoteness, it is one of the most prosperous village in the district. The village have all the facilities that may difficult to find in such a geographic location, and the community is less dependent on government schemes and subsidies for meeting their livelihood requirements. Agriculture is one of the major reasons for the prosperity in the village and primary source of income for the community members. The farmers are following mixed crop methods and modern practices. Some crops like Peas and Potato are cultivated for selling outside and others are used for consumption. The agricultural productivity is much higher due to the fertility of land, farming methods, usage of non-traditional agriculture equipment, and irrigation facilities. However, the villagers are highly vulnerable from a livelihood perspective due to overdependence on single income source.



Sonam is a progressive farmer in the village. October is a busy month for her as she is engaged in the final harvest of agricultural produces, she also need to arrange all the requirements to survive the harsh winter. This includes storing fodder for their livestock, collecting wood for fuel, and preparing wool for making handicrafts, and drying the vegetables and seeds.

The Village is a doorway to Miyar Valley. Due to its isolated location at the northeastern corner of Lahaul, the Miyar Valley has escaped the perils of mass tourism. The region, unlike Ladakh or Spiti, not derived any economic benefits from tourism but has immense potential for development.

The community members are expecting that tourism will develop soon in their region. Last year, Sonam converted her home to a homestay for travellers. In addition, the community established a Cafe and tourist information facility in the village realizing the potential of tourism.

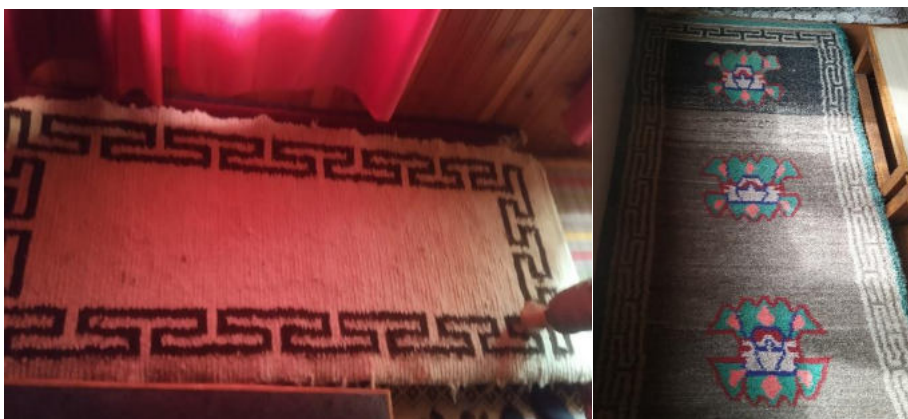


Fobrong homestay of Sonam in Urgos village



Menthosa Sangathan Centre – A community run café and tourist information centre

The villagers are highly skilled in making handicraft products, but it is not a major economic activity in the region. Tourism development may complement small-scale handicrafts industries in the village for coming years. This can be one of the potential livelihood options for the community members during winter.



Handicrafts made by the villagers during last winter

Experience and lessons learned:

- **Community led alternative livelihoods** - The development of unsustainable tourism practices may negatively affect natural landscape and biodiversity. We can witness the development of such practices in similar regions like Ladakh where large number of

hotels are constructed affecting natural landscape and taking away majority of the economic benefits from local communities. Community led interventions, as in the case of Urgos, will positively influence the communities and natural landscapes. This may also ensure livelihood security for community members by providing alternative livelihood options like establishing homestays or through handicraft development

- **Equitable sharing of benefits** - The activities around homestays, community run information centre and, handicrafts are primarily taken care by the women in the village. Presently, only one room allocated for guests. These practices will ensure equitable sharing of benefits
- **Reduced livelihood risks** - Development of community led livelihood options may also reduce the risks associated with existing livelihoods. Majority of the community members are presently dependent on agriculture for meeting their livelihood requirements. Diversification of livelihood options to tourism, handicraft etc. reduce the risks associated with single source dependency

Annexure 6: Framework for livelihood strategy development

Figure 1 represent the framework used for developing a livelihood strategy through the exploration study.

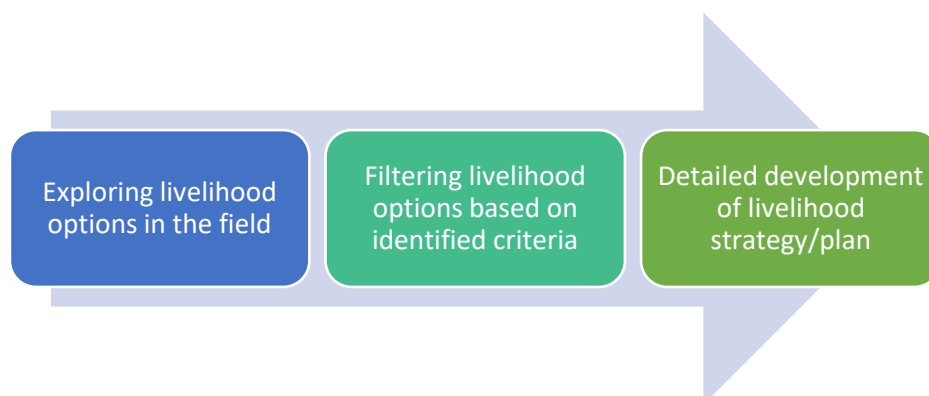


Figure 1: Framework for developing livelihood strategy

Exploring livelihood options in the field

The first stage involves the exploratory field study of different livelihood options present in the project context. It involves understanding the existing livelihoods including livestock, agriculture, horticulture, tourism, handicrafts and other available livelihoods, major problems associated with these livelihoods, major resources and processes involved, major stakeholders, scope for innovation etc. in detail with the help of exploration tools to develop an in depth understanding of existing livelihoods and insights on potential livelihood options.

