

Conducting a baseline study on existing impact of tourism activities and provide detailed recommendation for sustainable tourism activities with special focus on nature-based and adventure tourism in SECURE Himalaya project landscapes of Lahaul-Pangi in Himachal Pradesh



Project Advisors

Dr J V Sharma (IFS Retd.)

Dr D. V. S. Khatti (IFS Retd.)

Pia Sethi, Principal Investigator

Nidhi Srivastava, Legal expert

Himachal Pradesh: Rashmi Murali and Jonathan Donald Syiemlieh

Ladakh: Pia Sethi, and Yatish Lele

Sikkim: Yatish Lele, Pia Sethi, Joyita Ghose and Arunima Hakku

Uttarakhand: Siddharth Edake and Deborshi Brahmchari

Pic credits: Jonathan Donald Syiemlieh

Contact information

Dr Pia Sethi
Area Convenor and Senior Fellow
Centre for Biodiversity and Ecosystem Services
Forestry and Biodiversity Division
T E R I
Darbari Seth Block
IHC Complex, Lodhi Road
New Delhi – 110 003
India

Tel. 2468 2100 or 2468 2111
E-mail pias@teri.res.in
Fax 2468 2144 or 2468 2145
Web www.teriin.org
India +91 • Delhi (0)11

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Executive Summary

The assignment on “Conducting a baseline study on existing impact of tourism activities and provide detailed recommendation for sustainable tourism activities with special focus on nature-based and adventure tourism in SECURE Himalaya project landscapes in selected districts of Himachal Pradesh” was awarded to The Energy and Resources Institute (TERI), New Delhi. The SECURE Himalaya Project is convened by the United Nations Development Programme (UNDP), funded by the Global Environment Facility (GEF), and supported by the Himachal Pradesh Forest Department. The prime objective of the eco-tourism baseline study conducted by TERI is to contribute to the intended ‘Outcome 2’ of SECURE Himalaya, which focusses on livelihoods, with conservation being the key overall driver.

The eco-tourism assessment is of the project landscape of Lahaul-Pangi, spread across two districts of Himachal Pradesh- Chamba and Lahaul & Spiti. Extensive consultations were held with a wide variety of stakeholders from the government, local communities, tour operators, NGOs, tourists, hotel and homestay owners, among others, whose valuable inputs shed light on the present status of tourism, issues pertaining to tourism development and potential opportunities for tourism in the landscape. The findings from the field visits were analysed to understand the key factors that have limited tourism development in the landscape and we provide recommendations for initiating sustainable tourism, having minimal impacts on the environment while creating livelihood options for the local community. In addition, a sensitization workshop for the community and a familiarization trip for tour operators was conducted in Pangi Valley.

Visits were made to Pangi Valley, Lahaul, and Chandrataal Lake from June to October for field assessments. In Pangi Valley, the villages of Killar, Karyas, Sural (Tai, Rasmus and Sural Bhatori), Seichu, Phindroo, Parmar (Parmar, Kumar, Parmar Bhatori), and Hudan Bhatori were visited, while in Lahaul the studied sites were Udaipur, Tindi (Bhujund, Lohni, Harsar, Tindi), and Miyar Valley (Urgos, Khanjar, Shukto, Karpas). The visit to Chandrataal also included consultations at Kaza, Spiti Valley.

Present Status of Tourism in the landscapes

Tourism in Lahaul-Pangi is currently very limited, both in terms of volume as well in the tourism products on offer. The tourist season is highly dependent on road conditions as access to the valley remains blocked for 6-7 months during winter. According to estimates from the office of the Superintendent of Police, Chamba, around 6832 Indian tourists and only 112 foreign tourists visited Pangi Valley in 2018. Presently, most of the visitors Pangi Valley receives are bikers intending to ride on the treacherous Kishtwar-Killar Road, who mostly enter Pangi via the Sach Pass. Both Indian and foreign trekkers also visit Pangi Valley. The most common treks undertaken by tourists are to Shiv Shankar Peak and cross over treks to Zaskar in Ladakh, via Miyar Valley. Visitors to Pangi valley also visit villages, the most popular being Sural Bhatori. Tourists on average stay for 2-3 days and maximum up to a week.

Both bikers and trekkers base themselves in Killar, which is the headquarters of Pangi *tehsil*, and best equipped to serve tourists in terms of infrastructure. However, overall tourism infrastructure is very limited. Forest Rest Houses are available in 12 different villages of Pangi, but only 2 of them have online booking facilities, and for booking the others one has to contact the respective DFO office. However, the services of these rest houses need to be

upgraded. Rest houses belonging to the PWD, IPH and Electricity Department are also found at a few locations of Pangi Valley and must be booked through their respective departments. Hotels, both operational as well as those under construction, can be found only in Killar, out of which only one is legally registered, two are unregistered but operational, and two were found to be under construction. Only one homestay was operational in Killar although some are under construction or awaiting formal registration.

Gaps in infrastructure include lack of adequate signage, poor mobile and internet connectivity, limited ATMs and banks, lack of tourist and nature interpretation centres. Locals are engaged in tourism as guides, porters, cooks, mule suppliers during the tourist season, often through external tour agencies who bring tourists to the landscape. But they are mostly not formally trained or legally certified. Moreover, there are no emergency rescue teams present in Pangi Valley. Private vehicle operators ferry tourists to the valley during the tourist season. Local handicrafts or produce are not sold to tourists, although a local NGO has established a mart in Chamba town for selling local produce.

The sites in Lahaul- Miyar Valley, Udaipur and Tindi- receive varying numbers of tourists. While Tindi receives very few tourists, most of whom stop by on the way to Pangi or Sach Pass, the town of Udaipur receives mostly religious pilgrims visiting the renowned Trilokinath Temple and Mrikula Devi Temple. Miyar Valley, has been receiving tourists- mostly trekkers and climbers- from foreign countries from as early as the 1970s. In Miyar Valley, treks like Thanpattan, peaks for climbing such as Menthusa and Phobrong, and sites for rock climbing like Neverseen Tower are well known. The tourist season is short- June to September and climbing mostly takes place in October. Winters are harsh and heavy snowfall cuts off these sites for 6-7 months. However, Miyar Valley continues to remain an unexplored landscape for many Indian tourists. The police check-post at Tingrat village recorded the entry of 51 foreign tourists and 110 Indian tourists (including guides and porters) into Miyar Valley between June and September, 2019. Forest Rest Houses are present in all three sites- Udaipur, Tindi, and Khanjar (Miyar Valley), but the one in Khanjar is not functional. Other accommodation options in Udaipur include a few guest houses and homestays, while in Miyar Valley homestays are present in Urgos and Shukto villages. However, there are no hotels, guest houses or homestays in Tindi. People in Miyar Valley work as guides, porters, cooks, etc. who accompany trekkers and climbers on their expeditions. Unlike Pangi, some trek guides received formal training from a renowned mountaineering institute in Manali, and their training was sponsored by a local village development group in Urgos, the Menthusa Sangathan. The same group works to promote tourism by selling local handicrafts to tourists and establishing a tourism assistance centre in Urgos village.

In stark contrast to the Lahaul-Pangi landscapes, Chandratol is an extremely popular destination, visited by thousands of tourists during the peak tourist season between June and September. Chandratol's popularity can be attributed to its proximity to Spiti Valley, another favourite among tourists, and the excessive amount of publicity it receives from travel blogs, websites and social media, which is not the case with Lahaul-Pangi. Since Chandratol is a protected wetland and a Ramsar site, accommodation is limited to campsites established under strict guidelines of the forest department. Despite this, the high influx of tourists has had negative effects on the environment like overcrowding, issues of waste management, and impacts on grazing areas of shepherds. We estimated the carrying capacity of Chandratol lake including the beach area and the camping site. Using this value, the effective carrying capacity of Chandratol is 344 visitors per day. In reality about

482 people visit per day (e.g. 40,000 visitors this year over an open season of 83 days) which is 138 people more per day than the effective carrying capacity. Moreover, 40,000 people are just the available estimates. Discussions with tourists and stakeholders and tour operators all suggested that strict data on the number of visitors is not collected. Therefore, in all probability more than 482 people are likely to visit the tiny beach area per day. This suggests that the number of tourists need to be regulated or the negative impacts reduced through effective management.

Potential Tourism Products in the Lahaul-Pangi landscapes

Based on findings from the field visits, a variety of specific tourism products and activities have been identified for the landscapes.

Product Type	Pangi	Lahaul
Adventure Tourism		
Trekking	<ul style="list-style-type: none"> Miyar-Seichu-Tuan-Killar Karu Nag Hudan Bhatori- Shiva Peak and Gauri Kund Sural Bhatori- Shiv Shankar Peak-Padam (Zanskar) Twan- Traiund Nalla-Zanskar Twan- Jammu Nalla-Zanskar Chasak- Ghor Dhar Jot-Miyar Karyun Pass Chaini Pass Seichu-Twan WL Sanctuary 	<ul style="list-style-type: none"> Gurdhar Jot- Seichu Tuan Khanjar- Doksa-Tharang-Gumba-Thanpattan- Lakes Kang La Pass- Zanskar Kali Cho Pass (Udaipur to Bharmour) Saptdhara from Trilokinath Darati Top from Tindi Madohi Pass (Tindi to Chamba) Phobrong Peak Menthusa Peak Masala Peak Castle Peak Baihali Jot
Camping	<ul style="list-style-type: none"> Pangi Valley Adventures camps in Sural Bhatori Camping area ahead of Findroo, Killar, Bogutu(near Sach Pass) 	<ul style="list-style-type: none"> Urgos Kang La Camps at Changut Khanjar, Doksa, Thanpattan, Karpas

Product Type	Pangi	Lahaul
	<ul style="list-style-type: none"> Seichu riverside has scope for camp sites 	
Paragliding	<ul style="list-style-type: none"> Potential to develop sites in Bhatoris 	<ul style="list-style-type: none"> Shappi and Chungar near Tindi
Skiing	<ul style="list-style-type: none"> Sural Bhatori- locals do skiing 	NA
Rock-Climbing	<ul style="list-style-type: none"> Potential in Hudan and Sural Bhatori 	<ul style="list-style-type: none"> Neverseen Tower, and many other rock faces in Tawa Valley Tindi also has potential sites
Kayaking	NA	<ul style="list-style-type: none"> Chandrabhaga River near Lohni (Tindi)

Product Type	Pangi	Lahaul
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Nature Tourism	<ul style="list-style-type: none"> • July and August are the flowering months for the valley- slopes covered in indigenous flower species • Waterfall ahead of Sural Bhatori popular among visitors. • Lake near Hudan Bhatori • Uchnu Goth near Parmar Bhatori • Rustic countryside views at Seichu and Hillu-Twan 	<ul style="list-style-type: none"> • May and June are the flowering months for the Miyar valley- Blue Poppy flowers bloom in Thanpattan and beyond • Harsar and Bhujund (Tindi) have lush green slopes surrounded by peaks • Shappi and Chungar alpine meadows offer amazing views
Wildlife Tourism	<ul style="list-style-type: none"> • Animal species: leopard, snow leopard, Asian black bear, brown bear, musk deer, goral, ibex, fox • Bird species: koklas, chukar, kalij, monal, snow cock, chir pheasant • Special wildlife trails and bird watching spots may be demarcated in Seichu-Tuan Sanctuary 	Occasional snow leopard sightings,

Product	Pangi	Lahaul
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Type		
Religious Tourism	<ul style="list-style-type: none"> • Important temples: Mindhal Mata, Malasani Mata, Sheetla Devi, and Tatan Mata • Mindhal Mata Yatra is an annual pilgrimage in the month of June- attended by many people • Bhatoris have individual Gompas • Potential to develop spiritual circuits 	<ul style="list-style-type: none"> • Important temples: Trilokinath, Mrikula Devi • Trilokinath has an annual fair- Pauri Mela • Bhujund has a local temple for the Goddess • Urgos has the biggest Gompa in Miyar Valley • Old gompa remains can be seen beyond Thanpattan and in Karpot
Rural/Village Tourism	<ul style="list-style-type: none"> • Homestays can be developed to provide tourists an experience of local culture and cuisines • British-era buildings around Killar- Cherry Bungalow, Todd Bungalow, and Findroo Bungalow- may be refurbished to make heritage luxury cottages 	<p>A network of homestays may be developed providing visitors an experience of local cultures and traditions. Mahila Mandal of Urgos has previously hosted and done catering for groups of visitors.</p>

Strategies for Developing Sustainable Tourism

Following a thorough analysis of the existing tourism scenario of the project landscapes and the diverse issues hindering the growth of tourism, specific recommendations are provided.

- 1. Installing sign boards at regular intervals within and outside the landscape**
Develop different kinds of signage covering diverse information ranging from simple directions, location of basic facilities (hospitals, pharmacies, ATMs/banks,

Panchayat Office, Police Station, Forest Post, etc.), information on local flora and fauna, to detailed maps of the landscape. The sign boards must be installed at all entry points to the landscape, which are Sansari Nalla and Purthi for Pangi Valley; and Udaipur and Tindi in Lahaul. Other important locations within the landscape such as Killar, Sural Bhatori, Urgos, and Khanjar mandatorily need signage.

2. Documenting Important Trails and Other Points of Interest

Important trails in the landscape must be documented, with the help of community members who have engaged in tourism and have experience of guiding treks. This information may be made available at all nodal points, such as government and forest offices, Panchayat centres, photocopy shops, websites, etc. Some of the trails for each landscape have been listed above

3. Develop Shepherd Trails and shepherd tourism

Shepherd trails can be documented and developed into specialised trails and marketed to niche groups of low impact and high value tourists, who have the inclination to explore the way of life of the shepherds. Shepherds may be brought on board and trained to conduct and guide these tours, serving as an additional source of income. This kind of niche tourism is becoming very popular globally.

4. Exposure visits to the Landscape

Curated exposure visits to selected stakeholders, may serve as an important step towards promoting the valley for eco-tourism. The forest department may invite students, educationists, researchers, photographers, tour operators, etc. to visit and understand the uniqueness of the landscape and the importance of its conservation. One way to do this is to organise a travel fair in each of these landscapes with the help of organisations like Outlook Traveller and AirBnB. Local NGOs and the Panchayats may be entrusted with the responsibility of hosting the visitors and familiarising them with the local culture.

5. Need for Local Tourism Offices

Having a tourism office in the landscape is important for expediting the registration process of hotels and homestays, establishing campsites, regulation of visitors to the valley, registration of tour operators, guides, porters, and initiatives for further developing tourism infrastructure. Suggested sites for these offices can be Killar in Pangi Valley and Udaipur in Lahaul.

6. Establishing Tourist Interpretation Centres

Entry points to the landscapes must necessarily have tourist centres, and mini centres or kiosks may be established at important locations like Killar and Udaipur. Additionally, wildlife sanctuaries in the landscape like Chandrataal require dedicated nature interpretation centres.

7. Regulation on Hotel/Homestay Construction and registration

It may be mandated perhaps through the ecotourism policy/guidelines that hotels with more than five rooms be constructed only in towns like Killar and Udaipur, whereas higher altitude areas like *bhatoris* (of Pangi) and villages in Tindi and Miyar Valley may have only homestays. Ideally, such decisions should also be taken and supported by the local communities themselves to ensure adoption.

8. Capacity Building and Promotion of Homestays

There is a need for regular training for managing homestays. Trainings may be facilitated through the local Panchayats and may also be extended as community workshops on basics of hospitality. Specialised and easy to understand pamphlets printed in local language may be distributed among participants. Capacity building programmes in the SECURE Himalaya project need to focus on developing hospitality modules for local communities. Delegations of current and potential homestay owners may be taken on exposure tours and to travel fairs. As tourism grows, tourists may be encouraged to rate the homestays on various platforms.

9. Formal Training and Certification of Local Guides, Porters, Cooks

The state must sponsor mountaineering courses for select groups of interested candidates from the community and facilitate their registration with the state tourist department.

10. Creating Rescue Teams

Constitute and train a rescue team for all adventure activities, from the local communities as they are well versed with the landscape. Each Panchayat should be mandated to have such a team in place.

11. Regulating Tourist Entry to Fragile and Protected Areas

Checks and guidelines need to be imposed for regulating tourist activities and preventing any damage to the natural environment of the landscape. Local police and forest department may be involved for keeping a check on tourist entry to the landscape.

12. Establish Guidelines for Trekking Groups

An optimal size for trekking groups must be determined for each area in consultation with trekking experts and be notified officially. They should be required to obtain permits from forest authorities and the community groups.

13. Waste Management System

A proper mechanism for waste management must be implemented proactively in the landscapes following the guidelines established by the local municipal bodies in order to be prepared for large volumes of waste generated as tourism increases.

14. Upgrade Forest Rest Houses

Some of the FRHs of the landscape are not well equipped to serve guests, and face problems like non-availability of staff, food options, hot water and poor maintenance and upkeep. These issues need to be addressed.

15. Associated Livelihood through Local Products

Training programmes may be organised for women in making of handicrafts and other local produce as well as their marketing. This can be coordinated by the Panchayat and self-help groups, to impart necessary finesse to producing fashionable yet traditional products. Products made from local produce like biscuits, jams, cosmetics, etc. may also be developed within the villages and sold to both tourists and outsiders through marts and online marketing.

16. Promotion and Publicity through Internet and Social Media

Both Lahaul and Pangi should have their dedicated tourism websites, highlighting its tourism potential. Social media may be leveraged through Facebook and Instagram pages and Twitter accounts particularly for the promotion and publicity of the landscape.

17. Arrange Competitions, Contests, Drives

Contests centred on conservation and eco-tourism like art and craft competitions for students, international photography contest and exhibition for professional and amateur photographers, or local cuisine or handicrafts making events may be organised to raise awareness and publicise the landscape.

18. Organise Pangi Valley and Lahaul Adventure Weeks

National, international, and regional adventure tour associations and operators may be engaged to organise adventure weeks having different adventure activity events, and participants may be invited from around the world.

19. Creation of Unions/Associations

Associations of homestay owners, guides, porters, transporters, etc. must be necessarily constituted to safeguard their livelihoods as well as to offer fair deals to tourists.

20. Coordination between tourism department and eco-tourism wing

Establish coordination and collaboration between tourism department and eco-tourism wing of forest department to align and achieve the common objective of sustainable tourism.

21. Construction of Chaini Tunnel

As a long-term measure, the government may consider the construction of Chaini Tunnel as demanded by the local population, for better connectivity between Pangi and Chamba and facilitate the availability of essential goods for the local population, especially during winters, as well as serve as a faster all-year route for tourists visiting Pangi.

22. Developing alternative accommodation and commuting options for Chandratol

At present the campsites near Chandratol are the only options for tourists willing to stay overnight. However, with the large volumes of tourists arriving at Chandratol every year, the capacity of the camps is often not sufficient to accommodate them. Instead of permitting more camps to be established in the fragile environs of the lake, arrangements in the form of small rest houses or homestays can be made in Chhatru, Batal (from Manali/Lahaul side) or Losar (Spiti side). Further, it will be beneficial to have special bus services to Chandratol from designated spots such as Manali, to promote the use of public transport over private vehicles to the lake.

Chapter 1. Introduction

The travel and tourism industry has emerged as one of the key enablers of growth worldwide, contributing significantly to the socio-economic development of countries through employment generation, foreign exchange earnings and infrastructure development. According to the World Travel & Tourism Council (WTTC), the sector accounted for 10.4% of global GDP creating 319 million jobs, or 10% of total employment in 2018. In the past five years, one in five of all new jobs created was in the tourism sector, further corroborating evidence of the sector's contribution to the global economy.