Filtering livelihood options based on identified criteria

The potential livelihood options in each sector identified through field visit and interaction with stakeholders will be assessed further in detail based on certain identified criteria and parameters, and filtered based on the direction of influence of livelihoods in relation to these parameters. The identified parameters are,

Contribution to landscape conservation – To what extent the identified livelihoods will help in reducing the environmental stress and for landscape conservation

Operational or experimental – Whether the identified livelihood option is operational or experimental

Potential for convergence – Possibility of convergence of identified livelihood option with various schemes, initiatives and institutions

Potential for replicability – How replicable are the identified livelihood options even in the absence of an external agency

Impact on income/expected livelihood outcome – How positively the livelihood options can influence the expected livelihood outcome

Investment required – Investment requirements considering possible internal and external assets available presently

Sustainability – How sustainable are the livelihood options in relation to various economic, environmental and topographic factors

Enabling environment – How conducive is the enabling environment to support the development of livelihood option in the project landscape

Crosscutting considerations – Cross-cutting considerations includes gender, natural resource management, climate change etc.

Table 49 represent the identified criteria relevant for the project and weight assigned to each component.

Criteria	Suggested weight
Relation to conservation (Positive/Negative/Neutral)	5
Nature of identified livelihood option (Operational/Experimental)	2
Potential for convergence (High/Medium/Low)	4
Potential for replicability (High/Medium/Low)	4
Impact on income/livelihood outcome	5
Investment required (High/Medium/Low)	5
Sustainability (High/Medium/Low)	4
Enabling environment (Conducive, Neutral, Non-conducive)	2

Table 49: Criteria for filtering livelihood options and corresponding weight

Note: The identified livelihood options will be scored (on a recommended scale of 0-10) by a team of experts against each of aforementioned aspects and weighted average method will be used for ranking the options. The top ranking livelihood options will be considered further for strategy development and detailing.

Detailed development of livelihood strategy/plans – The livelihoods that positively related to aforementioned criteria will be studied further and strategies or detailed plans around these livelihoods or value chains will be developed in consultation with different stakeholders and experts. The detailed livelihood strategy will comprises of the following components,

- **Policies or schemes in relation to identified livelihood options** – Deals with functional schemes and policies in the project landscape with the possibilities for convergence
- **Available livelihood assets** – Livelihood assets within the project context including physical, social, financial, human and natural assets
- **Additional resource requirements if any** – Additional resources required for implementation apart from identified and accessible livelihood assets within the project context
- **Steps/process for implementation** – Detailing of process/steps involved in developing identified livelihood options
- **Institutional mechanism** – Suggested institutional mechanism for implementing the livelihood strategy
- **Roles and responsibilities of each stakeholder** - Stakeholders includes community members, government departments, UNDP landscape/state/national level representatives, resource organizations, consultants and other relevant stakeholders involved in the project
- **Timeline for implementation/Calendar of activities** – Describes month wise activities involved for implementing the livelihood strategy
- **Expected risks problems and assumptions** – Risks can be operational, marketing, financial and environmental related
- **Further research requirement** – Deals with the requirement of any further study or research that may positively contribute to livelihood development in the project landscape

- **Responsiveness of livelihood option in relation to climate change** – Describe how responsive and adaptive are the identified livelihood options to climate change and environmental uncertainties
- **Expected outcomes** – The positive livelihood outcomes or impact on social, economic and environmental aspects that can be expected with the implementation of livelihood strategy

Annexure 7: Immediate Outcomes for Proposed Implementation Plans and Indicators

Lahaul Pangi Landscape					
Outcome	Indicators	Description	Sector	Outcomes	Indicators
Improved and diversified sustainable livelihood for communities to reduce pressure on fragile ecosystems	Extent under sustainable natural resource management practices	At least 10,000 ha under sustainable natural resource management	Tourism	<ul style="list-style-type: none"> ▪ Increase in direct incomes homestay families ▪ Service Providers – Nature Guides, Muleteers, Vehicle owners and other suppliers are directly benefited by increase on tourist footfalls in the vicinity of homestays ▪ Link to ancillary activities - New and Traditional goods and services – Crafts, local foods and new valued added products will find a ready market ▪ Reduced extractive stress on the physical landscape as families would be gainfully engaged in Homestay Activities ▪ Conservation value of the landscape and its specific elements - "nature" is highlighted ▪ Creation of a common forum for homestay owners/operators to work together ▪ Primacy to Women - as head of homestay households ▪ Emphasis and reiteration on the values of the culture and bio-diversity of the landscape ▪ Alternative to mass tourism ▪ Increased tourism traffic would attract both regulation and eyes in the forests 	<ul style="list-style-type: none"> - X no of households increase income from homestays and tourism - No. of new local products produced and sold - Reduced collection of NTFPs from the wild - Well-functioning association of homestay owners/operators
	Average Percentage increase in community incomes from sustainable livelihood, natural resource management	30% average increase in community incomes (At least 40% of beneficiaries are women)	Handicrafts	<ul style="list-style-type: none"> ▪ Productive utilization of idle hours of community members during winter season ▪ Improved social spaces and empowerment of women ▪ Revival of traditional arts and culture ▪ Increased income for participating community members without affecting the existing livelihood options including MGNREGA and agriculture 	<ul style="list-style-type: none"> - No. of households engaging in productive activity during winter season - Well-functioning conservation institutions at community level

Lahaul Pangri Landscape					
	and business activities (calculated for each community)			<ul style="list-style-type: none"> ▪ Handicrafts complement tourism activities and hence it provide more economic benefits to the community members ▪ Improved economic opportunities for unemployed and educated youths with the development of handicrafts and tourism ▪ Reduced dependency on natural resources for meeting the livelihood requirements ▪ Improved attitudes and practices of women towards conservation 	
	Number of community members trained and adopting community-based agricultural, agro-pastoral, natural resource management and livelihood activities	At least 2,500 community members trained and adopting community-based sustainable resource use, agro-pastoral, agricultural and other sustainable livelihood activities and receiving detectable conservation and livelihood benefits	MAPs	<ul style="list-style-type: none"> ▪ Heightened awareness about the schemes and possibilities for cultivation of a range of MAP's and unique food crops and a move away from wild extractions ▪ Formation of a powerful local body that both promotes cultivation of MAP's and restricts wild extraction ▪ Cultivation protocols are well established for the chosen set of herbs and spices ▪ Cultivate MAP's value chains are established and well developed proving reliable and steady income to the cultivators ▪ Value Addition – through herbal teas, soaps, oils, infusions, etc provide value added incomes and alternate economic and enterprise opportunities ▪ Direct reduction in collection from the wild and reduced human traffic into the forest / alpine landscape ▪ In-situ Conservation highlights value of conservation to both the long term viability of MAP's and the availability of seeds and planting material 	<ul style="list-style-type: none"> - Document detailing cultivation protocols for MAPs - X no of households increase income from cultivation and sale of MAPs
			Agriculture (Promotion of WBCIS)	<ul style="list-style-type: none"> ▪ Improved livelihood security ▪ Reduced risks associated with climatic conditions ▪ Improved awareness on schemes and services ▪ Recovery of costs of cultivation in case of crop failure due to unanticipated climatic conditions 	<ul style="list-style-type: none"> - Increased proportion of farmers access WBCIS, banking and financial services

Lahaul Pangri Landscape					
				<ul style="list-style-type: none"> Improved access to banking and financial services 	
			Agriculture (Promotion of Beekeeping for pollination services)	<ul style="list-style-type: none"> Increased awareness on the importance of pollination services Enhanced livelihoods through the development of beekeeping enterprises Women and youths are empowered through their engagement and participation Increased income for farmers through improved productivity Economic benefits to local communities through entrepreneurship development Income and livelihood security through natural alternative Healthy bee populations and pollinators improving natural ecosystem 	<ul style="list-style-type: none"> Number of households earning income from selling honey
			Agriculture (Promotion of poly-house farming)	<ul style="list-style-type: none"> Decreased dependency on markets in meeting livelihood requirements Extended farming period except for few months for farmers practicing poly-house farming Increase in income through the sales of surplus vegetables and food items Increased savings for community members due to decreased dependency in outside markets for food items 	<ul style="list-style-type: none"> Number of farmers reporting production of agriculture/vegetable crops in current non-production seasons
			Agriculture (Enhancing irrigation practices)	<ul style="list-style-type: none"> Promotion of scientific farming practices in the landscape Increased awareness on government schemes and benefits Decreased efforts in irrigation will result in productive hours for community members to engage in other activities Climate resilient irrigation facilities for the communities Improved agricultural productivity through enhanced irrigation facilities Increase in income through improved productivity of agricultural produces 	<ul style="list-style-type: none"> Increased area under irrigation

Lahaul Pangri Landscape					
				<ul style="list-style-type: none"> ▪ Increase in overall land under irrigation 	
			Animal Husbandry and Dairying (Exploring the Potential of Milk Products)	<ul style="list-style-type: none"> ▪ Alternative livelihood option for the community members during winter ▪ Increased investments in livestock in terms of capital and capacities ▪ Increased value for traditional practices and products ▪ Increased employment opportunities for youths and women through entrepreneurship development ▪ Increased income through the sales of milk products ▪ Community members with homestays will economically get benefitted with the sales of products to tourist segments 	<ul style="list-style-type: none"> - Number of households reporting income from selling milk/ milk products
			Animal Husbandry and Dairying (Promotion of Backyard Poultry)	<ul style="list-style-type: none"> ▪ Alternative livelihood option for the community members ▪ Increased nutritional status through self-consumption of products ▪ Reduced dependency on unsustainable practices like collection of wild resources ▪ Direct increase in income through the sales of meat products ▪ Reduced dependency on outside markets for meat products 	<ul style="list-style-type: none"> - Number of households rearing poultry - Number of households reporting income from poultry