India has a distinct identity on the global map. India is endowed with unparalleled natural beauty, emanating from its diverse geographical features- high mountain ranges, alluvial plains, hot and cold deserts, plateaus, dense forests, coastal areas, and islands among others. The country's long history, numerous ethnicities, and varied social customs and traditions have distilled to form India's vibrant cultural heritage that one sees today. India's natural and exotic cultural wealth has attracted travellers from around the world for centuries, whose accounts of India have incited curiosity over the ages.

Travel and tourism as a formal industry has grown immensely in India as well. The Indian tourism market offers a range of specialised tourism products - adventure, medical, eco-tourism, wellness, sports, , film, rural, heritage, religious and luxury tourism. At present, tourism is the largest service industry in India, and is an indispensable driver for economic growth.

In 2018, the sector accounted for 9.2% of India's GDP and created 42.7 million jobs, positioning India 3rd amongst the 185 countries ranked by the WTTC in terms of travel and tourism's contribution to GDP. Moreover, this contribution is projected to reach around Rs. 32,05,000 crore (US\$ 492.21 billion) and the number of jobs created to be around 52.3 million by 2028.

India being a popular destination for foreign tourists has seen burgeoning numbers of foreign tourist arrivals year after year. During 2018, this number was 10.56 million, which is only expected to grow further, reaching around 30.5 million in 2028. As a result, the tourism industry is the third largest foreign exchange earner for India. In recent years, the domestic tourism market has shown steady growth. With increase in people's disposable income, increasing popularity of travel across age groups, and emergence of new destinations and themes of tourism, the domestic tourism sector is expected to grow further.

While it is undisputed that tourism leads to economic growth, its overarching impacts on society cannot be overlooked. For instance, the emergence of niche tourism products such as rural tourism creates livelihood opportunities for the rural youth and women, often supplementing income received from traditional means such as agriculture. The need to maintain the tourist value of a destination leads to improved infrastructure, and better living conditions for the local communities. Further, the advent of the concept of sustainable tourism has led to efforts being made to conserve the environment and natural biodiversity of places. In all, tourism is a driver for the holistic development of a country.

However, unregulated tourism has been proven to have damaging impacts on tourist destinations. Problems of overcrowding, over exploitation of resources, impacts on flora and fauna, reckless and unplanned infrastructure development, traffic jams, and crime are few of the negative impacts seen at popular over-visited tourist destinations. In the light of this, the

concepts of sustainable tourism and eco-tourism have gained momentum in recent times, where tourism development is promoted albeit in a way that is not be detrimental to the natural environment. The SECURE Himalaya Project, of the United Nations Development Programme (UNDP), under its eco-tourism study in the Lahaul-Pangi conservation landscape, seeks to explore ways of promoting livelihood options for the community through low impact eco-friendly tourism products, keeping conservation as the core objective, with a special focus on nature and adventure tourism. The broad objectives of the study are to

- 1) Compile, collate and interpret data regarding existing tourism activities in project landscapes
- 2) Ascertain the drivers of tourist carrying capacity of each destination
- 3) Identify potential sustainable tourism products in the project landscapes with special focus on nature-based and adventure tourism, and prepare business projections for the same, and
- 4) Conduct one sensitisation workshop involving the communities
- 5) Conduct one sensitisation workshop involving the travel agents/tour operators.

This report sets the context for tourism development in the state of Himachal Pradesh, and the specific landscape of Lahaul-Pangi, and details out the present status of tourism, benefits to the community, and specific challenges before proceeding to specific potential tourism products that could be developed for the landscapes. The report also includes a detailed analysis of the existing policy landscape for tourism development in the state. Issues of carrying capacity of Chandratal Lake are also examined followed by a proposed framework for drivers of carrying capacity. An attempt has also been made to estimate the carrying capacity value for Chandratal. The report finally provides an exhaustive set of strategies that can be adopted for fostering sustainable tourism in the Lahaul-Pangi landscape.

Chapter 2. Methodology

The SECURE Himalaya project has adopted a unique approach of landscape level conservation of forest resources and biodiversity in the high altitude trans-Himalayan region of Lahaul and Pangi. The specific Outcome 2 of the project envisages *“Improved and diversified livelihood strategies and improved capacities of community and government institutions for sustainable natural resource management and conservation,”* that leads to this tourism study undertaken by The Energy and Resources Institute (TERI) to promote community-based, low impact nature and adventure tourism by conducting a baseline study to document the existing tourism activities in the landscape as well as to explore and understand the potential to develop eco-tourism.

In order to familiarise ourselves with the evolution and status of tourism in India, as well as in the state of Himachal Pradesh, literature from various sources were reviewed in detail. Sources of literature included project reports, journal articles, travel blogs, government tourism websites, adventure and mountaineering journals, policies and schemes at the central and state levels, news reports, etc. Prior to visiting the sites, a number of concerned stakeholders were consulted over telephonic interviews in order to get a sense of how to strategise the field visits and what to expect in the landscape.

Owing to the nature of the task at hand, TERI focussed primarily on conducting extensive field visits to the landscapes and engaged in nuanced and detailed interactions with myriad stakeholders including government officials (mostly from the forest department), community members, hotel/homestay owners, tourism entrepreneurs, guides, porters, and tourists, among others. The field visits were conducted in the months of June (Pangi) and September (Lahaul).

While the majority of data collected was qualitative, specific quantitative data was also sourced for some aspects of the study. Data collection was carried out by means of structured and semi-structured interviews with individual stakeholders as well as through focus group discussions with community members. Consent of the respondents was sought prior to conducting interviews. The carrying capacity assessment for Chandratol required specific details of the physiogeography of the region and quantitative information on tourist visits and related aspects. These were sourced from the concerned forest officer and perceptions of tourists who have visited the lake were also gauged.

The TOR also required TERI to conduct a community sensitisation workshop and familiarisation trip for tour operators to the landscape. On culmination of the analysis of field data, the workshop was planned as an event for dissemination of findings and to take feedback from the community and other stakeholders to strengthen the study further. One of the objectives was to carry out a familiarisation trip for tour operators to the landscapes. However, given that all the operators are familiar with the landscape, it was decided to have a consultative workshop instead so that all stakeholders could express their views, issues and concerns. The tour operators who attended the workshop were also taken on a short visit to the village Sural Bhatoli.



Interaction with Mr. Nishant Mandhotra, DFO Chamba -Seichu-Tuan (L) and with Mr. Manikaran, Range Forest officer, Killar (R) in Chamba



Interaction with community at Karyas village (L) and Sural village (R) in Chamba



Interaction with Mr. Om Prakash, Range forest officer, Udaipur & Tindi village (L) and with interaction with experienced guide Ranjeet Bodh in Khanjar village (R) in Lahaul



Interaction with guides and porters in Urgos village (L) and with CEVA head, Dr. Haresh Sharma (R)



Interaction with *mahila mandal* in Urgos village (L) & (R) in W. Lahaul

Chapter 3. Study Landscapes

About the state

The state of Himachal Pradesh is one of the 10 Indian states spanning the Indian Himalayan Region (IHR), positioned in the north-western part of the country. Himachal Pradesh is surrounded by the states of Punjab, Uttarakhand, Uttarakhand, Haryana, and Jammu and Kashmir; and shares international borders with the Tibet Autonomous Region (China) on the east. The state is spread across a total geographical area of 55,673km² which is around 10% of the total IHR area. The mountainous terrain of the state can be roughly divided into three zones- the Outer Himalayas or Shiwaliks (350 m to 1500 m above mean sea level), the Inner Himalayas (1500 m to 4500 m above mean sea level), and the Greater Himalayas or Zaskar zone (4500 m to around 7000 m above mean sea level) (ENVIS Centre on Himalayan Ecology, 2014). The climatic conditions of these zones vary drastically owing to differences in altitude, showing a gradient of temperatures from slightly warm and sub-tropical in the low altitude areas through cool and temperate Inner Himalayan hills to the glacial and dry cold conditions of the highest mountains. The state receives on an average 1469mm of rainfall annually (Government of Himachal Pradesh, 2019).



A view of Chandratol, Lahaul & Spiti

Himachal Pradesh, as is known today, attained statehood in 1970 after the Indian Parliament enacted the State of Himachal Pradesh Act. Shimla, the state capital, is the largest city of Himachal Pradesh and was the summer capital of the erstwhile British rule in India. The state is divided into 12 districts, sub-divided into 169 Tehsils. There are 20,690 Census villages in the state governed by around 3226 village councils or Gram Panchayats. The urban areas constitute 59 towns and 54 municipalities and local bodies (Government of Himachal Pradesh, 2019).

According to data from the 2011 Census, the population of Himachal is roughly 68.65 lakhs, which formed a meagre 0.57% of the total population of India at the time (Census India, 2011). The state also has a sizeable Scheduled Caste (25%) and Scheduled Tribe (5.7%) population (Ministry of Tribal Affairs, 2011). The entire districts of Lahaul and Spiti and Kinnaur and parts of Chamba (Pangi and Bharmour) are considered to be the tribal belt of the state (HP Tribal Development Department). The average literacy rate of Himachal Pradesh is significantly higher than the national average- around 83%, with male literacy rate being 89.5% and female literacy rate being around 76%. Hindus comprise the religious majority (around 95%). Around 90% of the population resides in rural areas. Thus, agriculture (including horticulture) becomes the main source of livelihood for the population as well as the major contributor to the state economy. *The tourism industry is an important economic sector of Himachal Pradesh and contributes a significant 6.6% to the Gross State Domestic Product (GSDP) (Economic and Statistics Department, 2019).* Owing to its natural beauty, Himachal attracts a sizeable number of domestic and foreign tourists each year. The state, having recognised the potential of tourism for the state economy, has developed infrastructure in order to facilitate the development of the sector.



Samudra Tapu glacier near Chandratat, Lahaul & Spiti

In order to preserve the unique floral and faunal diversity of the state, the government has demarcated Protected Areas in the form of National Parks, Wildlife Sanctuaries and Biosphere Reserves. Among the Protected Areas are 5 National Parks, 32 Wildlife Sanctuaries and 3 Conservation Reserves, and 1 Biosphere Reserve (ENVIS Centre on Wildlife and Protected Areas, 2017). The Great Himalayan National Park, part of Kullu district is also a UNESCO World Heritage Site (UNESCO, 2014).

Among natural resources, Himachal Pradesh is adorned by mountains peaks and glaciers from where numerous rivers originate. Some of the highest peaks of Himachal Pradesh are Shilla Peak, Rio Pargial, Shipki, Manerang, Kinner Kailash, etc. (Gangotia, 2011) The Bara Shingri, Chhota Shingri, Sara Umga, Parvati, and Samudra Tapu are some of the major glaciers situated here (ENVIS Centre on Himalayan Ecology, 2014). Important rivers traversing the landscape include Sutlej, Beas, Ravi, Parbati, Spiti, and Chenab (Maps of India). Other water bodies in the state include lakes such as Chandra Tal, Suraj Tal, Renuka, Prashar, Bhriagu, Rewalsar, Gobind Sagar, and Nako, among others.

The forest vegetation can be classified as Ban Oak forest, moist Deodar forests, and alpine pastures and rhododendron scrub forests. Specifically, the vegetation found in the foothills comprises *Acacia*, *Zizyphus*, and *Sal*; and between altitudes of 500-1800m, *Terminalia*, *Abizzia* and *Pinus roxburgii* are commonly found. Up to an altitude of 3000m, moist and dry temperate forests consisting of different kinds of oak, deodar (*Cedrus deodara*), blue pine, *Quercus*, etc. are found. Higher up, species such as birch (*Betula utilis*), fir (*Abies spectabilis*), Juniper, and Rhododendron scrub are found. In the cold and dry regions lying before the snow line, the vegetation mostly comprises alpine pastures. Himachal Pradesh is also rich in faunal diversity of fish, reptiles, amphibians, mammals (Sharma & Sidhu, 2016). Some of the well-known wild animals of the state include the Snow Leopard (also the state animal), the Himalayan Wild Yak, Himalayan Blue Sheep, Himalayan Black Bear, Musk Deer, and the Himalayan Wolf (HP Forest Department, 2019).

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About the SECURE landscapes

Pangi

The valley is a tehsil of Chamba district and lies towards the north western portion of the district surrounded by Lahaul and Spiti in the South and East and Jammu & Kashmir in the

north. It is a remote and tribal, high altitudinal area bordered by the Great Himalayan Range and the Pir Panjal Range. The river Chandrabhaga flows through deep meandering narrow gorges in the Pangi Valley which originates from Baralacha glacier in Lahaul-Spiti and enters Pangi Valley near Karu Nala. The valley lies between 32° 12' 41" to 32° 47' 59" N latitude and 76° 13' 56" to 76° 47' 48" E longitudes with elevation ranging from 1800 to 6200 m spreading over an area of 1600 sq km. The valley is characterised by harsh and extreme weather conditions with heavy snowfall, rocky and dangerous terrain, limited rainfall and is cut off during the winter months due to snow blockages. Pangi is connected by a 170 km road stretch via the Sach Pass at a height of 4420 meters above sea level which is also the shortest route from Chamba to Killar, the district headquarter for Pangi Valley. This pass is open to vehicles during July-September and remains closed for the rest of the year as a result of intense snowfall. The average snowfall data recorded in Pangi for February 2019 was 48.4 cm at an average of 8 snow days (World Weather Online, 2019). Another alternative route south east of the Sach Pass which connects Churah area of Chamba District with Mindhal Village in Pangi is the Cheni Pass at 4400 meters. This pass takes 4-5 days from Killar to Trela in Chamba and is used more frequently by shepherds and local residents of Mindhal and Kulal Villages of Pangi Valley as the distance is less compared to the Sach Pass. Pangi valley is also accessible via longer routes, namely; the 680 km Chamba-Manali-Killar stretch and the 570 km Chamba-Jammu-Doda-Gulabgarh-Killar stretch.

The valley is divided into three major areas, viz., Sural, Hudan, Saichu which is inhabited by the Bhot and Pangwal tribes where Bhoti and Pangwali are the spoken languages. The high altitudinal villages of Pangi Valley are called Bhatories which are predominantly Bhot tribal populations who practice Buddhism. Pangi tehsil recorded a population of 18,868 as per Census 2011 with a literacy rate of 71%. Within the valley is the 102.95 sq. km **Saichu Tuan Nala Wild Life Sanctuary** situated at an altitude ranging from 2550 to 6072 metres. It is home to Himalayan Ibex (*Capra sibirica*) and Musk deer (*Moschus chrysogaster*). Snow Leopard (*Uncia uncia*) has also been reported (Singh, et al., 1990). Bird species such as Himalayan or Impeyan Monal (*Lophophorus impejanus*), Himalayan Snowcock (*Tetraogallus himalayensis*) and Koklass Pheasant (*Pucrasia macrolopha*) are found in the sanctuary (BirdLife International, 2019). In the alpine and sub-alpine regions Himalayan Mouse Hare (*Pika Ochotona roylei*) and Blue Sheep (*Pseudois nayaur*) have been documented. In the slightly lower elevations of the sanctuary Brown Bear (*Ursus arctos*), Asiatic Black Bear (*Ursus thibetanus*), Serow (*Nemorhaedus sumatraensis*), Goral (*Nemorhaedus goral*), and Himalayan Tahr (*Hemitragus jemlahicus*) can be found. The important trees and NTFPs include hazel nut locally called thangi, walnut, chilgoza pine, pine, deodar, peeling birch, wild apple, wild apricot, bracken fern, gucchi (edible mushroom), poplar, kalazeera (*Carum bulbocastanum*), Himalayan yew and tilla or patish.

Lahaul

The SECURE Himalaya conservation landscape in Lahaul and Spiti district is located in the western part of the district, comprising the villages of Udaipur Tehsil. Some of the study villages in the landscape are part of the Miyar Valley, a remote and relatively unexplored part of Himachal Pradesh. Miyar Valley, situated between the Pir Panjal and Zaskar mountain ranges, stretches a total length of around 75 km from the village Udaipur to the glacier at Kang La Pass, covering a total area of around 963.85 km² (Deswal, et al., 2017). The gradient of altitude rises from 2640 m at the mouth of the valley at Udaipur to more than 5468 m at Kang La. The valley derives its name from the largest glacier in the valley and river originating from it- the Miyar Nalla, which is a major tributary of the Chenab River. The Miyar basin is highly glaciated with the presence of around 166 glaciers spread over an area of 523 square km (Kulkarni, Rathore, & Bahuguna, 2011). Alpine to dry temperate conditions dominate the climate of Miyar Valley, while average temperatures show a range from around 9°C in Udaipur, 5°C at a higher village, Sukto to mostly negative temperatures further up. The alpine regions receive heavy snowfall, which cuts off the valley from the mainland for around six months in winters (Apollo, Andreychouk, & Bhattarai, 2018). ***Western Lahaul, including Miyar can be accessed from Manali via the Rohtang Pass, connected by the Leh-Manali Highway.*** Udaipur and Tindi can be directly accessed by the Highway, whereas for Miyar Valley, one has to take a detour from Udaipur towards Urgos and move further up into the valley.



Gaddis taking their herd of sheep and goats on Tandi-Kishtwar road, Lahaul

The landscape is characterised by vast plains and meadows surrounded by towering peaks and rock formations, and streams traversing the valley floor. The vegetation varies from tree cover to alpine herbs and shrubs with the rising elevation. A floristic survey by (Deshmukh & Jain, 2016) in Miyar Valley recorded 117 plant species, sub-categorised into 11 trees, 12 shrubs and 94 herbs. Mixed forests of *Cedrus deodara*, *Pinus wallichiana*, and *Juniperus recurva*

are found at lower altitudes (between 2800-3800 m). Shrubs found at these altitudes comprise *Rosa webbiana*, *Lonicera quinquelocularis*, *Sorbaria tomentosa* and *Juniperus communis*, whereas herb species include *Artemisia nilagirica*, *Dactylorhiza hatagirea*, *Polygonum affine*, *Bromus japonicus*, *Potentilla atosanguinea*, *Veronica persica*, etc. At altitudes above 3800 m, herbs like *Androsace muscoidea*, *Biebersteinia odora*, *Draba oreades*, *Draba setosa*, *Sibbaldia purpurea*, etc. were found. Wildlife in the landscape consists of snow leopards, ibex, brown bear, and musk deer.

There are 16 villages in the valley and the population is characterised by tribal settlements of the Buddhist Thranaga people of Tibetan origin. Also found in the landscape are temporary settlements by shepherds. People of the valley are land owners and practice agriculture on their lands which forms the main source of their livelihood. The vast grasslands of Miyar are managed by individual villages and used for community grazing of livestock (Padigala, 2014). Some of the crops grown in this harsh agro-climatic condition are peas, buckwheat, seed potatoes, which also serve as cash crops, sent to places outside the valley for sale (Apollo, Andreychouk, & Bhattarai, 2018). This shift in cultivation of traditional food crops to crops with more economic value and the resulting commercialisation of the valley has been observed to be an impact of improvements in road connectivity to the region (Padigala, 2014). Spring water originating from glaciers forms the main source of drinking water for the population, whereas water for irrigation of agricultural fields is sourced from the rivers and streams.