Annexure 8: Costs involved in the proposed implementation plan (Approximate)

S.No.	Activity	Rationale	Budget Description	Responsible Agency	Units	No. of Units	Unit Rate (₹)	Year 1		Year 2		Year 3		Year 4		Total	
								Units	Amt. (₹)	Units	Amt. (₹)	Units	Amt. (₹)	Units	Amt. (₹)	Units	Total Amt. Amt. (₹)
Tourism																	
Homestay and Community Based Tourism																	
A 1	Initial Survey and short-listing of villages and families	Can be done internally by UNVs or by deploying interns														0	0
A 2	Survey and Baseline Information	<p>Internship to conduct baseline surveys of facilities, map homestay locations and make preliminary listing of beneficiaries for training and long-term support.</p> <p>One intern can do survey and short-listing of 10 villages in 2 months' time</p>	<p>Budget includes Honorarium , travel board and lodge</p> <p>Recommendation that interns be requested to stay in nascent homestays</p>	Internship	Months	2	80000	2	160000	3	240000					5	400000

A 3	Trainings (landscape based) – Residential / Onsite	Homestay trainings and orientation hosting, guest management, basic record keeping, safety protocols etc. To be conducted by Homestay Experts Trainings to be held both in village clusters and at places with adequate facilities	Cost of hosting (Board, stay, local travel,) Training Supplies, (4 trainings of 2 to 3 days) ** Cost of Trainers is budgeted separately	Implementing Agency	Number of trainings	4	100000	2	200000	2	200000					4	400000
A 4	Homestay Development, Design And Training Agency	To design, plan and implement the trainings, to document the trails and to help produce documentation as required through this effort	Annual Payment – to cover 35 days – first two years and then 20 days in the third year – Total 90 Days - inclusive of travel to and from The Landscape (over 4 years),		Annual	3	1300000 & 700000	1	1300000	1	1300000	1	700000			3	3300000

A 5	Local Exposure Visit to existing "Community based" Nature enterprises	5 persons from each selected villages for homestay and eco-tourism can be selected for exposure visit within Himachal (Urgos/ Teerthan). Groups of 15 People x 5 visits	Cost of Travel, Board, Lodging, Misc resources	Implementing Agency	Visits	4	75000	2	150000	2	150000	1	75000			5	375000
A 6	Exposure Visit to Homestay Enterprises to Community / Nature Based Homestays	Visit to locations outside the landscape. 10 to 15 people per group x 2 visits	Cost includes Travel, board and lodging on route	Implementing Agency	Number of Visits	2	100000			1	100000	1	100000			2	200000
A 7	Infrastructure Development for Homestays	Support for Infrastructure development - 2 homes per village (5 villages) May include home infrastructure, linen, home white-goods, etc.		UNDP / Implementing Agency	Number of homes	10	50000	5	250000	5	250000					10	500000

A 8	Homestay Maps and Brochures	Production of promotional brochures, promotional posters, guides etc.	Brochures Rs. 10 / Unit (1000) Posters Rs. 15 / Unit (500)	Implementing Agency	Numbers	1500	15			1500	22500					1500	22500
A 9	Administrative Support	for meetings, homestay registration,	Annual Lump-sum Amount		Annual	4	10000	1	10000	1	10000	1	10000	1	10000	4	40000
A 10	Survey and Baseline Internship	Internship to conduct baseline surveys of facilities, map homestay locations and make preliminary listing of beneficiaries of training and long term support.	Budget includes Honorarium , travel board and lodge	Internship	Months	6	40000	3	120000	3	120000					6	240000
TOTALS									2190000		2392500		885000		10000		5477500
Nature Tourism, Guiding, Trail Development																	
B																0	0
B 0	Identifying and Selecting Agencies	To be undertaken by UNDP														0	0

B 1	Survey and Baseline Information	<p>Internship to conduct baseline surveys of trails, preliminary meetings with communities to identify iconic species, map existing facilities homestay locations and make preliminary listing of beneficiaries for training and long-term support.</p> <p>Interns have to be experienced with Nature Guiding and Nature Tourism aspects</p>	<p>Budget includes Honorarium , travel board and lodge</p> <p>Recommendation that interns be requested to stay in nascent homestays.</p> <p>Preference to hire two interns together to boost productivity and make working easier (halving the units per person)</p>	Internship	Months	6	100000	4	400000	2	200000					6	600000
B 2	Initial Nature Guide Selection	<p>Work to be Undertaken by Implementing Agency based on inputs from UNDP, Intern and on the basis selection trainings</p>														0	0

B 3	Onsite Nature Trail Surveys	Part of the Guide Training work and also to be undertaken by Nature Guide Training Experts														0	0
B 4	Infrastructure Support	Support for Material required for Training Nature Guides and for Trail Documentation 1. Binoculars 15 Units 2. GPS 2 Units 3. Nature Guide Books (Birds, Plants, Butterflies & Moths and Misc related Books) 4. Misc Material It will be Essential to get these Materials before the initiations of surveys And Trainings	Binoculars (8 x 42) @ ₹ 7000 x 15 units = 105000 GPS Units (Etrex 30) @ 30000 = 60000 Books (Rs 3500 per set) x 10 Sets = 35000 Misc Material = 30000 Total = 2,30,000	UNDP / Implementing Agency	As per breakup	Lumpsum As per breakup	230000	1	230000							1	230000

B 5	Nature Guide Training & Nature Tourism Calendar	The crux of the Nature Tourism Initiative – 30 to 40 days of training spread over 2 years. Each Training to be 3 to 5 days to be conducted by sector experts. First set of events is to provide basic training communicate and to select the group for long term Nature Guide Training Culmination outputs are Nature Tourism	Cost of hosting (Board, stay, local travel,) Training Supplies, (8 trainings of 3 to 5 days) ** Cost of Trainers is budgetted separately		Number of Trainings	8	105000	4	420000	4	420000					8	840000
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B 6	Nature Tourism Design, Training Agency	To design, plan and implement the trainings, to document the trails and to help produce documentation as required through this effort	Annual Payment – to cover 80 to 100 days of training (over 3 years), travel to and from the landscape		Annual	3	1500000	1	1500000	1	1500000	1	1500000			3	4500000
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B 7	Identifying and Selecting Iconic Species – That represent the cultural and natural heritage of the area	Part of the training and consultation work and to be incorporated into the Guide Trainings														0	0
B 8	Preparation of Local Plant, Bird, Butterfly and other Natural History Guides (PRODUCTION)	Production of Nature Tourism Brochures, Natural History Guides (bilingual) for guides and tourists and for promotion 1. Bird Pamphlet 2. Butterfly Pamphlet 3. Flora Pamphlet 4. Landscape Pamphlet 5. Trail Guide / Maps 6. Posters	Rs 15 per Unit (Color and Waterproof) for 3000 Units Additional units may be produced and should be made available for sale to earn revenues for further productions	Implementing Agency	Numbers	3000	15	1000	15000	2000	30000					3000	45000

B 9	Preparation of Local Plant, Bird, Butterfly and other Natural History Guides (DESIGN)	Designing Nature Tourism Brochures, Natural History Guides (bi-lingual) for guides and tourists and for promotion 1. Bird Pamphlet 2. Butterfly Pamphlet 3. Flora Pamphlet 4. Landscape Pamphlet 5. Trail Guide / Maps 6. Posters	Rs 30000 per issue (6 issues)	Implementing Agency	Number of Separate Productions	6	30000	2	60000	4	120000					6	180000
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B 10	Mini Festivals – Focus on Community Participation and Events	Series of small events, ideally at the culmination of individual Nature Guide Training Programmes and across different locations in the landscape and to include 1. Guided Nature Walks for educational institutions with trainee guides 2. Exhibitions and presentations on Natural History and Cultural heritage	Cost of hosting the event, travel board and lodging for the visiting (Local) guests and attendees.		Numbers	9	65000	3	195000	3	195000	3	195000			9	585000
B 11	Administrative Support	for meetings, Guide registrations, local travel for guides , Annual Lump-sum Amount			Annual	4	10000	1	10000	1	10000	1	10000	1	10000	4	40000

B 12	Setting in place – Booking, Payments and record keeping systems	Part of the Guide Training work and also to be undertaken by Nature Guide Training Experts														0	0
B 13	The First (and then Annual) Marquee Landscape Nature Festival	The main culmination event of the Nature Tourism initiative. The event that brings together the SECURE landscape initiatives and promotes the various focus areas. The branding event for the SECURE project in the landscape. To include 1. Guided nature walks for Schools, local guests self paying guests, 2. Awarding Certificates to	Cost of inviting and hosting expert guests, logistics, space arrangements, hosting local attendees, Festival logistics based on local availability. Space for presentations / movies and slideshows.		Numbers	2	600000			1	600000	1	600000	1	600000	3	1800000

B 14	Special Invitees Brand Ambassadors to the Festival (or to the Landscape)	To support visits to the landscape by people renowned in the field of Natural History and Community Nature Science . 3 to 4 people	Support for Travel, Board and Lodging Rs 1 Lakh per person		People	6	100000	2	200000	2	200000	2	200000			6	600000
B 15	Exposure visit to Nature Festivals and to work / train as Shadow Guides in other events	Visit to locations outside the landscape. 10 to 15 people per group x 2 visits	Cost includes Travel, board and lodging on route	Implementing Agency	Number of Visits	3	100000	1	100000	1	100000					2	200000

B 16	Second / Advance Nature Guide Training – Multiple Small Groups	Advanced training in Wilderness First Aid and Trek Leadership courses – through NOLS India (either to be undertaken locally (if the numbers of trainees are more than 15 / 20) or trainees to visit training locations. This training includes members from the Low Risk High Impact Group (budgetted separately)	Cost includes COURSE FEES Travel, board and lodging on route		Numbers	10	35000			10	350000					10	350000
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B 17	Documenting Natural History Folklore	Documenting, Design and Publishing of Natural History Folklore to be incorporated in posters and Natural History Documentationl To be undertaking by Natural Historu Guide group under the guidance and supervision of the Nature Tourism Consultants	Cost of Publication (500 units @ 200 = Rs 1,00,000) and Design Work (Rs 30000) = 1 Issue		Number of Issues	1	130000						1	1300000			1	1300000
TOTALS									3130000		3725000		3805000		610000		0	11270000
Low Risk High Impact Tourism																		
C 0	Identifying and Selecting Agencies	To be undertaken by UNDP															0	0