Map of study area under Lahaul



Urgos village (L) and Karpot village (R) in Western Lahaul

Chapter 4. Existing Status of Tourism in the landscapes

Tourism in the State

Himachal Pradesh is well endowed with natural beauty making it one of India's most sought after tourist destinations. Adorned by lofty mountains, meadows, rivers and springs, and abundant wildlife, Himachal appeals to all kinds of visitors- adventure seekers, leisure family tourists, pilgrims, naturalists and wildlife enthusiasts, bird watchers, and film crews among others. This is evident from the large numbers of tourists the state receives year after year, with 16450503 tourists visiting Himachal Pradesh in 2018.

History of Tourism Development in HP

Even though today Himachal is synonymous with tourism, it was not until the British Raj that people visited the state for tourism. The British developed 'hill stations' as retreats from their main stations in the plains, and developed them by providing infrastructure like roads, buildings, water supply, and electricity. Shimla became the Summer Capital of the British in 1864, the seat of power from where the rest of the country was administered. At the state level, recognising the importance of tourism for the economy, the state government set up Tourist Information Centres and established the Himachal Pradesh Tourism Development Corporation (HPTDC) in 1972 with the objective of developing and publicising tourism in the state. The state government announced its first Tourism Policy in 1992, which is notable for creating infrastructure for tourism, inviting private players to the industry and opening the tribal areas for tourism (Jangra & Kaushik, 2018). The policy was further revised in 2000 and 2005 (Sharma, 2007). Thus, the tourism industry grew enormously, attracting scores of domestic and international tourists and making Himachal Pradesh one of the most popular Himalayan destinations with a global appeal. However, unchecked proliferation of tourism has often adversely affected local landscapes and natural resources. Anticipating this, the state government formulated the HP Sustainable Tourism Policy, 2013 focussing on comprehensive development of tourism encompassing preservation of the natural environment, culture and heritage while providing sustainable livelihood opportunities for the local communities. In 2017, the HP Forest Department released an Eco-Tourism Policy to foster ecotourism.

Tourist Seasons

In Himachal Pradesh, the peak tourist season starts from the month of April and extends up to October. An analysis of the data on tourist arrivals in Himachal for the last ten years reveals that up to the year 2010, April, May and June were the highly congested months in terms of domestic and foreign tourist visits. However, since 2011 this period has extended up to October. Himachal now also receives large numbers of tourists even in the winter (HP Tourism Department, 2019). This is one of the main objectives of the tourism department which wants to break the seasonality factor holding back tourism development by offering diversified tourism products throughout the year that cater to all kinds of tourists (Himachal Tourism, 2019).

Popular Destinations

The abundant natural beauty of Himachal Pradesh has created numerous popular destinations enjoyed by visitors from the world over. Some of the most popular tourist spots as mentioned on the official website of the tourism department are Shimla, Manali, Kullu, Dharamshala, Solan, Sirmour, Mandi, Spiti Valley, Dalhousie, Lahaul Valley, Bilaspur, Chamba, Hamirpur, Kangra, Kinnaur, Palampur, Paonta Sahib and Una. The popular tourist destinations can also be categorised into circuits consisting of popular tourist spots (Vyas, 2010)-

1. Shimla Circuit: Shimla, Narkanda, Kufri, Mashobra, Naldhera, Sarahan, Rampur, Karsog, etc.
2. Kullu-Manali Circuit: Naggar, Katrain, Banjar, Bhuntar, Kasol, Manikaran, Malana, Rohtang Pass, Solang Valley, etc.
3. Chamba Circuit: Dalhousie, Khajjiar, Manimahesh, Bharmour, Banikhet, Killar, etc.
4. Kangra-Dharamshala Circuit: Kangra, Dharamshala, Bir-Billing, Chintpurni, Jwalaji, Pong Dam, etc.
5. Mandi Circuit: Mandi, Barot, Sundar Nagar, Shikari Devi, Kamrunag, Prashar Lake, etc.
6. Nahan Circuit: Nahan, Paonta Sahib, Renuka Lake, Naura Dhar, etc.
7. Solan-Parwanoo Circuit: Chail, Barog, Kasauli, etc.
8. Tribal Circuit: Lahaul, Spiti, Kinnaur

Places like Shimla, Kullu, Manali, Dharamshala and Dalhousie have been traditional favourites among tourists. Due to overcrowding, the government is promoting many off-beat destinations to offer tourists new experiences and enhance the livelihood of the local people. In order to harness the potential of rural areas with rich cultural history for tourism, the government launched the 'Har Gaon Ki Kahani' initiative (Parmar, 2012). Further, the 'Nai Raahein Nai Manzilein' campaign of Himachal Tourism attempts to bring attention to the less visited, but equally promising places in Himachal, which include Bir-Billing, Janjehli, and Chanshal (Himachal Tourism, 2019). Other unexplored places being promoted by Himachal Tourism are Churah, Pangi Valley, Shoja, Karsog, Chindi, Barot, Churdhar, Bhawa Pass, and Triund. Travelogues and blogs by private travellers have also played a major role in popularising these 'unexplored' places.

Popular Activities

A host of activities and experiences is available to all kinds of travellers visiting Himachal Pradesh. The different types of tourist activities can be broadly classified into the following categories-

- **Adventure tourism:** The challenging terrain of Himachal Pradesh offers ample scope for adventure seekers, who visit the state from India and abroad. Some of the popular adventure activities of the state include trekking and hiking, mountain climbing, paragliding, river rafting, ice skating, still water sports, mountain biking, skiing and heli-skiing, angling, camping and vehicle safaris.



Scope for adventure tourism activities at Sural, Chamba

- **Nature-based tourism:** Himachal Pradesh's landscape presents great scenic beauty through its diverse natural wealth of flora, fauna, mountain ranges, water bodies, and fresh air, which is a treat for nature lovers. Protected areas such as Kalatop-Khajjar, Daranghati, Kanwar, Ruppi-Bhawa, and Rakham Chitkul wildlife sanctuaries and Great Himalayan and Pin Valley National Parks are abundant in wildlife and bird species, as well as have various trails and trekking routes.
- **Cultural and Heritage Tourism:** The diverse heritage of Himachal Pradesh is reflected in the lifestyle, clothing, festivals and fairs, and food choices of the people as well as in the buildings and architecture. There are around 40 historically important monuments in the state including forts (for e.g. Kangra Fort, Kamru Fort), temples (for e.g. Hidimba and Trilokinath temples), churches (like St. Michael's Cathedral, Shimla) and Buddhist monasteries (for e.g. Key, Dhankar) (Vyas, 2010)..

The art and craft of Himachal - murals, Thangka paintings, Kangra miniature paintings, jewellery, wool work like shawls and caps- are also renowned and are well promoted to attract tourist attention (Himachal Tourism, 2019). Himachal also has a number of festivals and fairs that are celebrated with much fervour and enjoyed by tourists as well. Some of the winter festivals of the state are the Lavi Mela of Rampur, Kullu Dussehra, Lohari Fair, Nalwari Fair and Renuka Ji Fair (Ministry of Tourism).

- **Religious Tourism:** Being home to numerous places of religious significance, Himachal receives pilgrims and devotees from around the country. Temples like Baijnath, Trilokinath, Chintpurni, Jwalaji, Chamunda Devi, Bhimkali, Jakhoo Temple, etc. and pilgrimages like Mani Mahesh and Kinner Kailash circuits are important for Hindu pilgrims (Vyas, 2010). For Buddhists, there are many important temples and monasteries

that are collectively promoted as the Buddhist Circuit, stretching from Dharamshala through Bir, Joginder Nagar, Rewalsar, Manali, Lahaul and Spiti, Sangla, Rampur, Solan up to Shimla (Himachal Tourism, 2019).



Scope for adventure tourism in Sural Bhattori village (L) in Chamba and Kyarelamoo camping at Udaipur village (R) in Lahaul & Spiti

Eco-tourism in Himachal Pradesh

The International Ecotourism Society (TIES) gave one of the earliest definitions of ecotourism which is defined as, “responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education (of both staff and guests)” (TIES, 2015). Himachal Pradesh was one of the first states to adopt eco-tourism as a concept and this led to the creation of an autonomous body called the Eco-tourism Society of Himachal Pradesh or HP-ECOSOC, with the aim of conserving the natural and cultural heritage of the state by involving local communities and harnessing the principles of participatory forestry management, leading to revenue generation for the state as well as the people (HP ECOSOC, 2019). The society has earmarked certain areas for development of eco-tourism activities such as birding, trekking and hiking. Eco-tourism circuits and trails are also been planned. The department also offers tour packages in some areas. **As a part of this initiative, Forest Rest Houses in Bilaspur, Chamba, Dharamshala, Hamirpur, Kullu, Mandi, Nahan, Rampur, Shimla, and Solan have been opened to tourists for accommodation.** Bookings can be made online through the ECOSOC website. The Society plans to extend the initiative to other places in Himachal. In addition, ECOSOC is also training local people to be nature guides who can educate visitors about conservation. However, this is yet to take place in the SECURE Himalaya landscape.

Tourism in the Landscape

Pangi landscape

The remote Pangi Valley is the epitome of ethereal natural beauty, which is largely untouched by human activity, especially tourism. Tourism activities are currently very limited, both in terms of volume as well in variety of tourism activities. The short tourist season lasts only a few months (June to September) as access to the valley remains blocked

for 6-7 months during winter. Presently, most of the visitors to Pangi Valley are bikers intending to ride on the treacherous Kishtwar-Killar Road, who mostly enter Pangi via the Sach Pass. Pangi Valley is also visited by trekkers- both Indian and foreigners. The most common treks undertaken by tourists are to *Shiv Shankar Peak and cross over treks to Zaskar in Ladakh, via Miyar Valley*. Apart from this, visitors to the valley also visit villages, most popular being Sural Bhatori. Tourists on average stay for 2-3 days and maximum up to a week. Both bikers and trekkers base themselves in Killar, which is the headquarters of Pangi *tehsil*, and is best equipped to serve tourists in terms of infrastructure. The following section briefly describes the villages that were sampled during the field visit to Pangi Valley.

a. Killar

Killar is around 160 km from Chamba via Sach Pass and 130 km from Keylong and the administrative headquarters of Pangi Valley. It is located at a height of 2600-2700 meters above sea level. The roads drop down to the Chadrabhaga (Chenab) River. Originally, Killar was a cluster of villages, however it is now a town with government offices and hospitals, public transport and shops. It is located at the center of the SKT Road (Sansar-Killar-Thirot Road). The town has two hotels and a homestay and a number of family run restaurants. The HRTC buses are stationed at Killar and traverse to and from other parts of Pangi. Killar is also a suitable base for trekkers heading to Kishtwar, through Umasi La into the Zaskar Valley, and to Keylong and Manali. The Killar-Kishtwar route is frequently regularly by bikers and is considered as one of the most dangerous routes in the world. The road begins in Killar, in the Lahaul and Spiti district in Himachal Pradesh, at an elevation of 2524 m (8280 ft) above the sea level, and ends in Kishtwar, in the Kishtwar District of the Jammu region at an elevation of 1638 m (5374 ft) above the sea level.



Mahalu nallah forest checkpost near Killar in Chamba

b. Sural

Sural is part of Pangi valley and is one of the major valleys at a height of 3050 meters and 25km away from Killar. It comprises of Kanwas, Rusmas, Sural, Ganmas, Tai and Sural Bhatori villages. It is a base camp for a number of trekking routes. The village houses a forest rest house (FRH) and a PWD guest house. The upper portions of the village viz., Sural Bhatori has 8 dual occupancy camps with food facilities which were established in June 2019 to cater to tourists during the peak season of June-September. The last village of the valley is Sural Bhatori which is inhabited by Buddhists at an elevation of 3500 m and has a gompa which is surrounded by *Betula* (bhojpatra) trees. A short trek from Sural Bhatori is to a waterfall beyond which is a trail leading to Zanskar ranges. Few *gaadi* settlements can also be seen on way to the waterfall. The *gaddis* are nomadic pastoral community of the Western Himalayas who move between different altitudes in search of medicinal herbs and forage for sheep and goats. There are trekking routes that go to Talk (a lake situated above Dharwas at 5000 m) Killar and Hudan, over Tingloti pass (4850 m) and Gandhar Bhatori (Buddhist village in Jammu & Kashmir). The local people guide tourists across the valley on relevant treks.

As a result of heavy snowfall during the winter months Sural valley is cut off from Killar for at least 5-6 months. The valley is also cut off between Sural Bhatori and Sural Tai for months during winter.



Gaadi settlements in Sural Bhatori village (L) & (R) in Chamba



View of Sural Bhatori landscape (L) and Waterfall located in Sural Bhatori village (R) in Chamba

c. Hudan

The Hudan valley houses the villages of Seri Bhatwas, Takwas Tundroo, Ichwas, Hudan village and Hudan Bhatori. It is around 10 km east of Killar and 13km upstream of Mahalu Nallah. There is a lake at 3500 m above sea level, a km away from Hudan Bhatori which is covered in ice during the cold months of December through April. A few kms away from the lake are grasslands where herders and shepherds bring their cattle to graze. These grasslands are important sources of medicinal plants and are known as Shinkal dhar. Hudan Bhatori, located at an elevation of 3354 m which is the last village in this valley, is inhabited by Buddhists and located close to the Nagni springs.

Trekking routes to Sural, Tuan and Kiryuni are accessible from Hudan. To go to Sural, one has to trek via the 4878 m high Tingloti Pass which is recommended only for experienced trekkers. The base of Shiva Peak (6142 m) can be approached after a couple of hours walk from the Hudan lake.



View of Hudan Bhatori landscape in Chamba

d. Parmar

At an elevation of 3506 m, south east of Killar lie a cluster of three villages; namely, Parmar Bhatori, Parmar and Kumar. Parmar Bhatori is the last of the three villages and is inhabited by Buddhists. Trekking routes are accessible from Kiryuni, Gowari and Sach with the traditional Findroo-Gowari route being the relatively easier one. The village is covered by immense alpine grasslands.

e. Saichu

It is situated at the confluence of three streams, namely, the Hillu Tuan nallah, the Seichu nallah and the Chasak nallah. The Sechu Tuan Nalla Wildlife Sanctuary is located within proximity of the villages at an altitude ranging from 2550 to 6072 m. It is populated with high-altitude Himalayan wildlife amidst Himalayan moist temperate and alpine moist scrub.

f. Tuan

Ten kilometres away from Seichu village are the villages of Hillu, Tuan and Kali-cho with a Buddhist population. There is a trekking route from the Tuan nallah to the foothill of Shiv Shankar La. This is a trekking route to Zanskar



Country side landscape of Seichu Tuan villages

g. Findroo

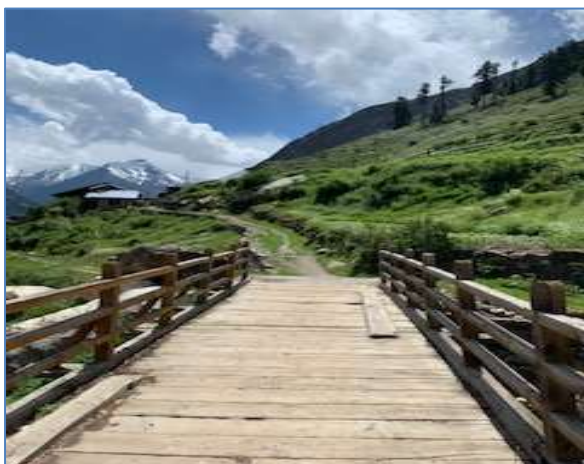
The Findroo/ Phindroo village is 10 kms south of Killar at an elevation of 2287 m and located on the side of Chandrabagha River (Chenab). The village has two dhabas besides the bus stop which is a rest stop for visitors to Killar and Sach. The trekking route to Parmar sub-valley via Gowari village commences from Findroo. This village is extremely scenic and people pitch tents here. There is a swinging bridge to go to the adjacent village on the other side of the river Fina-par/ Phinpar. Visitors can trek from here to Mindhai village where the famous temple dedicated to Chamunda Devi is located. A big fair takes place in September which attracts a lot of locals from Pangi. Some other well-known temples include the Malasani Mata Temple at Purthi and Karyuni, Sheetla Devi at Luj village and Tatan Mata.



Sural Bhatori village (L) and Pangi adventure tents(R) in Pangi



Hudan Bhatori village (L) and Saichu village (R) in Pangi



Hillu Tuan village (L) and Tuan village (R) in Pangi

Lahaul Landscape

Tourism in Miyar valley has been historically concentrated around trekking and climbing expeditions, which started in 1970 with the summit of Menthosa Peak by a British team led by S. Rae and R. Cape (Zoladek & Kordowska, 2017). Subsequently, a Japanese team led by S. Ibiyashi became the first one to conquer the Phabrang Peak in 1972 (Kumar, 1988). Over the course of years, many exploratory missions were conducted in and around Miyar, leading to the discovery of new valleys (Tawa Valley, Thunder Valley, Nameless Valley, etc.) and summing of new peaks (Masala Peak, Castle Peak, Forgotten Peak, Neverseen Tower, etc.). Trekking in the valley also gained popularity among niche tourists, especially to the Miyar Glacier, and to Zanskar via the Kang La Pass (Zoladek & Kordowska, 2017). Despite being popular among climbers from the world over, Miyar still remains relatively unknown among the popular destinations of Himachal Pradesh.

The numerous monasteries or Gompas found throughout the valleys of Lahaul is living evidence of the rich and thriving Buddhist tradition of the region. These monasteries- both ancient as well as modern- attract a large number of visitors. The Trilokinath temple of Udaipur, a 10th Century structure, displays a unique amalgamation of Hindu and Buddhist traditions and architecture, and is highly revered by both communities. Udaipur is also home to the Mrikula Devi temple, frequented by Hindu devotees.

However, Udaipur and Tindi are presently not preferred destinations by tourists, and merely serve as stop-overs for people travelling to and from Pangi (Chamba) or to the travellers coming from or going to Leh, who may occasionally explore these areas.

a. Udaipur

As the sub-divisional headquarters of Lahaul and Spiti district, Udaipur is an important administrative town, situated at an altitude of 2743m above sea level. Udaipur is at a distance of around 54km from the district headquarters- Keylong. The Chandrabhaga River and the Miyar Nallah converge here. This ancient town was earlier known as Markul, deriving its name from the Marikula or Mrikula Devi Temple, which is believed to date back to the 11th Century A.D. The temple is an important religious destination, receiving both Hindu and Buddhist devotees, due to its influences from both cultures. Architecturally, this timber and stone structure is known for its intricate wood carvings and wall panels depicting scenes from the Hindu epics.

Udaipur is also home to the famous Trilokinath Temple. Constructed in the 8th Century A.D., this temple is situated in the picturesque village of the same name, surrounded by lush meadows and towering snow peaks. The main deity, Trilokinath, is revered both by Hindus and Buddhists as Shiva and Avalokiteshwara, respectively. The Pauri Mela, an annual religious fair celebrated in the month of August, is an important fair of this temple, when pilgrims offer obeisance to the deity.

The Kali Cho Pass (4980m) trek connecting Udaipur (Lahaul) to Bharmour (Chamba) is one of the most difficult treks of Himachal Pradesh, traditionally traversed by Gaddi shepherds and popular among serious trekkers. The Baihali Jot (6245m) is a prominent snow peak visible from Udaipur but is relatively unknown among climbers and has had few expeditions. A local short, day trek, originating from the Trilokinath Temple, leads to a meadow and seven springs known as Saptadhara. During the Pauri Mela, devotees carry out a procession to Saptadhara from the Trilokinath Temple.

b. Tindi

Tindi is a small village of Lahaul valley located at around 75 km from Keylong, along the Tandi-Kishtwar Road, and is part of the Tindi Panchayat, which is situated towards Chamba district. According to Census data, Tindi has a total of 101 households and a population of 514. Unlike the neighbouring town of Udaipur, the villages of Tindi Panchayat receive very few visitors, most of whom are travellers to and from Pangi, Chamba.