C 1	Survey and Baseline Information	Survey and Documentation of Trails and Paths, Survey of existing sporting facilities and grounds. Community Perception Surveys Interns have to be experienced with Outdoor Sports and Adventure activities	Budget includes Honorarium , travel board and lodge . Recommendation that interns be requested to stay in nascent homestays. Preference to hire two interns together to boost productivity and make working easier (halving the units per person)	Internship	Months	5	80000	3	240000	2	160000						5	400000
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C 2	Demonstration Camps	3 to 5 day Camps in Various locations to showcase the events and to encourage participation in the events and training to follow. Combined Events for Yoga, Running and Ultimate Frisbee. Events to focus of village clusters and educational institutions and to be non-residential hence localized. Costs of Trainers to	Cost of hosting (Board, stay, local travel,) Training Supplies, (6 trainings of 3 to 5 days) ** Cost of Trainers is budgetted separately	Implementing Agency	Number of Events	6	50000	4	200000	2	100000					6	300000
C 3	Initial Trail Running Guide Selection	Work to be Undertaken by Implementing Agency based on inputs from UNDP, Interns, and on the basis of Demonstration and Subsequent selection														0	0

C 4	Onsite Nature Trail Surveys	Part of the Guide Training work and also to be undertaken by Nature Guide Training Experts														0	0
C 5	Infrastructure Support	Support for material required for Training Nature Guides and for Trail Documentation 1. Frisbees 20 Units 2. GPS 2 Units **to be borrowed from Nature Tourism Efforts 3. Misc Material It will be Essential to get these materials before the initiations of surveys and trainings	Ultimate Frisbee (30 x 1000= Rs 30000) Misc Material = 40000 Total = 70,000	UNDP / Implementing Agency	As per breakup	Lumpsum As per breakup	70000	1	70000							1	70000

C 6	Running Guide Training & Developing Running Trail Maps and Events Calendar.	The crux of the Low Risk High Impact Sports Tourism Initiative – 30 to 40 days of training spread over 2 years. Each Training to be 3 to 5 days to be conducted by sector experts. First set of events is to provide basic training communicate and to select the group for long term Guide sTraining Culmination outputs are	Cost of hosting (Board, stay, local travel,) Training Supplies, (8 trainings of 3 to 5 days) ** Cost of Trainers is budgetted separately		Number of Trainings	8	105000	4	420000	4	420000						8	840000
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C 7	Trail Running, Yoga , Ultimate Frisbee Design and Training Agency	To design, plan and implement the trainings, to document the trails and to help produce documentation as required through this effort	Annual Payment – to cover 80 to 100 days of training (over 3 years), travel to and from the landscape		Annual	3	1200000	1	1200000	1	1200000	1	1200000			3	3600000
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C 8	Identifying and Selecting Iconic Trails and locations for events	Part of the training and consultation work and to be incorporated into the Guide Trainings														0	0
C 9	Preparation of Trail Maps and Sporting Facilities (PRODUCTION)	Production of bi-lingual trail map for organized and self running events. Output in the form of brochures and posters for guides and tourists and for promotion	Rs 15 per Unit (Color and Waterproof) for 1000 Units Additional units may be produced and should be made available for sale to earn revenues for further productions	Implementing Agency	Numbers	1000	15		0	1000	15000					1000	15000

C 10	Preparation of Trail Maps and Sporting Facilities (DESIGN)	Designing bi-lingual trail map for organized and self running events. Output in the form of brochures and posters for guides and tourists and for promotion	Rs 30000 per issue (1 issues)	Implementing Agency	Number of Separate Productions	1	30000			1	30000					1	30000
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C 11	Mini Festivals – Focus on Community Participation and Events	Series of small events, ideally at the culmination of individual Guide Training Programmes and across different locations in the landscape and to include 1. Mini Runs for all age groups 2. Frisbee Tournament 3. Yoga Practice Sessions	Cost of hosting the event, travel board and lodging for the visiting (Local) guests and attendees.		Numbers	8	65000	2	130000	3	195000	3	195000			8	520000
C 12	Administrative Support	for meetings, Guide registration, local travel for guides, Annual Lump-sum Amount			Annual	4	10000	1	10000	1	10000	1	10000	1	10000	4	40000

C 13	Setting in place – Booking, Payments and record keeping systems	Part of the Guide Training work and also to be undertaken by Nature Guide Training Experts														0	0
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C 14	The First (and then Annual) Marquee Landscape Nature Festival	Sky Running, Trail Running, Yoga and Ultimate Frisbee Events to be part of the Festival Build up. With local participants as well as "paying guests / tourists" <u>Co-sponsorship from various agencies may be sought (will be critical to the success).</u>	Costs of Conducting specific events including trail marking, materials, Medical Supplies, Refreshment supplies, Bibs, tags, flags, promotional material, T Shirts etc		Numbers	2	200000			1	200000	1	200000	1	200000	3	600000
C 15	Special Invitees Brand Ambassadors to the Festival (or to the Landscape)	To support visits to the landscape by people renowned in the field of trail Running, Sky Running and other chose activities	Support for Travel, Board and Lodging Rs 1 Lakh per person		People	6	100000	2	200000	2	200000	2	200000			6	600000

C 16	Exposure visit to Other Sporting Events and Festivals and to work / train as Shadow Guides in other events	Visit to locations outside the landscape. 10 to 15 people per group x 2 visits	Cost includes Travel, board and lodging on route	Implementing Agency	Number of Visits	3	100000	1	100000	1	100000					2	200000
C 17	Second / Advance Trail Guide Training - Multiple Small Groups	Advanced training in Wilderness First Aid and Trek Leadership courses - through NOLS India (either to be undertaken locally (if the numbers of trainees are more than 15 / 20) or trainees to visit training locations. This training includes members from the Nature Tourism Guiding Group	Cost includes COURSE FEESTravel, board and lodging on route		Numbers	10	35000			10	350000					10	350000
TOTALS									2570000		2980000		1805000		210000		7565000

D 0	Identifying and Selecting Agencies	To be undertaken by UNDP														0	0
D 1	Identification of Herbs, Spices, Food and Aromatic plants suitable for cultivation Survey of Vulnerable MAP's and their Value Chains Survey of farmers willing to cultivate	Based on inputs from WII Report to be corroborated through specific surveys of existing MAP cultivators, MAP's with cultivation potential and MAP's that have local use value Interns (experience d with MAP's)	Budget includes Honorarium , travel board and lodge . Recommendation that interns be requested to stay in nascent homestays. Preference to hire two interns together to boost productivity and make working easier (halving the units per person)	Internship	Months	6	80000	4	320000	2	160000					6	480000
D 2	Identification of Farmers willing to cultivate MAP's and practice IN-SITU Cultivation	To be undertaken by UNDP and the Interns														0	0

D 3	Initiation of Ex-situ and Farmer Cultivation and monitoring of growth and production	Supporting Farmers in the growing of MAP's through Cultivation trainings, provision of planting materials, Monitoring of cultivation progress, growth and harvest.	Support through planting material, specialized tools (irrigation) , fencing / protection		Number of Farmers	40	10000	10	100000	15	150000	15	150000			40	400000
		Hands on Training in Cultivation and Harvest Practices (Local / On Site Trainings) in different cluster of villages	Cost of hosting (Board, stay, local travel,) Training Supplies, (3 trainings of 2 to 3 days) ** Cost of Trainers is included in this budget**	Implementing Agency	Number of trainings	3	200000	2	400000	1	200000					3	600000
D 4	Exposure Visit to MAP Cultivation sites / MAP Value Addition Processes	Visit to locations outside the landscape. 10 to 15 people per group x 2 visits	Cost includes Travel, board and lodging on route	Implementing Agency	Number of Visits	2	100000	1	100000	1	100000					2	200000

D 5	Establishing Value Addition protocols – Oils, Soap, Drying, processing, packaging and establishing market linkages	Hands on Training in Value Addition processes, packaging	Fees to training agency, Cost of hosting (Board, stay, local travel,) Training Supplies, (2 trainings of 7 to 10 Days) ** Cost of Trainers is included in this budget**	Implementing Agency	Number of trainings	2	350000	1	350000	1	350000					2	700000
		Infrastructure for Packaging and Processing	As per specific requires based on MAP processing Lumpsum Amount planned for now		Lumpsum	2	150000	1	150000			1	150000			2	300000

D 6	Design of In-Situ Conservation Plots. To highlight a) Value of rotational harvests, b) Correct Practice for harvest c) Monitoring and comparing In-Situ and Ex-situ plots for growth, population studies and seed production	To be undertaken in Collaboration with the Forest Department															0	0
D 7	Awareness and Communication of Cultivable MAP's and the Cultivation Protocols Preparation of Pamphlet and Posters for MAP Cultivation and Value Addition (PRODUCTI ON)	Production of pamphlets that highlight cultivatable and "non-endangered " MAP species, Cultivation protocols, Value Additions and Value Chains 1. Pamphlets and 6. Posters	Rs 15 per Unit (Color and Waterproof) for 1000 Units Additional units may be produced and should be made available for sale to earn revenues for further productions	Implementing Agency	Numbers	1000	15	500	7500	500	7500						1000	15000

D 8	Preparation of Pamphlet and Posters for MAP Cultivation and Value Addition (DESIGN)	Design of pamphlets and Posters that highlight cultivatable and "non-endangered" MAP species, Cultivation protocols, Value Additions and Value Chains	Rs 30000 per issue (1 issues)	Implementing Agency	Number of Separate Productions	1	30000	1	30000							1	30000
D 9	Miscellaneous Expenses	for meetings, Guide registrations, local travel for guides , Annual Lump-sum Amount			Annual	4	10000	1	10000	1	10000	1	10000	1	10000	4	40000
Totals									1467500		977500		310000		10000	1060	2765000
Handicrafts																	
E 0	Identifying and Selecting Agencies	To be undertaken by UNDP															
E 1	Assessment of existing processes and practices and scope for upgradation	Assessment of existing process and practices by hired agency	Budget includes travel and accommodation of 2 representatives from the expert agency and other field level expenses	Expert agency hired by UNDP	Months	5	250000	2	500000							2	500000