However, Tindi and its nearby villages offer beautiful views to nature lovers and has trekking options for adventurers. The Darati Pass, situated at an altitude of 4700 m above sea level, starts in Tindi and connects Lahaul to Churah Valley in Chamba. It takes one day to cross over. *This trek through the Pir Panjal Range is one of the least explored treks of Himachal Pradesh.* Tourists also have the option of going up till Darati Top for the views, instead of crossing the Pass. *Another day-long trek suggested by locals is the Madohi Pass trek which also connects to Chamba and is not known to tourists. It was also reported that the Chungar alpine meadows can be developed into a paragliding spot. There are also many rock faces where options for rock-climbing can be explored.*

c. Bhujund

Bhujund is the last village of Tindi Panchayat, around 26 km from Udaipur. There is no road connectivity to the village and thus must be trekked to. However, Bhujund has scenic beauty and tranquillity, ideal to be developed for rural tourism, highlighting the local culture and lifestyle of the people. Bhujund also has an important local temple dedicated to the Goddess, revered highly by the locals.



En-route to Trilokinath mandir near Udaipur, Lahaul

d. Harsar

Situated on the lush green slopes of the high hills around Tindi is the tiny village of Harsar. It is a remote village accessible only by trekking and just two households. We highly recommend the development of Harsar for eco-tourism as it has breath-taking views of the valley and peaks.

e. Lohni

Situated 21 km from Udaipur is Lohni village. *The only FRH of Tindi Panchayat* is located here. Lohni receives more tourists than other villages in Tindi, as it is located on the road to Chamba and often has people stopping over on the way. In terms of potential tourism activities, the Shappi meadows of Lohni are a treat for nature lovers and trekkers, and could be developed into a paragliding site. Kayaking is a water sport to be developed on the Chandrabhaga River flowing near the village, suitable in the month of October.



Lohni village (L) and entry to Harsar & Bhujund villages (R) in Lahaul



View from Tindi forest office (L) and approach roads to Lohni village from Udaipur (R) in Lahaul

f. Miyar Valley

Tourism in Miyar Valley is confined to trekking and climbing by professionals, mostly from foreign countries. Since these expeditions have been going on for decades, many of the trek routes are well documented. Despite this, Miyar is one of the least explored destinations of

Himachal Pradesh, especially by domestic tourists. The unique landscape of Miyar holds immense potential for eco-tourism, albeit catering to niche tourists. The community would also like to see tourism to flourish for the local economy, which is currently restricted to seasonal agriculture. They are however, wary of the negative effects of unrestricted tourism in the valley. Some important villages, from a tourism perspective are below.

(i) Urgos

The most recognised village of Miyar Valley is Urgos village of Tingrat Panchayat, situated in Upper Miyar. Urgos is popular among trekkers and climbers, and thus has accommodation options in the form of homestays. The two registered homestays of Urgos are Amarnath Homestay (5 bedrooms) and Phobrong Homestay (3 bedrooms). In addition, the community provides space for trekkers to set up their camps. Many local men engage as trekking guides for Indian and foreign tourists. The nearby village of Changut has a camp established, known as Kang La Camps, which is operational and receives tourists regularly.

The Menthusa Sangathan, a local community group, has given primacy to developing tourism in the region and thus, established a Tourist Information cum Assistance Centre, formally inaugurated this year (2019). *The Sangathan also sponsored the training of three people from Tingrat Panchayat from the Atal Bihari Vajpayee Institute of Mountaineering and Allied Sports (ABVIMAS), who were trained as trek guides.* The Centre assists travellers with arrangements for accommodation, guides, porters, mules, cooks, and trekking gear among others. The Centre also displays postcards and local handicrafts (woollens) made by the Mahila Mandal (women's group), to be sold to tourists visiting the centre. Urgos has the first solar water heating system of Miyar Valley, providing warm water for bathing in public washrooms. There are two small eateries, and other basic infrastructure in the village.

A popular trek from Urgos is the Menthusa Peak trek. Starting from Urgos, one can reach the base camp in a day, while climbing the peak takes around 15-20 days. Another potential tourist attraction can be the Urgos Gompa, which is the biggest in the valley, and has been renovated to its present form.



View of Urgos village from Menthusa Sangathan centre (L) and interaction with Tenzing Chhevang, manager of Menthusa Sangathan centre(R) in W. Lahaul



Postcards sold at Menthusa Sangathan centre (L) and visitor feedback at Menthusa Sangathan centre (L) in W. Lahaul

(ii) Khanjar

The last village of Miyar Valley is Khanjar, situated on the opposite banks of the last motorable road. Khanjar is the starting point of many of the treks of Miyar Valley, some going towards Zankar, while others lead to Chamba and Kinnaur. The shortest trek from Khanjar leads to Doksa, a flat ground used by locals to play cricket. Further, the trek leads to Tharang, Gumaba and Thanpattan, *through flat meadowed landscapes, which bloom with Blue Poppy flowers after the monsoons, aptly giving Miyar the title of 'Valley of Flowers'*. Along the way one can find ruins of an ancient Buddhist Gompa, glacial lakes, and rivulets. Other routes lead to the Tawa Valley, Neverseen Tower, Castle Peak, etc. which are popular among foreign climbers. The Kang La Pass trek goes further connecting Miyar to Zanskar, lasting of 10-15 days. Trekking guides from the village mentioned many small, undocumented trails that are frequented by shepherds, and can be developed for tourists.

(iii) Shukto

The last motorable village of the valley is Shukto. Local buses go no further than this village. Tourists can find accommodation in the two homestays present in the village. Also present is a small local eatery.

(iv) Karpāt

Karpāt, overlooking the daunting and majestic Phobrong Peak, is the centre of the Karpāt Panchayat of Lower Miyar Valley. It is accessible from the Miyar Road, connected by a motorable bridge. Though there is no tourist infrastructure in the village at present, it is frequented by climbers and trekkers wanting to scale the Phobrong Peak. Another trek from the village is the Gurdhar Jot, which connects Miyar to Seichu Tuan Wildlife Sanctuary in Pang Valley. The ruins of an old monastery can also be found in the vicinity of the village.



Khanjar village (L) and Kangla camps in Changut village (R) in W. Lahaul



Shukto village (L) and Karpal village (R) in W. Lahaul



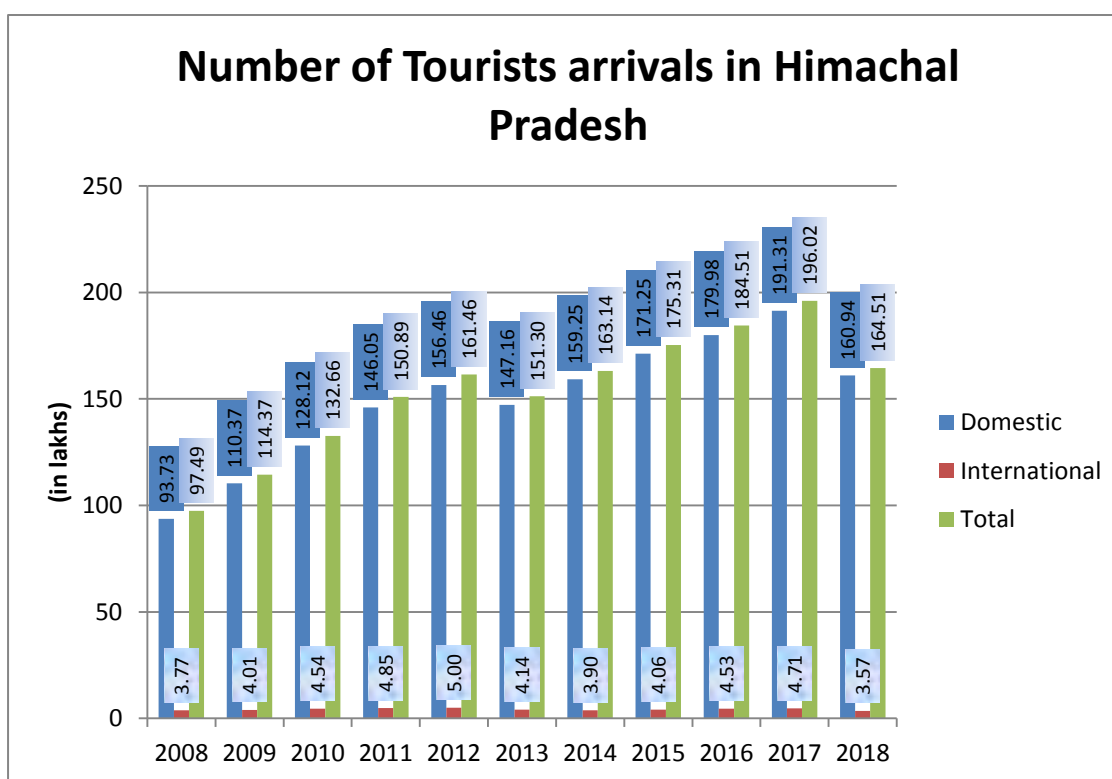
Urgos village (L) and Urgos Gompa (R) in W. Lahaul

Tourist Visits and Tourism Expenditure

Tourist Visits to Himachal Pradesh

The state was visited by 19601533 tourists in January- December 2017 of which 97.6% were domestic tourists. However, there was a decline in the number of tourists in the subsequent year. The total number of domestic and foreign tourists recorded for January- December 2018 was 1,64,50,503 out of which 97.83% were domestic tourists. Kullu witnessed a decline in the number of tourists by 27.5% due to limits imposed by the National Green Tribunal (NGT) on the number of vehicles allowed to visit Rohtang-Pass on a single day, which is 800 for petrol vehicles and 400 for diesel vehicles. In addition, these vehicles have to pay a permit charge of Rs.500 and congestion charges depending on the type of vehicle- Rs.50 for cars, jeep, MUV's and Rs.100 for buses and HMV's (Tourism Development Council Manali, n.d.). The number of domestic and foreign tourist arrivals from 2008-2018 is in Table 1.

Figure 1 Number of tourists arrivals in Himachal Pradesh



Source: Department of Tourism & Civil Aviation, Government of Himachal Pradesh (2019)

The number of domestic tourist arrival grew at a CAGR of 5.04 % since 2008 whereas the CAGR for the number of international tourists declined by 0.5% till 2018. The average number of domestic and foreign tourist arrivals in the state over the past eleven years is around 1.5 crore and 4.3 lakhs, respectively. About 96% to 98% of the total tourists were domestic tourists during the period 2008- 2018. The international tourists were mostly from United Kingdom (UK), United States of America (USA), Australia, France, Bangladesh and Germany among other countries with close to 18% of the total international tourists coming

from the UK in 2018 followed by USA at 8.42%. The following table indicates the number of bed nights recorded for international tourists from 2008-2018 which is growing at a CAGR of 1.60%.

Table 1. Number of bed nights spent by international tourists

Bed nights spent (Foreign Tourist)	
2008	480595
2009	497013
2010	570443
2011	587801
2012	663049
2013	556227
2014	549508
2015	685048
2016	723556
2017	NA
2018	571982

Source: Department of Tourism & Civil Aviation, Government of Himachal Pradesh (2019)

Tourist Visits to the Landscapes

As compared to conventional tourist destinations of Himachal Pradesh, the number of tourists to Pangri Valley and Lahaul remains abysmally low. According to estimates from the office of the Superintendent of Police, Chamba, around 6832 Indian tourists and only 112 foreign tourists visited Pangri Valley in 2018. The total number of tourist vehicles entering the valley was around 1108. The total number of tourists visiting Pangri is a meagre 0.0004% of the total visitors to Himachal Pradesh. The police check-post at Tingrat village recorded the entry of 51 foreign tourists and 110 Indian tourists (including guides and porters) into Miyar Valley between June and September, 2019.

Tourism Expenditure

The Domestic Tourism Survey (DTS) by the National Sample Survey Organisation (NSSO) measures the intensity of inflow of domestic tourists in terms of the number of trips made per 100 households (MOSPI, 2015). The survey found that compared to the national average of 418 trips per 100 households, Himachal Pradesh has 84% higher tourism intensity with 769 trips per 100 households (NCAER, 2015). The Himachal Tourism Survey (2011-12) by the Ministry of Tourism found that 72% of the domestic overnight visitors and 89% of foreign visitors visited the state for the purpose of holidays, leisure and recreation (AC Nielsen ORG-MARG, 2012). Around 14% of domestic overnight tourists and 18% of day visitors visited the state for religious reasons. Manali was found to be the most visited tourist destination (18.16%) followed by the Mall, Shimla (10.75%) and Hadimba Temple (8.21%). These findings are similar to previously conducted studies by (Bhakuni, 1989) and the (GoHP, 1990). These studies also show that remote areas like Lahaul and Spiti attracted more foreign than domestic tourists (Chauhan, 2009).

The Himachal Tourism survey also tabulated the average expenditure incurred by tourists- domestic and foreign- for purposes such as food, accommodation, transport, shopping, and leisure and recreation. On average domestic tourists spend around 1.9 days and foreign tourists spend around 2.4 days in their accommodation units.

Overnight domestic tourists and domestic day visitors were found to spend around Rs.26,209 and Rs.115 respectively on accommodation, while foreigners spent much less, around Rs.759 per trip. The expenses on food and drink by domestic overnight consumers was around Rs.8,662, while that of day visitors was around Rs.2657. Foreigners spent around Rs.900 on food and drink during the trip. The money spent on reaching the state (from within India) by different means was high for both types of domestic tourists (around Rs.41000 and Rs.30000 respectively) whereas foreigners were found to have spent on average a far lesser amount (Rs.552) on transport. Domestic overnight tourists spent around Rs.9171 to shop and day visitors spent around Rs.4758 while foreigners spent around Rs.1200.. The survey found that the least amount of money was spent on leisure and recreation (including culture and sporting activities) with domestic overnight and day visitors spending around Rs.1461 and Rs.503 respectively, and foreigners spending a meagre Rs. 60 on recreation during the trip.



Kangla camps at Changuat village, W. Lahaul charging a tariff of 2000 INR per night per tent (dual occupancy)

These figures are from the AC Nielsen survey conducted for the whole state in 2011-12 and thus, the numbers would have changed significantly over the years.

Existing tourist infrastructure and gaps

Tourist Infrastructure in the State

Realising the contribution and potential of tourism for enhancing the state economy, the government of Himachal Pradesh has been promoting the industry on priority basis. Successive governments of the state have worked to develop infrastructure that could

augment the development of the tourism industry in the state. Development and upgradation of public services and civic amenities such as metalled roads, airports, buses, electricity supply, water supply, and telecommunication networks are being given importance.

Tourists can find numerous hotels, guest houses- both government-owned as well as private- for a comfortable stay. The HPTDC has a network of hotels all over Himachal in different categories- Heritage, Deluxe and Budget- suitable to the affordability of the tourist. Their services also include luxury buses and heli taxis on some routes.¹ The state has around 3382 registered hotels with a total bed capacity of around 91,223. As a major step towards sustaining tourism and livelihoods, homestays are being aggressively promoted in the state, and now there are around 1604 registered homestays with bed capacities of around 9144. The State has about 714 restaurants. Around 3,297 registered travel operators are also active in Himachal. In addition there are 894 photographers and 1048 tourist guides registered with the state tourism department (HP Tourism Department, 2018).

Himachal Pradesh also has a Tourist Police squad of around 100 specialised police personnel, whose duties include “ensuring the safety and security of tourists along with providing them the right information to save them from being misled by unscrupulous elements in the garb of tourism (Ministry of Tourism, 2016)”.

Table 2 and table 3 provide information on the number of hotels/ guest houses and the number of homestays in the state.

Table 2: Number of hotels/ Guest houses and bed capacity (as on 31st, December, 2018)

District	No. of hotels/ Guest houses	No. of rooms						Bed Capacity
		SBR ²	DBR ³	DOR ⁴	FS ⁵	TBR ⁶	Total	
Bilaspur	85	43	693	8	67	10	821	1779
Chamba	225	95	2524	29	85	10	2743	5517
Hamirpur	55	48	331	6	6	3	394	773
Kangra	656	389	6794	43	262	92	7580	15516
Kinnaur	66	80	846	13	40	20	999	1991
Kullu	910	382	12332	23	1018	0	13755	28565
Lahaul & Spiti	184	10	1228	4	23	0	1265	2618
Mandi	197	141	1550	38	80	36	1845	3927
Shimla	483	186	7412	235	308	29	8170	16564
Sirmour	115	75	1201	12	30	28	1346	2637

¹ <http://hptdc.in/>

² Single bed room

³ Double bed room

⁴ Dormitory

⁵ Family suite

⁶ Triple bed room

District	No. of hotels/ Guest houses	No. of rooms						Bed Capacity
		SBR ²	DBR ³	DOR ⁴	FS ⁵	TBR ⁶	Total	
Solan	307	143	4196	39	140	72	4590	9180
Una	99	61	922	12	44	5	1044	2156
Total	3382	1653	40029	462	2103	305	44552	91223

Source: Department of Tourism & Civil Aviation, Government of Himachal Pradesh (2019)

Table 3: Number of homestay units (as of 31st, December, 2018)

District	No. of homestay units	No. of rooms						Bed Capacity
		SBR	DBR	DOR	FS	TBR	Total	
Bilaspur	14	2	37	0	0	0	39	76
Chamba	105	12	262	0	3	0	277	548
Hamirpur	4	0	11	0	0	0	11	22
Kangra	224	7	519	0	4	0	530	1061
Kinnaur	54	0	162	0	0	0	162	324
Kullu	426	11	1126	0	67	0	1204	2531
Lahaul & Spiti	232	0	690	0	0	0	690	1380
Mandi	93	7	248	0	11	1	267	550
Shimla	312	0	893	0	0	0	893	1786
Sirmour	31	2	80	0	2	0	84	170
Solan	100	4	274	0	25	0	303	652
Una	9	0	20	0	1	0	21	44
Total	1604	45	4322	0	113	1	4481	9144

Source: Department of Tourism & Civil Aviation, Government of Himachal Pradesh (2019)

Table 4 provides information on the number of travel agencies, guides, photographers and restaurants in the state.

Table 4. : Data on travel agencies, guides, photographers and restaurants (as on 31st, December, 2018)

District	No. of restaurants	Travel agencies	Tourist Guides	Photographers
Bilaspur	12	30	29	1
Chamba	39	51	106	17
Hamirpur	37	7	2	0
Kangra	125	495	128	3
Kinnaur	9	22	12	0
Kullu	76	1327	369	764
Lahaul & Spiti	0	40	26	0
Mandi	42	133	69	3

District	No. of restaurants	Travel agencies	Tourist Guides	Photographers
Shimla	110	1081	178	106
Sirmour	76	8	55	0
Solan	167	94	74	0
Una	21	9	0	0
Total	714	3297	1048	894

Source: Department of Tourism & Civil Aviation, Government of Himachal Pradesh (2019)

The government has also managed to gain financial assistance from the central government (under the Swadesh Darshan Yojana) as well as from international institutions like the Asian Development Bank (ADB) in order to develop more tourist infrastructure (Economic and Statistics Department, 2019).

Tourist Infrastructure in the Landscape

Tourist infrastructure in both Lahaul and Pangi Valley is limited in number and type. This is because few tourists visit these landscapes.

Pangi Valley

Accessibility

Pangi Valley is geographically remote and inaccessible for most parts of the year. There are limited options for reaching Killar, the headquarters of Pangi Tehsil, the most popular ones being- (i) from Dalhousie via Sach Pass, (ii) via Manali, and (iii) via Kishtwar in Jammu and Kashmir. Sach Pass remains the most preferred route to reach Killar for tourists and locals alike; however, the motorability of this route depends on snow conditions, which in turn determines when the pass will open. The route from Manali via Rohtang Pass to Lahaul leads to Purthi in Pangi. The major constraint of taking this route is traffic congestion around Rohtang Pass due to the large number of tourists that visit the Pass in summers. The third route via Kishtwar is a very long journey, involving crossing another state, as well as a very long stretch of unpaved treacherous roads between Kishtwar and Killar. Apart from road conditions, the limited availability of different options of public transport to the valley is another major impediment, though private vehicles ply on the routes regularly. Please refer to table on rate list of taxi fare in Pangi.



Road under repair near Purthi, Pangi

Accommodation

As mentioned in previous sections, there are limited accommodation options in the villages. Only three private hotels and one homestay were found to be in operation in the busiest town of the valley, Killar. Hotel owners complained of the tedious and time consuming process involved in getting their establishments registered legally, which affected their business. , Due to this they would start their operations without obtaining a license. Some hotels were observed to be under construction in the study sites. A local NGO, Collective Efforts for Voluntary Action (CEVA) encouraged locals to set-up homestays, and supported homestay owners with the legal formalities. The homestays, however, were not fully equipped and not functional. Homestay owners were also not sensitized about managing or running a homestay by the State Tourism department.

In the absence of accommodation options, travelers are dependent on Forest Rest Houses (FRH) and some guest houses by the Public Works Department (PWD), Irrigation and Public Health (IPH) department, and electricity department for their stay in the valley. There are 12 FRHs in Pangi Valley, which have been opened to the general public for bookings, which can be done online or through the office of the Divisional Forest Officer. Presently only two of the rest houses, the ones in Killar and Purthi, are available for online booking through the Himachal Pradesh Ecotourism website. The rooms are limited in number and provide basic facilities. The main constraint here is the uncertainty with room availability, as priority is given to government officials visiting; in which case bookings may be cancelled. Other government guest houses can only be booked through proper government channels and are thus, not easily available to travelers.

Table 5: Room capacity of FRH in Pangi landscape

Name of FRH	DBR	Dormitory	Outhouse
Sural	2	0	0
Bindrawani	2	0	0
Killar	4	1	0
Sach	2	0	0
Sugalwas	5	1	1
Purthi	3	0	1
Hudan	2	0	0
Seichu	2	0	1
Parmar	2	0	0
Sahali	4	0	0
Karyuni	2	0	0
Chasak Bhatori	2	0	0
Total	32	2	3

Source: Range forest officer, Pangi, Government of Himachal Pradesh (18th, June, 2019).
DBR is a double bed room

Signage

Sign boards giving directions to the different villages were missing throughout the landscape, which makes it difficult for outsiders visiting the valley for the first time. Information about the flora and wildlife and cultural traditions was also missing from public

spaces. Moreover, there were no interpretation centres highlighting this area's conservation value or providing a list of dos and don'ts for visitors.

Other Tourism Infrastructure

Though there are many options for trekking and camping in the landscape, these are not developed or documented by the tourism or forest department. Trekkers have to rely on personnel from the tour operators and local guides hired by them. Though the local guides are familiar with the terrain and have expertise in trekking, they are not formally trained or registered with the authorities. Further, there was no information on the presence of any rescue groups in case of any mishaps during trekking or climbing expeditions. This is a serious inadequacy and may put tourists' lives at risk.

As highlighted previously, the lack of a dedicated Tourism Department office or Tourist Interpretation Centre (TIC) catering to tourism needs of Pangi has been detrimental to the growth of tourism in the landscape. The nearest tourism office in Chamba mostly focusses on already popular tourist spots like Chamba town, Dalhousie, Khajjiar and Manimahesh. It would be beneficial for Pangi to have a nodal tourism office working exclusively for promotion of tourism in Pangi. It would also be useful if the tourism offices in Chamba could promote Pangi to the customers they receive.

Other gaps in tourism infrastructure would be poor mobile connectivity, internet access, lack of adequate and operational ATMs, and limited transportation options.



Entry via Sach pass to enter Pangi from Dalhousie (L) and (R) in Chamba



FRH at Seichu Tuan wildlife sanctuary in Chamba

Lahaul

Accessibility

Western Lahaul is well connected by road to all major places of Himachal Pradesh and has regular services of local buses of the Himachal Road Transport Corporation (HRTC) and private operators plying to and from the district. The most common entry point to this area is from Manali to Keylong via the Leh Manali Highway, followed by a detour at Keylong towards Udaipur. Further, one can reach Tindi from Udaipur via the Tandi-Kishtwar Road.

Miyar Valley can be accessed from Udaipur through the Miyar Valley Road which goes along the Miyar Nalla, on either side of which lie the villages of Upper and Lower Miyar. Local HRTC buses connect all the study areas of the Lahaul landscape. Shared and private taxis can also be hired from Manali or Udaipur. Many tourists drive their own vehicles or hire motor bikes from Manali. Some foreign tourists were observed to bring their own mountain bikes (bicycles) for commuting.

Accommodation

Accommodation in the landscape is limited. There are three Forest Rest Houses (FRHs), one each in Udaipur, Tindi (Lohni village) and Miyar Valley (Khanjar village). The FRHs in Udaipur and Tindi have two sets of rooms each, while the one in Khanjar is not operational. Other government accommodation options include PWD Rest Houses in Udaipur and Tindi, and a Circuit House in Udaipur. Private guest houses and homestays can be found in Udaipur, of which four were reported to be formally registered and two are in the process of getting legally registered. Tindi does not have options of homestays or guest houses. In Miyar valley, the villages of Urgos and Shukto have two registered homestays each, while more are in the process of being legally registered.

The room capacity of FRHs in Lahaul and homestays in Miyar Valley are given in Table 7 and Table 6 respectively.

Table 6: Room capacity of FRHs in Lahaul

FRH Location	Rooms
Udaipur	2
Lohni (Tindi)	2
Khanjar (Miyar)	Not operational

Table 7: Room capacity of homestays in Miyar Valley

Homestays in Miyar	Rooms
Phobrong (Urgos)	3
Amarnath (Urgos)	5
Tashi (Shukto)	2
Unnamed (Shukto)	2



Homestay in Shukto village (L) and FRH Tindi (R) in Lahaul

Signage

There was a sign board in Udaipur showing the way to Trilokinath and Miyar Valley, however, there were none within the town giving directions to nearby villages. Same was the case with Tindi. In Miyar Valley, there were two separate routes to Upper and Lower Miyar Valley villages; however the diversion did not have signage informing outsiders of the different routes. There are numerous treks originating in Khanjar village that lead to important valleys and mountain peaks, but no information was depicted in the public spaces of any of the villages. The treks to Phobrong Peak and Gurdhar Jot from Karpas were also not highlighted anywhere on the route. Information about the landscape's flora and fauna were also missing. In general, it was clear these areas were not considered to be priorities for tourism.



Signage indicating route to Chimrat village (L) and absence of signages before diversion of Upper and Lower Miyar (R) in W. Lahaul

Other Tourism Infrastructure

Trekking being the major tourist attraction Lahaul, especially in Miyar Valley, local people often contribute as guides, cooks and porters in expeditions. Though some guides have received formal training from Atal Bihari Vajpayee Institute of Mountaineering and Allied Sports (ABVIMAS), many of them are not trained and rely on their local experiences to take tourists on treks. As in Pangi, there were no rescue teams in the study sites of Lahaul; however, there was a police check-post at Tingrat village, where details of non-local visitors were noted down. It was reported that this information was collected for safety purposes, as most non-locals visiting the valley are trekkers, and this data helps track their arrival and departure from the valley.

None of the study sites had any tourist interpretation, nature interpretation or information centres to assist tourists. The nearest district tourism development office was in Keylong, which was quite far from all the sites, making hotel and homestay registration a tedious task for potential entrepreneurs.

Mobile phone connectivity is restricted to BSNL and Airtel (at Udaipur). Banking services can be availed only at Udaipur. There are no registered Tourist Information Centres in any of the study areas except for the limited tourist information at Urgos Menthusa Sangathan. Medical facilities are available at all the sites. Police assistance can be sought at Udaipur, Tindi and Karpal village of Miyar valley.



Police check post at Tingrat village (L) and Urgos community and tourist centre (R) in W. Lahaul

Benefits to Communities

The economic impacts of tourism are well-known, as it creates employment opportunities for the local population, even for semi or unskilled labour. The inflow of tourists leads to a demand for better infrastructure in the region, which also benefits the local residents, as the government sees incentive in developing an area with potential for higher revenue. As a result, public infrastructure such as roads, health facilities, mobile phone network, banks, police presence, post offices, etc., gets an overhaul. As a tourist destination becomes popularised, several businesses such as hotels, restaurants, cafes, taxi and other transport operators, enterprises selling locally made products, etc. become active contributors to the local economy.

According to the World Travel and Tourism Council, the travel and tourism industry of India directly supported 26,148,000 jobs the total number of jobs supported by the sector, including indirect contributions was 41,622,500 in 2017, which is expected to increase further in the coming years (World Travel and Tourism Council, 2018). However, there is a lack of documented data on the number of jobs created in Himachal Pradesh in tourism and allied industries. According to some reports, the Homestay Scheme, 2008, is said to have significantly benefited the economy. The Homestay Scheme is a flagship scheme of the Himachal Pradesh government for extending ecologically sustainable tourism to the interiors and rural areas of the state in order to create economic opportunities for the local communities. The scheme is reported to have generated economic activity to the tune of Rs.5 crore and created employment for around 3000 people (Business Standard, 2019). Homestays registered under the scheme are eligible for certain exemptions and benefits such as waiver of land use change fees, concessionary and domestic rates of electricity and water for home stay units. Detailed analysis of this scheme has been included in the report under the section 'Regulation of tourism, trade and other activities'.

The Department of Tourism and Civil Aviation have taken various action steps in order to channelize the potential of the unemployed youth of the state into the tourism sector. Training courses on tourism, guiding (for treks), food and beverages services, orientation programmes for taxi drivers, porters, Dhaba and homestay owners, etc. have been conducted by the department, and a budget of Rs.29 lakh was earmarked for training 431

trainees in the year 2018-19. Skill trainings related to tourism, among others, are also provided to poor rural youth in the age group of 15-35 years under the Deen Dayal Upadhyaya- Grameen Kaushalya Yojana (DDU-GKY), a skill and placement initiative of the Ministry of Rural Development (MoRD) (Economic and Statistics Department, 2019). Skills and livelihoods trainings have also been conducted as a part of the Community Based Tourism project financed under Tranche-1 of the Infrastructure Development Investment Program for Tourism of the ADB, in which 5445 participants were trained (ADB, 2016). Under Tranche-3 of the same project, initial trainings have been conducted in 12 Panchayats in 5 districts (Economic and Statistics Department, 2019).

According to discussions undertaken with hoteliers in the Lahaul-Pangi landscapes, the maximum tourist season is limited to the months of June to September. Tourists stay for 1-2 days on average during the peak season with a few who stay for a week. In the case of Pangi, one of the only registered hotelier indicated that assuming the hotel (consisting of 11 standard rooms and 2 family suites) has a 60-70% occupancy rate; they earn around 15000 INR per day on average. The daily tariffs for standard rooms vary between 1000-1500 INR and between 2500-3000 INR for family suites. In the case of the Lahaul landscape, the homestays charged a fixed tariff of 1000 INR per day. However, the number of tourists visiting the Western Lahaul landscape were too less to estimate the benefits accrued from tourism. Data received from the Tingrat Police check pots indicated that only around 150 domestic and international tourists visited the Western Lahaul landscape during June-September 2019. Lack of internet and limited mobile connectivity was stated as one of the major factors for reduced tourists' arrival. The hoteliers stated that with the improvement of mobile and internet connectivity, potential entrepreneurs would be able to promote and market the hotels and homestays to attract tourists. A camping company, Pangi Adventures was started by a local individual in Sural Bhatori in Pangi which started operations in June 2019 and charge a tariff of 1500 INR per person per day inclusive of food. They offer other facilities like bonfire at an extra charge of 1000 INR. The camp operates till the month of September. It did not receive many tourists owing to opening only this year but the owner is keen on marketing it to niche tourists for the subsequent year. In the case of Western Lahaul, a local from the Urgos village had set up 6 tents at Changut village with dual occupancy charging 2000 INR per day inclusive of food in 2018. He stated that tourists to the valley are few and he receives around 15-20 tourists on average during the peak months of June-September.

Seasonal Employment for Community

While the state has immensely benefited from the development of tourism, the same cannot be said about the communities of Pangi Valley and Lahaul. The full potential of the landscape in terms of tourism has not yet been realised.

As was observed during the field work of the study, the tourism industry is limited to and dependent on visits by bikers, trekkers, climbers and some religious pilgrims. Guiding is the main activity undertaken by locals for these occasional tourists. Although not trained formally, experienced guides from the landscape accompany groups of tourists on difficult treks. These guides have contacts with tour organisers based in cities like Manali and conduct treks with their teams. Local cooks, porters and mule suppliers also find engagement during these expeditions. However, owing to the limited volume and seasonality of tourism activity in the landscape, many guides have migrated to places like Manali, which offers a more stable income source.

Hotels and guesthouses in the landscape are also operational during tourist seasons from June to September. In Pangi they receive maximum business from bikers and pilgrims visiting Mindhal Mata temple. On average, hotels in Killar charge around Rs.1000 per room. In Lahaul, the few hotels and guest houses are fully engaged during the Pauri Mela of Trilokinath, while some climbers visiting Miyar valley make use of the homestays there. Homestays also charge between Rs.500 to 1000 for renting out their rooms to visitors. Land owners in Miyar valley were found to rent out parts of their lands to trekkers to set up their own camps. Local eateries or *dhabas* also find additional customers during tourist seasons. It was observed that an average meal costs Rs.100-120 in the landscape. The *mahila mandal* of Urgos village in Miyar valley recently hosted groups of students/fellows in their houses and arranged meals for them, which became an additional source of income for them.

Many people, especially the youth are engaged in the transportation business in the form of shared vehicles plying within and outside the villages of Lahaul and Pangi. An average SUV ride from Manali to Lahaul would cost around Rs.10,000 while a one-way trip from Manali to Killar would cost up to Rs.15,000. These rates are revised based on the tourist season, with off-season prices being lower. Apart from tourists, these vehicles are regularly used by locals on sharing basis. All the vehicles which are used on sharing basis are owned by the locals. There are also sharing sumo vehicles which come from Chamba to Killar and vice versa on a daily basis that charge around 12000-15000 INR one way. A list of few of the youth have taken up guiding activities albeit in an informal way as it is very seasonal in nature with limited income security. Discussions with a guide in Urgos, Lahaul brought out that due to lack of guaranteed income from pursuing guiding activities, not many youth are keen on taking up this vocation and pursue it as a part-time job. Guides have stated that income received is usually between 800-2500 INR on the basis of their expertise and experience. Table 8 states the rate list of taxi fare in Pangi to other places.

Table 8: Rate list of taxi fare in Pangi to other places

Pangi-Chamba and Chamba-Pangi (bus stand to bus stand)		
via Dhar/ Jammu/ Pathankot	1300 INR per head	
via Padhari Jot	900 INR per head	
Via Sach Pass	500 INR per head	
Pangi-Kullu (bus stand to bus stand)		
via Rohtang	800 INR per head	
Via Pathankot	1800 INR per head	
Rate of Taxi in Pangi valley from Killar	Per person (INR)	Full Taxi (INR)
Karwas, Karyas, Tatan (4-8 kms)	40	300
Kayuni, Phindru, Punto Bridge (10-15 kms)	60	500
Dharwas, Bisthou, Udaini, Sach, Mindhal, Hudan Bhatori, Tundru, Takwas (16-20 kms)	70	700
Kuthal, Ghisal (20-25kms)	80	900
Kumar, Pregran, Chaloli, Sahli, Hillour (25-30 kms)	100	1000
Sural, Sural Bhatori, Seichu, Purthi, Rei, Shour, Sugalwas, Shoon, Hillu, Udeen (30-40 kms)	120	1300

Source: issued by Sub-Divisional Magistrate, Pangi-Chamba district



Cultivation of peas, cauliflower in Khanjar village in W. Lahaul

Key Challenges and Solutions

Accompanying the diverse socio-economic, cultural and environmental benefits of the development of tourism are the challenges that affect the environs and the inhabitants. These may leave negative impacts on the environment and cause irreversible damage if not addressed. Some of the key challenges faced are discussed in this section.

Due to the increasing number of tourists every year, hill stations tend to get over crowded and extremely congested during peak tourist seasons (Vyas, 2010). This has adverse effects on the daily routine of locals and puts a burden on the resources available. Shortage of water during summer due to hordes of tourists visiting the hills creates problems for both tourists as well as residents. Distressed residents may develop a hostile attitude towards the local administration and travellers in that case, as was seen in Shimla last year (The Economic Times, 2018).

Unchecked proliferation of accommodation options leads to an increase in property prices, and also negatively affects the physical environment, as many of these establishments flout environmental norms. This can be seen in the case of the Sangla Valley (Sharma & Prakash, 2014). Also it is possible that the existing infrastructure is not able to meet the high inflow of tourists. Problems of waste management and sanitation also come to the fore as the number of people in these hill stations go up.

Socially, higher number of outsiders in the area may increase the possibility of crime in the area. Buildings of historical or religious significance may also face damage, along with degradation of protected natural habitats such as national parks and wildlife sanctuaries.

Challenges in the landscapes

The adverse effects of tourism are not yet visible in the remote and relatively untouched locales of Lahaul-Pangi landscape, as the tourism industry is still in nascent stages of development. Issues that plague seasoned and popular tourist destinations in peak seasons like traffic congestion, long traffic jams, littering of surroundings, noise pollution, overcrowding, etc. do not arise, due to the limited number of visitors to the landscape. This can also be attributed to the specific types of tourists that the landscape receives, such as bikers and trekkers and climbers from abroad, who according to community members, are more responsible and respectful to local environs and sensibilities.

Issues of Accessibility to the Landscape

One of the major challenges to the development of tourism in Pangi is accessibility to the landscape. The valley is accessible through three routes. Sach Pass remains the most preferable route to reach Killar for tourists and locals alike; however, the motorability of this route depends on snow conditions, which determines when the pass will open to the public. In 2018, the area received heavy snowfall from the month of September, and thus, the pass was blocked and reopened only in late June this year. Another popular route is from Manali via Rohtang Pass to Lahaul which leads to Purthi in Pangi. The major constraint of taking this route is traffic congestion around Rohtang Pass due to the large number of tourists that visit the pass in summer. The third route via Kishtwar in Jammu and Kashmir is a very long journey, involving crossing another state, as well as a very long stretch of unpaved treacherous road between Kishtwar and Killar. Problems with accessibility also affect the locals as they face troubles in bringing essential goods to the valley, and have to bear the burden of transportation expenses. *Several respondents pressed for the demand for constructing the Chaini Tunnel, which has been in negotiations for decades. The proposed tunnel would connect Tissa in Chamba to Mindhal in Pangi, and would cut down the travel time to Pangi considerably, consequently benefitting tourists and locals alike.*

Accessibility to Lahaul, however, was relatively better than to Pangi, as it is well connected to Manali. The road to Udaipur is in good condition, while that to Tindi showed signs of damage due to landslides and snow. Similarly, the main road connecting Udaipur to Miyar Valley was fine only in pockets, while the roads linking villages were better. Since the economy of Lahaul thrives on agricultural produce, trucks collecting vegetables visits the villages in evenings, and often block the narrow roads to vehicular movement. Similar to Pangi, Lahaul receives heavy snowfall in winters isolating the valley for 6-7 months. The communities are badly affected by this, as their movement gets highly restricted, limited only to medical emergencies.