E 2	Hiring fellows from academic and research institutes	Budget not included since it is a general activity cut across sectors		UNDP														0	0
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E3	Preparation of DPRs by hired fellows for improving infrastructure with the assistance from selected resource personnel/agencies	No separate expenses since the payment for fellows are done on a monthly basis		Fellows													0	0
E4	Identification of villages for forming small village/cluster level groups	This will be undertaken by the experts from selected agencies and the costs are already included		Expert agency hired by UNDP													0	0
E5	Start initial piloting in villages by mobilizing community members by resource agency	The activities are expected to be undertaken by the hired fellows.	The operational costs involved can be mobilized from Industries Department and in convergence with ongoing scheme. A seed support from the project considered for this component.	Fellows	Months	4	25000	8	200000								8	200000

E6	Capacity enhancement training in new designs and processes by research group (Preferably NIFT)	The activity can be done by the research institute as a part of their curriculum and no need for the project to invest any cash																0	0
E7	Encouraging and supporting community members to participate in exhibitions	The project can support the travel and other expenses of some community members in the initial years	Travel and accommodation expenses of 3 community members for 4 days for the first two years included	UNVs/Fellows	Days	8	30000	4	120000	4	120000							8	240000
E8	Landscape level online storytelling and sales platform by a hired fellow	No expenses since fellowship programme is already funded		Fellows														0	0
E9	Introducing attractive packaging and labelling practices with the help from resource personnel/agencies	The activities can be supported by ongoing schemes		Fellows														0	0

E10	Inviting voluntary media agencies like Our Better World, Better India to cover the community run initiatives and help in marketing	The project may require to partially fund the field level expenses of these agencies	Expenses for three experts for three months included	Media agency	Months	3	15000	9	270000							9	270000
E11	Helping in the formation of landscape level co-operative by adding more village/cluster level groups	Industries department can help in this activity and no additional funds required														0	0
Totals									1090000		120000						1210000
Agriculture and Horticulture																	
Promoting Weather Based Crop Insurance Scheme																	

F 0	Coordinate with Agriculture Insurance Company Regional Office Chandigarh to organise integrated awareness session in villages		Either the Empanelled Insurance Company can organise the Camps or SECURE Himalaya can organise these camps. Cost items will be Travel and Honorarium of Resource Persons, IEC Material, Venue arrangements, Refreshments.		Awareness Camp for minimum 30 farmers each	20	12000	20	240000	20	240000	20	240000				
F 1	Conduct Crop Cutting Experiments in Villages		Visits of Representatives of Agriculture Department, Revenue Department to be facilitated in villages. 2 Farmers in 20 villages		No. of person travel days	2 Resource persons x 20 villages x 2 days = 80	2000	80	160000	80	160000	80	160000				
Totals									400000		400000		400000				1200000
Enhancing Irrigation Practices																	

G 0	Organise Integrated Awareness Camps in Villages		These camps should be organised on same date and venue as the WBCIS camps to reduce the cost of activity. Only cost of Additional Resource Person and IEC material is added in this component		Per day Resource Person Honorarium	20	1500	20	30000	20	30000	20	30000				
G1	Preparing DPR		Travel and Honorarium Support of Resource Person for preparing DPR can be supported by SECURE Himalaya. Lodging can be provided by ITDP Pangri and Lahaul		Travel, Honorarium , Boarding	2	200000	2	400000								
Totals									430000		30000		30000	0	0	0	490000
Polyhouse Farming																	

H 1	Organise Integrated Awareness Camps in Villages		These camps should be organised on same date and venue as the WBCIS camps to reduce the cost of activity. Only cost of Additional Resource Person and IEC material		Per day Resource Person Honorarium	20	1500	20	30000	20	30000	20	30000				
Totals									30000		30000		30000				90000
Animal Husbandry and Dairying																	
Backyard Poultry																	
i1	Coordinate with Animal Husbandry Department to organise integrated awareness session in villages		SECURE Himalaya can organise these speciality awareness camps in the Integrated Camps along with Agriculture Intervention s. Additional Cost items will be Travel and Honorarium of Resource Persons.		Awareness Camp for minimum 30 farmers each	60	1000	20	60000	20	20000	20	20000				

i2	Organise Training for Farmers		7 days training to be organised in Chamba through AH Department; Travel and Honorarium Support of Resource Person; Venue charges; Boarding, Lodging and Transport of Participants ; IEC Material;		Participants	135	21000	45	945000	45	945000	45	945000	0			
Totals									1005000		965000		965000				2935000
Bee Keeping																	

J1	Coordinate with Bee Keeping Office Kangra of Horticulture Department to organise integrated awareness session in villages		SECURE Himalaya can organise these speciality awareness camps in the Integrated Camps along with Agriculture Intervention s. Additional Cost items will be Travel, Boarding , lodging and Honorarium of Resource Persons.		Awareness Camp for minimum 30 farmers each	60	3000	20	180000	20	60000	20	60000				
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J2	Organise Training for Farmers		7 days training for 30 farmers to be organised at Pangi through Bee Keeping Department; Travel and Honorarium Support of Resource Person; Venue charges; Boarding, Lodging and Transport of Participants ; IEC Material;		Participants	90	10000	30	300000	30	300000	30	300000	0			
Totals									480000		360000		360000				1200000