In both places, local transportation was limited. Local HRTC buses plied between villages but at fixed timings, and the numbers of these bus services were few, as at present they catered mostly to local travellers. With the advent of tourism in the region, HRTC may be motivated to introduce more bus services. Private vehicles (SUVs), owned by locals also transported local people on sharing basis, but could also be hired by visitors to the landscape. As indicated in the above section, sharing vehicles are owned by locals from the respective valleys. A standard list of charges has been indicated in table 9.

Inadequate Communication Networks

Mobile communication in the area was poor and limited to a single operator-BSNL, though other service providers such as Jio and Airtel were said to be in the process of establishing

their network in the area. Internet facilities, however, were not available, and institutions such as banks would make use of satellite networks for their internet requirements. This is a major challenge with respect to tourism as well. The option of booking homestays and hotels *online was not present, nor was it possible for local entrepreneurs interested in promoting their products to access social media*. The provision of access to internet facilities is crucial in modern times for connecting people and businesses and thus, would be helpful for highlighting the beauty of Pangi Valley to the world.

Lack of Local Tourism Department Office and Interpretation/ information Centres

It was noted that neither Lahaul nor Pangi Valley had a branch of the state Tourism Department in any of its villages or even in the towns like Killar and Udaipur. Chamba and Keylong (in Pangi and Lahaul, respectively) were the nearest towns which had a District Tourism Development Office (DTDO) and a Tourist Information Centre. This proves to be an inconvenience to hotel and homestay owners as well as all the legal formalities of registering the hotel/homestay are to be done from these towns, for which they have to travel all the way. Several respondents, who are hotel and homestay owners, emphasized the procedural delays faced by them in registering their establishments, which goes on for years. The lack of a regional tourism office may have also contributed to the limited awareness among the community regarding the processes involved in setting up hotels, homestays and camps. None of the community members interviewed were aware of the Homestay Scheme of the state which was launched in 2008.

Lack of Capacity Building for Hotels and Homestays

It was also reported that hotels and homestay owners have not received any training in hospitality from the state tourism department. Officials from the department though do conduct inspections of the establishments as a part of the registration process, the formalities of which take a long time to finalise. The few homestays in Miyar needed to be upgraded in terms of services offered and basic amenities to better serve tourists. The respondents acknowledged a need for hospitality trainings and workshops in order to take up tourism as a potential business.

Lack of Trained and Certified Guides

There were also no tour guides from Pangi that were trained by the tourism department. The Atal Bihari Vajpayee Institute for Mountaineering and Allied Sports (ABVIMAS), which is a premier institution mountaineering, conducts trainings of trekking and mountaineering guides on the request of the tourism department. According to respondents from ABVIMAS, no such trainings were conducted for people in Pangi Valley. However, the Menthusa Sangathan had sponsored the training of three guides in Miyar Valley. It was reported that as tourism is a seasonal activity, income security for guides could not be ensured, due to which some of them leave this profession. Hospitality training and workshops for training youth as guides must be mandated by the tourism department and independently monitored to ensure results.

Illegal Picking of Medicinal Herbs

Another issue reported by the community of Pangi Valley was the unauthorised and illegal picking of medicinal herbs, indigenous to the valley, by outsiders. Though the community has taken steps in form of heightened vigilance of the area, the problem still persists.

Preserving the novelty of this resource to the landscape is vital for translating the economic benefits associated with these herbs to the community. The practice of traditional medicine is also a potential area that tourists can tap into, and thus, a robust mechanism for protecting and monitoring the resource and penalising offenders has to be formulated.

Possible Issues of Waste Management

It was reported that bikers usually carry the waste they generate, and trekkers leave their trekking trails clean. It was observed however that waste generated locally was not being managed properly. In the towns of Killar and Udaipur, waste was collected from households and commercial establishments daily by a truck. This is a paid service. The collected waste was reported to be dumped near the Chandrabhaga River, which poses serious threats of polluting water sources.

As one moves towards the remote villages at higher altitudes, there was no mechanism for garbage collection. Respondents said that household organic waste is usually fed to domestic animals, while non-organic waste is collected in underground pits, which is eventually incinerated. This is not a sustainable practice and can cause damage to the air and water quality (through leachate). Unregulated dumping of waste may also attract birds and animals, leading to health complications in them, especially by ingestion of toxic and plastic waste items. These problems stand to be exacerbated in the future as tourism prospers in the valley, as large amounts of waste would be generated.

Potential Threat from Rohtang Tunnel

A potential threat to the serenity of the landscape may be anticipated from the opening of the Rohtang Tunnel later this year or next year. The Tunnel is 8.8 km long connecting Manali to Keylong on the Leh-Manali Highway and is expected to create all-year connectivity to the remote areas of Lahaul and Spiti and Pangi Valley, which remain cut-off from the rest of the state for almost six months in winters due to heavy snowfall. While it is a great step for these far-flung communities, it also runs the risk of exposing these pristine landscapes to lakhs of tourists, as the tunnel route would heavily cut down on the time taken to reach these regions.

Officials in the Forest Department have expressed concern over the possible negative effects on the natural environment once the tunnel becomes fully functional. It has been reported that the government has taken cognizance of the situation and is in the process of preparing a Master Plan for regulating construction activities in these areas. The tourism department has also acknowledged the potential hazards of unregulated tourist visits to the landscapes, and is advocating for high-end low-impact tourism (The Tribune, 2018).

Review of successful initiatives –case studies from the landscape

Collective Efforts for Voluntary Action (CEVA)

CEVA is currently present in the Western Himalayan tribal regions of Pangi valley, Bharmour, Kinnaur and Lahaul & Spiti. They have contributed in providing employment opportunities and building social security for the local communities such as mobilization programmes for promoting homestays etc. CEVA has conducted training programmes to motivate the local youth as well as providing platforms to local tribal women to showcase their art and skills through various exhibitions in the state and in Delhi. CEVA has been

instrumental in delivering sustainable livelihood opportunities via the Pangi Hills tribal mart. This outlet is located in Chamba town and created for local farmers and artisans focused on holistic development of indigenous communities by harnessing the available resources. This initiative has helped provide market linkages to local farmers and SHGs.

CEVA proposes to convert Pangi to a hub of eco-tourism with trekking, organic local food and mechanisms for waste management. They are in the process of forming a Pangi Tourism Development Committee which will consist of people active in tourism from the potential sites. This committee will also work to promote high quality local organic local produce and traditional homestays.

They have identified five clusters for promoting tourism in Pangi Valley- namely, Sural Bhatori, Hudan Bhatori, Parmar Bhatori, Seichu Tuan Bhatori and Chasak Bhatori.

Menthusa Sangathan

The Menthusa Sangathan is a Miyar Valley based society comprising of 15-20 members with a vision to create conditions for a sustainable socio-economic future for the valley. It was named after the highest peak in Lahaul, Mt. Menthusa (6440 m). The aim of the society is to develop and document community-based trekking activities and camping for tourists in a sustainable manner. It has currently set up a tourist information and assistance center at Urgos village which will provide visitors with access to local tourism resources and local information as well as develop a community resource center for the locals. Local produce and handicrafts made by the local women, maps and postcards are also sold at the center to tourists.

It has worked with the local Mahila Mandal at Urgos village to run a kitchen providing local food to tourists. They have sponsored training of 3 individuals from the valley at Atal Bihari Vajpayee Institute of Mountaineering and Allied Sports (ABVIMAS), Manali. They have worked with architects and urban planners to map the village and some of the traditional buildings as well as develop a local resource guide map for tourist activities. The Sangathan has also explored options for potential campsites across the valley where the money earned from renting out space for setting up camps would in turn be reutilized for the welfare of the community.

The Sangathan encourages the local youth to take up tourism as a livelihood activity, and is taking steps to get the group registered as a society. Members from the sangathan have participated in tourism fairs and events organized by the state tourism department. They also keep abreast of the latest schemes of the government to promote tourism and try to inform the local community of the same to encourage more entrepreneurs to take up tourism as a business.

They have documented the traditional crafts and techniques which could create a means of an alternative income source. The Sangathan is capitalizing on the tourist inflow and is promoting community tourism. It intends to lend support to the Miyaris in building infrastructure and market linkages and put in place, safeguards to mitigate some of the risks that increased tourism brings.



Menthusa Sangathan building at Urgos village (L) in W. lahaul and CEVA registered office in Phindroo village (R) in Pangi



Menthusa Sangathan building in Urgos village in W. lahaul (L) and CEVA members having a discussion (R) at Phindroo village in Chamba

A case of the Praja Mandal informal governance system in Pangi, Chamba district

The Praja Mandal System of Pangi Valley

The Praja Mandal is an informal group of community members found to be present in Pangi Valley which comprises of representatives from each family in the village. This is an ancient system of governance that pre-dates the Panchayat. The group is headed by a Pradhan (different from the Panchayat Pradhan), and all the members of the community are by default members of the Praja Mandal. There are 43 villages in Pangi valley, with one Praja Mandal per village. This is said to be a democratic system and all decisions are taken in consultation of all members. Their regulations are stringent which involves social ostracization from the village in the case of third time violation of rules. This group works for the overall development of the village and takes decisions related to social and cultural issues of the community like festivals, celebrations, decisions related to forests and natural resources, among others.

The Praja Mandal is the first stop for people to address their problems and complaints and only if the issue is not solved by the Praja Mandal do they approach the Panchayat. The decree of Praja Mandal is not legally binding, but has social recognition. Failing to abide by the orders of this system invites penalties and social boycott. The Praja Mandal has been proactive in conservation efforts, especially for forest resources. In many villages, the Praja Mandal has banned cutting of trees from the forest for construction and fuel purposes as well as illegal picking of medicinal herbs- a step that has reportedly increased forest cover over the years. The social standing of the Praja Mandal can be leveraged to forward the cause of conservation of the environment, including developing tourism in a sustainable manner. For instance, the Praja mandal of Sural has prohibited the entry of villagers into the Batola forest to protect the bio resources for a year. Similarly, the Praja Mandal at Seichu has banned the over exploitation of birch forests commonly known as *bhojpatra* and also known as *betula utilis*. It is known for its anti-microbial, anti-inflammatory, anti-cancer, anti-oxidant and anti-HIV properties as well as fodder and fuel. The imposition of the ban is on entry to the birch forests and usage of any part of the trees for two years in order to let the forest regenerate and grow naturally.

Potential Sustainable Tourism Products for the Landscape

The Lahaul-Pangi conservation landscape of SECURE Himalaya is characterized by its unique natural landscape and distinct cultural identity of the people. Tourism development can make Lahaul-Pangi a must-visit destination for every traveler. However, it is of utmost importance to ensure tourism in this fragile landscape to develop in a sustainable and sensitive manner to minimize potential negative effects and maximize the benefits) to the environment, local communities and local heritage..



Signboard of a tour operator in Killar, Chamba district

Pangi Valley

Adventure Tourism

Among the different types of tourism products that can be potentially developed in the Pangi landscape, adventure activities have the maximum scope. The landscape and terrain were found to be suitable for a number of adventure sports like trekking, hiking, paragliding, skiing, mountain biking, and camping. Currently, only trekking is taking place in some areas of the landscape, done mostly by foreigners and some Indian trekkers. Camping is done by some bikers and trekkers, for an average duration of 2-3 days. Associations of adventure tour operators and government training institutes like ABVIMAS, Indian Mountaineering Federation (IMF), and Nehru Institute of Mountaineering (NIM) may be called upon by the state or district tourism department to conduct inspections of these potential sites and formulate plans for developing the valley into a hub of adventure sports.

Trekking:

There are many trek routes that connect different villages present in the smaller sub-valleys of Pangi Valley. Locals and shepherds have traditionally been using these routes for travelling through the valley, but they have not been developed or documented as proper trek routes that tourists can take. Tourists interested in trekking through the valley have to take the services of local guides who are well versed with the terrain. Shiv Shankar Peak is popular mostly among foreign climbers. The months of June-September are ideal for treks and other outdoor activities. As per discussions with officials and locals, some of the possible trek routes in the valley are listed below-

1. Miyar Valley- Seichu- Killar
2. Karu Nag trek: popular with foreigners, but avoided by locals due to religious beliefs

3. Hudan Bhatori to Shiva Peak and Gauri Kund
4. Day trek from Hudan Bhatori to Hudan Lake
5. Parmar Bhatori to Uchnu Goth
6. Trek through Bhatoris to Zanskar: Sural Bhatori- Hudan Bhatori- Parmar Bhatori- Chasak Bhatori- Miyar Valley- Zanskar (Jammu & Kashmir)
7. Sural Bhatori to Zanskar (via Shiv Shankar Peak)
 - Day 1: Sural Bhatori
 - Day 2: Tiaso Ghot
 - Day 3: Chukar Muh
 - Day 4: Shiv Shankar Base Camp
 - Day 5: Chum Chum
 - Day 6: Sangat Der
 - Day 7: Patla Pass Base
 - Day 8: Cross over to Chhok Mesik
 - Day 9: Padam (Zanskar)
 - After Padam there are further trekking options in J&K
 - Average trek duration per day: 4-7 hours
8. Parmar Bhatori to Tuan Bhatori
 - Day 1: Parmar to Kotli Goth
 - Day 2: Shundar
 - Day 3: Dusghar Dhar to Tuan
 - Trek can be extended to Miyar Valley (2-3 days)
 - Trek from Tuan to Zanskar will take 6 days
 - Every year 1-2 groups go for these treks
9. Treks from Tuan Bhatori
 - Tuan to Traiund Nalla to Zanskar
 - Tuan to Jammu Nalla to Miyar
 - Trek to Shiv Shankar Peak base camp (1 day)
10. Ghor Dhar Pass connecting Chasak to Lahaul (Chamba Wildlife Division, 2011)

11. Karyon Pass

12. Chaini Pass (Churah to Pangi Valley)

These trails are not fully developed or listed by the tourism department, as not many tourists are aware of them. The tourism department in coordination with the ECOSOC and adventure tour operators may work to develop and catalog some of these trails as eco-trails in order to provide unparalleled trekking experience to tourists while being considerate of the ecological fragility of the routes. Moreover, brochures/websites highlighting these trails and the fauna and flora to be found along the way can perhaps be developed as part of the SECURE Himalaya project. Signage for these trails can be developed under the project.

Camping:

Camping is another outdoor activity that is being carried out in parts of the valley. An adventure tour operator known as Pangi Valley Adventures has established a campsite in Sural Bhatori which came into operation a few months ago. The camp site is owned by a local from the village and is managed by staff from Pangi and Manali. The camp is being promoted by the tour operator, who is based in Manali, and has received both Indian as well as international tourists. The village Findroo also has a site for camping in the forest ahead of the village, which has been used by bikers and trekkers to set up temporary camps. It was reported that a local who has interests in adventure tourism is developing camp sites in Killar (near the helipad) and in Bagotu near Sach Pass. Other than these, the community reported that bikers often camp in the Bhatoris, for an average of 1-2 days during their stay in Pangi. *Camping options can also be explored along the river banks of Seichu, wherever ecologically permissible, as well as in the wildlife sanctuary.* Camp operators may be encouraged to organize hikes, bird and butterfly watching and introducing visitors to indigenous herbs as associated activities in camping trips. In essence, the landscape offers ample scope to demarcate specific areas where camping activities can be carried out, but it also warrants for formulating and strictly enforcing specific guidelines restricting the number of such camps and for the efficient management of waste generated.



Pangi adventures campsite at Sural Bhatori village (L) and scope for adventure tourism in Hudan bhatori landscape (R) in Pangi



Pangi adventures campsite at Sural Bhatori village (L) and scope for adventure tourism in Sural bhatori landscape (R) in Pangi

Paragliding

Some locals had suggested potential sites for conducting paragliding in Sural Bhatori. The Sural Valley opens *up into broad spaces some distance away from the village settlement, which according to respondents are suitable for paragliding landing sites*. Almost all the higher regions of the valley, including the Bhatoris have similar topography comprising large meadows of undulating or relatively plain land. *These places can be developed on the lines of Bir-Billing in Kangra district, which is a world renowned paragliding site.*

Skiing:

Heavy snowfall in the valley post autumn, which lasts for more than six months, are conducive for winter sports. The slopes of the sub-valleys of Pangi offer scope for skiing. *It was reported that a community member has created a skiing association of locals, and they practice skiing on the hill slopes of Sural Bhatori in winters.* The expertise of the locals can be further refined by providing them formal training in skiing, which may open up income opportunities for them. More of such associations, belonging to other villages, may be promoted and their services be extended to tourists. Eventually, however, for all these initiatives, marketing is key.

Rock Climbing

The valley contains many steep cliffs and high rock faces, which may be promoted to attract professionals for rock climbing, rappelling, and bouldering. Such rocky cliffs were observed in Hudan and Sural bhatori.



Scope for rock climbing (L) and adventure tourism in Sural bhatori landscape (R) in Pangi

Nature Tourism

The landscape of Pangi Valley showcases abundant beauty and serenity possibly unmatched by any other landscape in the country. The views reflect the diversity of the terrain- forests, meadows, and snow-capped mountains and glaciers- promising tourists an unforgettable experience. Locals revealed that July and August are the flowering months for the valley, covering the slopes with different varieties of indigenous flower species. The valley ahead of Sural Bhatori has a waterfall which is an easy trek from the village. Hudan also has many waterfalls along the way, and a lake near the village. Uchnu Goth in Parmar Bhatori also has magnificent views of waterfalls, glaciers, and natural vegetation. Seichu and Hillu-Tuan offer views different from the other villages, that of a rustic rural countryside. In short, there is no dearth of experiences for travelers visiting the valley.



Waterfall at Sural bhatori (L) and Hudan bhatori landscape (R) in Pangi

Wildlife tourism

Pangi Valley is the natural habitat of many species of animals and birds. Developing tourism around wildlife sightings could particularly attract wildlife enthusiasts, naturalists, conservationists and students. Animals and birds can be easily spotted throughout the landscape and around the villages. The Seichu-Tuan Wildlife Sanctuary, covering an area of around 330 km², contains five villages- *Tuan, Udeen, Seichu, Chasak, and Chasak Bhatori*. It is home to animal species such as leopard, snow leopard, Asian black bear, brown bear, musk deer, goral, ibex, fox, and bird species like koklas, chukar, kalij, monal, snow cock, chir pheasant etc. (Chamba Wildlife Division, 2011). Respondents from the community, however, mentioned some stray incidents of human-animal conflicts, and thus, promotion of such a tourism product requires trained and informed guides and strict supervision of the Forest Department. Besides, accommodation for tourists visiting the wildlife sanctuary is available only at the FRHs in Seichu and Chasak Bhatori, as there are no homestays functioning in any of the villages at present. Moreover, as in Ladakh, local people may be more supportive of the local wildlife if they benefit from wildlife tourism revenues.



Seichu-Tuan Wildlife Sanctuary landscape (L) & Tuan village (R) in Pangi

Spiritual tourism

The culture of Pangi Valley is an amalgamation of Hindu and Buddhist cultures, which is reflected in the numerous temples and gompas present across the valley. The Mindhal Mata Yatra is an annual procession revering the Hindu Goddess Kali, which commences from Kyun village in Jammu and Kashmir and culminates in Mindhal village of Pangi. The Yatra attracts scores of devotees from different states and takes place from around 10th June to 15th June every year. The Mindhal Mata temple in Mindhal village is an important Hindu worship site⁷. The five Bhatoris of Pangi Valley are predominantly Buddhist settlements and have individual Gompas and other Buddhist religious structures. Each Gompa has a resident Lama, and is looked after collectively by the community. Both communities also have their own festivals and fairs, which may be promoted to attract tourists.

⁷ <https://www.dailyexcelsior.com/pilgrimage-to-mindhal-mata/>



Gompa under construction in Sural bhatari village (L) and foundation for gompa (R) in Pangi

Rural and Heritage Tourism

The rustic villages of the valley are representative of the idyllic and simple way of life of the local community. Tourists visiting these villages can be made to experience the local culture, cuisine and lifestyle of the people by developing a network of homestays. In and around Killar, there are three British era buildings- Cherry Bungalow, Todd Bungalow, and Findroo Bungalow- that may be developed as luxury cottages by appropriate authorities to showcase the architecture of that era.



Cherry bungalow in Pangi, Chamba

Wellness Tourism

Through community interactions it was revealed that Pangi has an untapped wealth of medicinal herbs that have been used by local medical practitioners for treatment and healing of diseases for centuries. Thus, Pangi has tremendous potential to be developed into a hub of

traditional medicine, similar to the Ayurveda practices in states like Kerala and Tibetan medicine of Leh and Spiti.



Advertisement of a tour operator in Killar, Chamba district

Lahaul

Adventure Tourism

The Miyar Valley region of Western Lahaul landscape is not alien to the concept of adventure tourism, as trekking and climbing activities in this region date back to almost four decades, making the valley a hotspot for adventure seekers from around the world. Gradually, Miyar Valley got exposed to Indian adventurers as well, who have been organizing guided treks and climbing expeditions to the landscape in recent times. However, the valley caters to only these specific visitors and is still in the nascent stages of tourism development.

Trekking:

This is the most popular activity in Miyar Valley, done by both Indian and foreign tourists. Trekking options are currently not being explored much in Udaipur and Tindi, though there is potential to document routes known to the local communities. The best months for trekking are May and June. Some of the suggested trek routes in the landscape are

- Gurdhar Jot- Seichu Tuan
- Khanjar- Doksa-Tharang- Gumba-Thanpattan- Lakes
- Kang La Pass- Zanskar
- Kali Cho Pass (Udaipur to Bharmour)

- Saptdhara from Trilokinath
- Darati Top from Tindi
- Madohi Pass (Tindi to Chamba)

There are other trek routes also which are known mostly to locals, which were used before roads were developed. Many of these routes would connect to adjoining villages or even valleys in neighbouring districts and states. Such trek routes need to be documented taking inputs from the community and developed to prevent overuse of popular trek routes such as Kang La and Thanpattan.

Climbing:

Miyar Valley is abundant in mountain peaks, rock faces, and glaciers, which have attracted climbers from different countries who have conducted numerous expeditions to the valley, and are well documented. *The regions around Miyar Glacier, Tawa Glacier and Spaghetti Glacier, offer immense scope for climbing as they* are abundant in peaks and rock towers. The month of September was said to be the most suitable for climbing. Some popular climbing options are

- Phobrong Peak
- Menthusa Peak
- Masala Peak
- Castle Peak
- Thunder Peak
- Lorena Peak
- Veneto Peak
- Baihali Jot
- Neverseen Tower
- Mahendra Tower

Unlike Pangi, climbing expeditions to most of these peaks in Miyar are well documented in different mountaineering journals. However, they are relatively unknown in India.

Mountaineering institutes of India may be encouraged to bring students to these parts for their technical courses. The tourism department may document the expedition routes and popularize it through their resources.

Camping:

Informally, camping is carried out by people trekking through the Miyar Valley at different spots, *such as Urgos, Khanjar, Thanpattan, and Karpat. The Menthusa Sangathan in Urgos was said to be planning to rent out land to set up camps, as a source of revenue to the*

community. Members of the Mahila Mandal also expressed an interest in giving their own farm lands to tourists interested in camping. The *village Changut has a proper campsite called Kang La Camps, managed by a local person from the village.* The camp offers basic facilities like bedding, hot water, and food. The tents are dual occupancy and are charged at the rate of Rs.2000 per tent. They also make arrangements for trekking and sightseeing.

Paragliding:

Tindi was suggested as a potential area to develop paragliding sites. Shappi and Chungar have high altitude meadows and are said to be ideal for exploring the option of paragliding.

Kayaking:

The Chandrabhaga River flowing through Tindi can be tapped for kayaking. The area near Lohni was suggested to be a potential spot, especially in the month of October.



Phobrong peak view from Karpat village (L) and Kang-la-camps in Changut village (R) in W. Lahaul

Nature Tourism

The visited sites of Lahaul are distinct from each other and have unique characteristics. Udaipur is situated among green hills with mountain ranges visible from afar. It is lined by the banks of two rivers- the Miyar Nalla and Chandrabhaga. The landscape transitions between green slopes to rocky terrain in places adjoining Miyar Valley. Tindi presents a more lush green landscape adorned by snow-capped mountains, similar to the landscape of Pangi. Harsar and Bhujund are rich in natural beauty and would be good sites to promote to tourists. The meadows of Shappi and Chungar also offer amazing views. Miyar Valley is characterized by rocky terrain and which attracts rock climbers. . However, the months of May and June are flowering months for the valley, and indigenous flower species such as Blue Poppy carpet the landscape. Thanpattan is the place to experience this flowering period and must be developed for nature tourism along the lines of the valley of flowers.



Scope for nature tourism in W. Lahaul

Wildlife Tourism

There are many indigenous bird and animal species in Lahaul valley which can be spotted throughout the landscape. Snow leopards are also present but sighted rarely. There is no designated wildlife sanctuary or national park in that area which can be promoted for wildlife sightings. The scope for wildlife tourism is limited in Lahaul, though bird watching can be developed and promoted among bird watchers and photographers, and the local community may be trained to become birders.



Blue sheep in Lahaul

Spiritual Tourism

Like Pangi, Lahaul displays strong Hindu and Buddhist elements in its culture. Religious structures are aplenty in Lahaul Valley, but in the particular study sites of Western Lahaul, these structures were limited in number. The Trilokinath and Mrikula Devi temples of Udaipur are the most renowned Hindu temples in the area, and attract a sizeable number of

visitors. *The Pauri Mela of Trilokinath, is an annual fair popular among the locals. In Bhujund village of Tindi, there is an important temple dedicated to the Goddess, which is not known to tourists, but can be popularized.* Urgos village in Miyar Valley has the largest Gompa in the valley, which has recently been renovated. Old Gompa remains can also be seen beyond Thanpattan and in Karpat village.



Trilokinath Temple (L) and Mrikula Devi Temple in Udaipur village (R) in W. Lahaul



Urgos Gompa (L) and (R) in W. Lahaul

Rural Tourism

All the study villages have ample scope to develop rural tourism, especially those of Tindi and Miyar Valley. Focus should be laid on developing homestays as a method to promote rural tourism and showcasing local culture to the visitors. At present there are no homestays operational in Tindi, and it was reported that a few were in the process of registration. There are homestays in Miyar; however, they need to be strengthened in terms of facilities to be able to cater to tourists. The Mahila Mandal of Urgos has previously hosted groups of visitors in their homes. They have also hosted fellows who stayed in the village as part of a Fellowship Programme organized by an architectural firm, Under Mango Tree.



Fobrong homestay in Urgos village (L) and Dogra homestay in Udaipur village (R) in W. Lahaul



Interaction with Mahila Mandal at Urgos village (R) in W. Lahaul

Business opportunities arising as spin-offs to tourism activities

Local Handicrafts

There is potential for handloom and ethnic handicrafts by sourcing local wool. It was indicated that tribal women in both Lahaul-Pangi landscape make woollen caps, socks, scarf and gloves. With support from Collective Efforts for Voluntary Action (CEVA) and National

Bank of Agriculture and Rural Development (NABARD), self-help women groups have been formed with the intention of empowering them and improving the social-economic situation. NABARD undertook skill training for the women SHGs to match market demands and instill an entrepreneurial culture while CEVA helped to market and brand the products and local produce. Similarly there is potential for traditional handicrafts and use of wool for making clothing, carpets, ropes and shawls in the Western Lahaul landscape. Potential to explore local wood work and possible processing of agricultural products which might be packaged and marketed for sale is also present. The Menthusa Sangathan proposes to sell these potential products to tourists at their tourist information center at Urgos and establish further market linkages.

Local Produce

Potential for sale of local produce such as Black cumin (*kalajeera*), Hazel nut (*thangi*), Himalayan buckwheat, Himalayan red and white honey, walnut, rajma and black gram lentil, saffron and shilajit is also high. In January 2018, a rural mart⁸ was set up in Chamba with the intention of providing market access and a fair price platform to women, artisans and farmers of Pangi. Through this initiative, 3000 tribal women, 4000 progressive farmers and 2000 artisan families are connected. The local produce is made available at the rural mart as well as online mode and also exported. There is also potential for promoting indigenous forest-based products such as honey, dry fruits, morels and Himalayan herbs which are health-giving in nature.

Some of the major issues in scaling up the work have been the (i) poor road connectivity, (ii) limited market linkages to urban centers where these products may be purchased, (iii) limited buyers and middlemen. However, these products can be sold to local tourists once tourism footfall to these areas increases.



Local handloom products at Udaipur village (L) and cultivation of peas in Khanjar village (R) in W. Lahaul

⁸ Established in January 2018, the rural mart is being run by Laxmi SHG from Pangi block with the handholding support of Collective Efforts for Voluntary Action (CEVA)



Transport of harvested cauliflower from Karpot village W. Lahaul

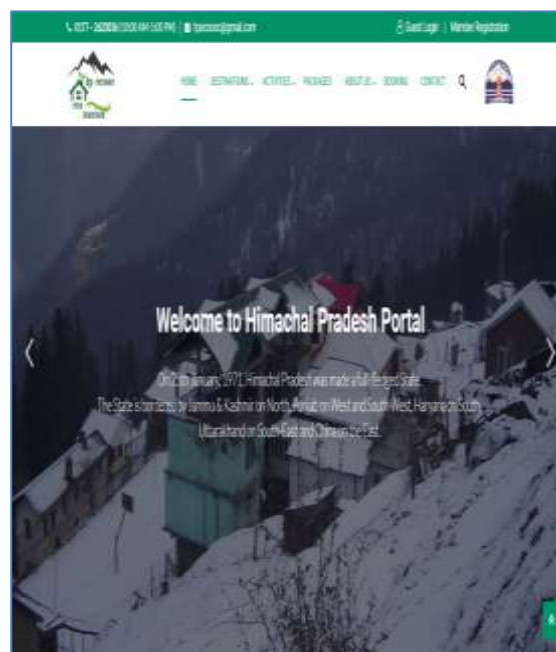
Technology-based tools that can be leveraged for sustainable tourism development

The advent of tourism has brought about the need to incorporate newer digital platforms vis-à-vis traditional researched platforms. The Web 2.0 i.e., the social media has essentially paved a new way for companies to connect with people. Such social media platforms facilitate users to post content publicly and privately, creating virtual communities. Phocuswright and Google studies have shown that nearly half of travelers are comfortable researching, booking and planning their trip using only a mobile device. The User-Generated Content (UGC) is fast becoming the most important and widely used source of travel information. This affects the traveler's behaviour to procure and disrupt established travel agencies, guidebooks, conventional marketing approaches and star rating systems. It also gives the customer new opportunities for developing destinations to leverage these platforms for big data and cost-effective performance improvements. Digital platforms facilitate global access to consumers and allow service providers to enhance the development of the tourism sector and its competitive standards. A 2018 study, 'The Voice of Travellers' undertaken jointly by TripAdvisor and World Bank indicate how peer reviews and other forms of UGC, facilitated by digital platforms, have become the most important sources of travel information globally more important than tourism boards and traditional outlets (Salem, Talia & Twining-Ward, 2018). UGC provides a new form of user experience and impacts the purchasing behavior of potential tourists. It helps to gather qualitative information pertaining to the tourists use information and can help in repositioning and rebranding.

Digital platforms like Lonely Planet, TripAdvisor, Instagram and Facebook etc have provided tourists and travelers a space to share content like pictures, videos, recommendations, opinions, and reviews of their travel experiences, virtually and in real-time with their peers, friends, as well as with large global audiences. A 2015 study found that “UGC is perceived as more trustworthy when compared to content from official destination websites, travel agents, and mass media.” The study revealed that consumer trust of travel UGC is driven by consumers being able to get a feel for the destination prior to traveling (Filleri, et al., 2015).

Some of the digital platforms that can be utilized for leveraging the potential user experience in Himachal Pradesh include.

- Revamp the HPTDC website and app making it more user friendly such as creating planning tools such as festival calendars to allow tourists to include it in their itineraries.
- The state tourism department should also gather more traction by having dedicated points of communication via other social media platforms like Facebook, Instagram, Twitter, Snapchat etc. Such platforms have inbuilt travel-friendly features such as location tags and filters allowing users to include the name and geo-coordinates of where they are traveling and the businesses they are frequenting.
- The website could be interlinked to other popular tourism portals such as makemytrip.com or yatra.com, etc. which could help in providing users a number of options of travel packages and experiences. The website could provide a web link for curated adventure and nature tourism trails experience in the landscape.



HPTDC and HP Ecosoc website

There is a need to upgrade and revamp the HPTDC and HP Ecosoc website

- The Seichu Tuan wildlife sanctuary located in the Pangi landscape should develop a designated website giving details pertaining to bookings, accommodation at the FRH and wildlife tourism information.
- The HP Eco tourism society website should be more accessible for tourists and able to handle real time data and provide information pertaining to homestays and eco lodges, tariff and bookings. An app of the same can also be developed compatible with android/i-phones to cater a wider range of consumers who use mobile technology to rate their experiences and post real time reviews.
- A large number of travelers take pride in providing reviews and consider it part of the travel experience. Travel is highly visual and social travel platforms have launched many features to better showcase visual content such as a 360 degree photo or a video of beautiful scenery like a waterfall etc, tools such as video-blogging or vlogging has now become a trend in providing virtual information to prospective travelers.

Practices and sustainable tourism models globally and highlight those that have potential for best replication

Bhutan's sustainable tourism model

Bhutan opened up its country to tourism in 1974 and adopted a policy of 'high-value, low-impact' tourism to generate high income with low impact, eco-friendly tourists reinforced by the country's Gross National Happiness (GNH). According to the Tourism Council of Bhutan, the number of tourists has increased from 287 in 1974 to 274,000 in 2018 which is a rise of 7.61% from the previous year (Islam, et al., 2019). Bhutan has put in place a diligent framework of controlled tourism while ensuring the long-term sustainability of the industry and its contribution to the economy.

Bhutan has kept in place stringent entry requirements rather than restricting tourists. Tourists visiting Bhutan are mandated to utilize approved tour operators who will take care of internal travel requirements. Visitors need to pay a minimum of \$200 per day during the summer and winter season and \$250 per day during the spring and autumn season. The daily tariff takes care of 3 star lodging, all meals, cost of internal transportation excluding internal flights, costs of camping equipment and services of a licensed guide. Bhutan puts aside \$65 from the daily tariff as royalty towards sustainable tourism which is spent on building free health care and education as well as supporting expenditure on tourism related infrastructure. In 2018, Bhutan was awarded the Earth Award at the Sustainable Tourism Top 100 Awards Ceremony at the International Tourismus-Borse (ITB) held in Berlin. The daily tariff imposed on tourists has played a major role in making Bhutan a sustainable tourist destination. This model can be considered for all the high altitude, fragile Himalayan destinations.

Chapter 5: Legal Framework and Policies for Tourism in Himachal Pradesh

This section discusses the legal and policy instruments that are directly and indirectly relevant for promoting sustainable tourism in the State of Himachal Pradesh. A review of laws, policies, rules, notifications, schemes, case law was undertaken in order to assess their applicability and relevance for promoting ecotourism in the country and the State. Various Central and State regulations, guidelines, plans and strategies etc. are categorised into the following: (i) Tourism and ecotourism promotion; (ii) Regulation of tourism trade and activities (Accommodation, adventure sports); (iii) Environmental protection (pollution control and waste management), (iv) Forests and ecologically fragile areas (v) Climate change and disaster management; (vi) Other schemes (cultural heritage etc)

Tourism & Ecotourism Promotion

National Tourism Policy, 2002

Government of India promulgated the National Tourism Policy in 2002 with the objective of promoting tourism as an 'engine of economic growth and to harness its direct and multiplier effects for generating employment and eradicating poverty in an environmentally sustainable manner'.

Sustainability is one of the founding principles of the 2002 Policy. It is explicitly stated in the Policy that 'neither over exploitation of natural resources should be permitted nor the carrying capacity of the tourist sites ignored'. The Policy also seeks to promote village tourism in North-eastern regions, Uttarakhand, Ladakh, and Chhattisgarh etc. The Policy also talks about integrating PAs as a national tourism product and project Himalayas as the 'brand and icon' of adventure tourism in India.

However, the National Tourism Policy has its primary focus on increasing domestic and international tourist inflow in the country through promotional and enabling measures such as marketing strategy, concession rates and tax exemptions for tourism industry.

Ministry of Tourism Strategic Action Plan

Ministry of Tourism launched the Sustainable Tourism Criteria for India (STCI) in 2014. It defines sustainable tourism as In the STCI document sustainable tourism is defined as "minimizing the negative and maximizing the positive effects of all forms and types of tourism on environment, local communities, heritage (cultural, natural, and built) and inclusive economic growth". The STCI targets 'tour operators', 'accommodation sector' and 'beaches, backwaters, lakes and rivers sector'.

The criteria are based on the five key principles – (i) Demonstrate Effective Sustainable Management, (ii) Design and construction of buildings and infrastructure, (iii) Maximize social and economic benefits to the local community and minimize negative impacts, (iv) Maximize benefits to cultural and historical heritage and minimize negative impacts, and (v) Maximize benefits to the environment and minimize negative impacts. Environmental impacts are to be minimized through the following –

- Conserving Resources
- Reducing Pollution
- Conserving biodiversity, ecosystems and landscapes

HP Ecotourism Policy 2017

The Ecotourism Policy of State was revised in 2017 with the objective to protect natural and cultural heritage, to provide livelihood opportunities to local people, and generate resources through ecotourism. It has set a target of ecotourism attracting 10 percent of all tourists in the State.

HP Ecotourism Society (ECOSOC) is a special purpose vehicle to protect natural and cultural heritage of the State while promoting community based ecotourism in the state of Himachal Pradesh. The Policy recognizes capacity building of various stakeholders as a key strategy for developing ecotourism in the state. It also recognizes need to involve communities in the process so as to ensure benefit sharing with them. The Policy also emphasizes on public private partnership to develop ecotourism sites and infrastructure. It divides key functions amongst various stakeholder groups, such as promotion and capacity building by EcoSoc; responsible travel and financial contribution by visitors. However, most of these functions are very vague and general, such as 'providing positive experience to visitors' by some stakeholder groups

Regulation of tourism trade and other activities

Accommodation and other trade

The *Himachal Pradesh Tourism Development and Registration Act, 2002* provides for setting up of a Tourism Development Board to develop and improve tourism in general, and develop and promote eco-tourism in particular. (Chapter II)

Under the Act, it is mandatory for every tourism unit to be registered with the department of tourism. (Chapter IV) The definition of a 'tourism unit' is very wide and includes "any establishment providing facilities and services to the tourists" and includes hotel, resorts, motels, time share units, apartments, houseboats, motor caravans, guest houses, yatri niwases, restaurants and bars, amusement parks, theme parks, water sports centres, aero-sports centres, golf courses, handicraft village complexes, camps, river cruises, lake cruise projects, light and sound shows, adventure sports complexes, training institutes for adventure sports or 'tourism industry doing business for a monetary consideration'. (Section 2) Registration can be refused or cancelled if the prescribed standards are not complied with. (Section 29)

HP Tourism Trade Rules, 2012: Registration standards are prescribed under the HP Tourism Trade Rules, 2012 with respect to rooming, catering, service, etc. There is one standard of environmental importance - Every tourism unit shall make provisions for rain-water harvesting. (Annexure E, HP Tourism Trade Rules) This is a good example of integrating environmental practices within tourism activities. However, there could be more such conditions to ensure sustainable tourism.

Under the 2012 Rules, the government can issue additional instructions to tourism operators for maintenance of hygiene and clean environment, both inside and outside the registered unit. It is the responsibility of all the tourism unit operators to ensure proper sanitation, wastewater drainage, disposal of waste in garbage containers, and provision of clean water.

Failure to fulfill this responsibility results in a fine of Rupees 500 to 5000. (Rule 17) While tourism trade entities are enjoined with the responsibility of proper sanitation and waste management, the responsibility cannot be fulfilled without adequate State support in terms of infrastructure and capacity.

HP Homestay Scheme 2008: Based on Central government's 'Incredible India Bed and Breakfast scheme', Government of Himachal Pradesh introduced the State Homestay Scheme in 2008. All the homestays registered with the District Tourism Development Officer under the scheme are eligible for certain exemptions and benefits, such as waiver of land use change fees, concessionary and domestic rates of electricity and water for home stay units. These concessions are available to all registered homestays, irrespective of their performance on sustainability criteria.

The homestay owners have a general responsibility to maintain minimum standards of the cleanliness and sanitation and details of ecotourism activities are sought at the time of registration. (para 8) However, there are no specific environment related conditions to serve as an incentive or disincentive for homestays to follow sustainable tourism practices.

Adventure tourism

River Rafting Rules 2005: Every river rafting operation has to be registered under the Himachal Pradesh River Rafting Rules of 2005. Under the Rules, every rafting operator is enjoined with the duty to keep the environment clean and is liable to have his licence suspended and pay a fine of Rupees 5000 even if a participant or guide in a rafting operation is found to be violating environmental guidelines. (Rule 12) The Rules do not clarify which environmental guidelines are referred to.

HP Adventure Activities Rules 2017: Miscellaneous adventure and tourist activities such as rappelling, river crossing, trekking, skiing, rock climbing, hot air ballooning etc are required to be registered under the HP Adventure Activities Rules 2017. The focus of these Rules is on safety and enjoins only a general duty on operators to protect environment. Otherwise, the rules do not have any incentive or mechanisms to promote sustainable practices by tour operators or tourists.

The Rules provide for constitution of a Technical Committee, comprising members from mountaineering institutes, forest department, police department, etc., which is responsible for, inter alia, fix the carrying capacity of an area for adventure activities. (Rule 8&9) As mentioned, the focus of these rules has been on ensuring safety of operations, not on protecting the environment and ecology of the regions in which such adventure sports are carried out. The impact of many adventure activities such as snow biking and paragliding has been found to be negative in high altitude areas. Unregulated adventure activities beyond the carrying capacity of the region have been found to affect the snow capped areas adversely and consequently come under attack from NGT.

Environmental management

Pollution Control

Water (Prevention and Control of Pollution) Act, 1974

Surface water and ground water in tourist destinations are under immense stress due to tourism activities on account of overuse resulting in shortage of resources. Besides, scarcity, quality of water is also impacted due to tourism industry. Sewage and other waste water

effluents from establishments to support tourism degrade water quality in the region. Increased water pollution due to construction of hotels, recreation and other facilities has been a source of pollution of rivers and lakes around tourist attractions.⁹

Prevention and abatement of water pollution is regulated under Water (Prevention and Control of Pollution) Act of 1974. The Act aims to address pollution and maintain quality of water through creating an institutional framework for monitoring the quality of water and penalise the violators of the Act. Central Pollution Control Board (CPCB) and State Boards (State Pollution Control Board) are responsible for taking measures to prevent and check pollution. The Act prohibits any person to pollute or impede the flow of water in any stream.¹⁰ Any new establishment or outlet has to obtain permits in the form of consent to establish (CTE) and consent to operate (CTO) from SPCBs under the Act.¹¹

In order to harmonize standards, CPCB has developed a 'Range of Pollution Index' for categorisation of industrial sectors into Red category (pollution index of 60 and above); Orange category (Pollution index of 41 – 59); Green category (Pollution index of 21 to 40) and White category (upto 20 pollution index). As per the Classification, Hotels having overall waste water generation of @ 100 kilo litres per day (KLD) and more fall under Red category. The hotels having more than 20 rooms and waste -water generation of less than 100 KLD are categorised as Orange and those with less than 10 KLD of water waste without any boiler or hazardous waste are categorized as Green. (CPCB, 2016)

Air (Prevention and Control of Pollution) Act, 1981

Despite the geographical and climatic conditions of Himalayan region, which make tourist places in the Himalayas a haven for clean and fresh air, the problem of air pollution has seeped in, especially during peak tourist season.

Particulate matters (PM) are an important determinant of air quality and monitored regularly at hundreds of monitoring stations. Although, the number and coverage of monitoring stations needs to be increased substantially, data from existing monitoring stations monitors air quality data on various parameters, including PM 10 and PM 2.5. Dehradun, an important entry point for tourist destinations in Uttarakhand had the fifth highest levels of PM 10 in 2017 – 2018, two spots higher than even Delhi. Jammu is also amongst the top 50 cities with highest PM 10 concentration levels. (TERI, 2019)

The Air Act was formulated for the prevention, control, and abatement of air pollution in India. Under this Act, power and functions are allocated to CPCB and SPCBs for matters related to air pollution. CPCB notifies the National Ambient Air Quality Standards under the Act. Vehicular emissions is a major source of pollution in heavily congested tourist areas. PM 2.5 emissions in tourist spots of Himachal have also been found exceeding prescribed limits.¹² Vehicle entry is restricted in sensitive regions such as Rohtang pass. As per the government of Himachal Pradesh, an average of 1200 permits per day are issued for petrol and diesel vehicles. Pursuant to an NGT order, 100 special permits are also given comprising 75 permits for vehicles of the state and 25 permits for Intrastate vehicles coming to Kullu

⁹ <https://www.gdrc.org/uem/eco-tour/envi/one.html>

¹⁰ Section 24

¹¹ Section 25

¹² See NGT Order dated 6 July 2015

district.¹³ The NGT asked the state government to levy an environmental compensation on vehicles passing through Mall road in Simla.¹⁴ However, reports suggest that directions of the court with respect to the fine have not been implemented.¹⁵

Waste Management

Globally, tourism industry generates 4.8 million tonnes of waste annually¹⁶ making waste management in tourist areas critical. Some estimates from tourist areas in India suggest that waste generation in Himalayan tourist spots are not almost equal to waste generated in metropolitan areas. (Kuniyal, et al 2003)¹⁷

Waste Management in India is regulated as per the Rules notified under Environment Protection Act, 1986 (EPA). These include rules for solid waste, plastic waste, hazardous waste, biomedical waste, construction and demolition waste.

Solid Waste Management Rules, 2016

Under the EPA, the Central Government notified Solid Waste Management Rules in April 2016, to supersede the Municipal Solid Waste (Management and Handling) Rules of 2000. The 2016 Rules, *inter alia*, makes generators of waste responsible for segregation of waste into three streams – Wet (biodegradable), dry (plastic, paper etc.), and domestic hazardous waste (sanitary waste, cleaning agents, repellents etc.). The definition of ‘waste generator’ is wide and includes every person, every residential premises and non-residential establishments which generate solid waste. Thus, the new Rules are applicable beyond municipal areas, to include urban agglomerations, census towns, notified industrial townships, areas under the control of Indian Railways, airports, airbases, ports and harbours, defence establishments, special economic zones, State and Central government organisations, places of pilgrims, religious and historical importance. This is important for sustainable tourism, as all tourist places do not lie within the limits of municipal authorities.

The new Rules also provide for manufacturers’ liability whereby brands that sell their products in non-biodegradable packaging material to have system of collecting back the packaging waste. Urban Development Department and Urban Local Bodies have been enjoined with the responsibility of management of municipal solid waste. The Secretary, Urban Development Department in the State or Union territory is mandated to prepare a State Policy and Solid Waste Management Strategy for the State or the union territory. Such a Policy and Strategy was envisaged to emphasise on waste reduction, reuse, recycling, recovery and optimum utilisation of various components of solid waste. The Rules, despite its somewhat centralised approach to solid waste management, has positive elements and paves way for an integrated waste management approach.

13 <http://pib.gov.in/PressReleasePage.aspx?PRID=1539705>

14 *Permanand Klanta vs. State of Himachal Pradesh* (OA No. 253/2013), NGT Order dated 10 December 2015

15 Chandra Bhushan, Srestha Banerjee and Ikshaku Bezbaroa, 2018, Green Tribunal, Green Approach: The Need for Better Implementation of the Polluter Pays Principle, Centre for Science and Environment, New Delhi

16 http://www.cep.unep.org/content/factsheets/tourism_-_the_environment.pdf/@download/file/Tourism_&_the_Environment.pdf; Last accessed on June 12 2019

17 <http://europepmc.org/abstract/med/14583243>

Urban local bodies are required to set up material recovery facilities with waste segregation. However, these facilities or such decentralised solutions are not present in most tourist places and there are instances of landfills overflowing with unsegregated and untreated waste in Kullu and Manali.¹⁸ Further, solid waste is being dumped into rivers, which are the major source of drinking water, e.g. the case of dumping of solid waste in river Ashwani Khad by municipal council itself.¹⁹

Plastic Waste Management Rules, 2016

Plastic waste is regulated separately under Plastic Waste Management Rules, 2016, as amended upto 2018.

The responsibility for enforcement of these Rules relating to management, use of plastic carry bags, plastic sheets and multi-layered packaging lies with the Secretary-in-charge of Urban Development of the State in urban areas and Gram Panchayat in rural areas. [Rule 12] Every urban local body or gram panchayat has to ensure that there is no burning of plastic, and ensure that environment is not harmed in the process of segregation, collection, storage, transportation and channelling plastic to registered recyclers. [Rule 7]

Like the SWM Rules, the PWM Rules define waste generator very broadly and includes any person who generates plastic waste. Thus, any tourist visiting a place is liable to follow the PWM Rules and not litter or dispose unsegregated plastic waste. [Rule 8] Hotels and restaurants are explicitly recognized as institutional waste generators under the Rules. These entities are enjoined with the responsibility of segregating waste as per SWM Rules 2016 and hand over waste to authorized waste collection and disposal agencies only. [Rule 8(2)] Retailers and street vendors, who are a common sight in any tourist destination, also have a responsibility to not sell items in plastic bags that are not labelled or manufactured as per the PWM Rules, 2016. [Rule 14]

MoEFCC letter to States on Plastic free PAs, 2018

Several ecotourism sites are in the vicinity of protected areas and forests. In April 2018, MOEFCC launched plastic clean up drives in protected areas (PA) and forests. It further asked the States to declare PAs as 'Plastic Free Zones'.²⁰ Since this was merely a letter that was sent out to State governments, it does not have any natural implications for PAs and neither does it mandate States to make PAs plastic free. However, Himachal Pradesh has banned single use plastic items all over the State, not just in Protected Areas.

Himachal Pradesh Non- Biodegradable Garbage (Control) Act, 1995

Himachal Pradesh Non- Biodegradable Garbage (Control) Act, 1995 was introduced to keep a check on throwing non-biodegradable garbage in public drains, roads and other public spaces and to regulate use of biodegradable material. The Act imposed ban on use of plastic

18 <https://thewire.in/environment/behind-facade-of-clean-mountain-towns-kullu-and-manali-struggle-to-manage-waste>

19 <https://thenewshimachal.com/2018/07/solan-mc-allegedly-dumped-tonnes-solid-waste-ashwani-khad/>

20 <http://pib.nic.in/newsite/PrintRelease.aspx?relid=181229>

carry bags single use plastic items such as disposable plastic cups, glasses and plates.²¹ A number of notifications have been issued over the years prohibiting various kinds of nonbiodegradable packaging and fixing the responsibility of individuals (for littering) and institutions and sellers (for possessing, selling, responsibly disposing).²²

In 2018, a ban on thermocol cutlery has also been imposed. Any person (including shopkeepers, vendors, wholesalers, retailers, hawkers, rehriwala), institution/commercial establishment, offices, hotels, shops, restaurants, is liable to pay a penalty if found in possession or disposing of thermocol cutlery.²³ The fine collected is deposited in the *Himachal Pradesh Environment Fund for environment*, which is used for restoration of environment in the State.

While a ban on plastic has been there in Himachal Pradesh has been there for some time now, the problem of plastic pollution continues in the State. A video titled, 'river of plastic' was widely circulated on social media showing Ashwani river being full of plastic and other waste.²⁴ The video was so alarming that NGT took cognizance of it and demanded a detailed reply from various State authorities on the matter.²⁵

Ecosensitive zone

Further to its powers under the EPA, central government has notified an area of 0 metres to 3.87 kilometres around the boundary of Talra Wildlife Sanctuary as the Talra Wildlife Sanctuary Eco-sensitive Zone. The notification contains provisions pertaining to ecotourism as well. In the eco-sensitive zone, the State government has to prepare an Ecotourism Master Plan (under the Zonal Master Plan) and ensure that any tourism activity is undertaken as per Plan.²⁶

Any new construction of hotels and resorts is prohibited within 1 km from the boundary of the Sanctuary. New hotels and resorts in the remaining area within the eco-sensitive zone is allowed only in designated areas for Ecotourism facilities as per Tourism Master Plan. Moreover, all new tourism activities have to follow the ecotourism guidelines of National Tiger Conservation Authority and emphasise on eco-tourism.

21 Government of Himachal Pradesh Notification No. STE-A(3)-4/2004 dated 14 December 2004

22 List of all the plastic related notifications is available on <https://desthp.nic.in/notifications.html>

23 Government of Himachal Pradesh Notification No. STE-F (9)-1/2018 dated July 6, 2018

24 <https://www.newsflare.com/video/224300/weather-nature/river-of-plastic-in-himalayas-sparks-outrage-in-india>

25 Court on its own Motion vs State of Himachal Pradesh Original Application No. 446/2018, NGT Order dated 11 March 2019

26 Ministry of Environment, Forest and Climate Change number S.O. 1969 (E) dated the 3rd June, 2016

Forests and protected areas

Forest (Conservation) Act, 1980

In 1980, the Forest (Conservation) Act was enacted to put restrictions on de-reservation of forests or use of forestland for non-forest purpose.²⁷ The Act explicitly provides for conservation of forests by making it mandatory to seek Central government approval for de-reservation of a reserved forest, using any forest land for non-forest purpose, and clearing of forestlands for re-afforestation.²⁸ Thus, the Act does not put a blanket ban on non-forest activities but introduces checks and balances, in the nature of approvals and compensatory afforestation. The Act and the Rules made thereunder lay down a two-stage clearance procedure for diversion of forests for non-forest use.

Under the Act and Rules, tourist lodges/complex and other building construction are considered non-forest activities, and therefore, restricted. As mentioned in the Government's Handbook of FCA and Guidelines and Clarifications, 'These activities being detrimental to protection and conservation of forest, as a matter of policy, such proposals would be rarely entertained.'

While forest clearance usually acts as a check on activities that can cause degradation of environment, it can sometimes have a reverse effect. For example in the case of tourism in Rohtang pass, ropeways is seen as an option to curb vehicular pollution. However, absence of forest clearance has been cited as a reason for delay in taking that plan forward.²⁹

Wildlife Protection Act, 1972

The Wildlife (Protection) Act was enacted in 1972, based on a Resolution of the Legislature of 11 States, invoking Article 252 of the Constitution. It lays down the framework for different sanctuaries, national parks and other protected areas.

The State Government can declare an area outside a reserve forest as a sanctuary in view of its ecological, faunal, floral, geomorphological, natural or zoological significance, for the purpose of protecting, propagating or developing wild life or its environment.³⁰ Several restrictions, including restriction on entry, are imposed in a sanctuary to minimise human interference in the wild habitat. CWLW has the power to grant a permit to allow entry or residence in a sanctuary for purposes of tourism.³¹

27 Section 2 of the Forest (Conservation) Act, 1980 (69 of 1980) defines "non-forest purpose" as breaking up or clearing of any forest land or portion thereof for- (a) the cultivation of tea, coffee, spices, rubber, palms, oil-bearing plants, horticultural crops or medicinal plants;(b) any purpose other than reafforestation;

28 Section 2, Forest Conservation Act

29 See State government report furnished in the matter of Original Application No. 389/2018 before NGT

30 Section 18 WLPA

31 Section 28, WLPA

CWLW can construct roads, bridges, buildings, fences, gates etc in a sanctuary. However, no commercial tourist lodges, hotels, zoos and safari parks can be constructed in a sanctuary without prior approval from the National Board of Wildlife.³²

In 2006, Tiger reserves were given a statutory status with amendments to the Wildlife Protection Act, which included provisions for declaration of Tiger Reserves and constitution of a Tiger Conservation Authority. The Authority has the power to lay down 'normative standards for tourism activities and guidelines for tiger conservation in the buffer and core area of tiger reserves'.³³ The Tiger Conservation Foundation prescribed under the Act is meant to promote eco-tourism with the involvement of local stakeholder communities and augment financial resources to promote ecotourism.³⁴

Guidelines on Eco-tourism in Tiger Reserves

Pursuant to its powers under the Wildlife Act, National Tiger Conservation Authority formulated guidelines for Normative Standards for Tourism activities in buffer and core area of tiger reserves in 2012. The Guidelines propose to foster ecotourism to benefit the host community in accordance with the Tiger Conservation Plans of each tiger reserve as per carrying capacity.³⁵ The Guidelines allow for only regulated low impact tourist visits without construction of any new tourism infrastructure in Core areas. In buffer areas, the guidelines envisage a more active involvement of local population in ecotourism activities such as providing low cost accommodation for tourists, provide guide services, manage excursions, organize ethnic activities, etc.

These Guidelines came just a year after MOEF prepared draft set of *Guidelines for ecotourism in and around protected areas*. The 2011 Draft Guidelines were designed to cover all the Protected Areas in accordance with Ecotourism Plans for each PA.

Himachal Pradesh does not have a tiger reserve but the guidelines hold importance for all PAs in India. Moreover, all new tourism activities in any notified eco-sensitive zone, (e.g., 30 ESZs around PAs in Himachal Pradesh) have to follow ecotourism guidelines of National Tiger Conservation Authority. (See section on ecosensitive zones)

Disaster Management and Climate Change

Disaster Management Plan

Himachal Pradesh has had a State level Disaster Management Plan since 2012. In addition to that, the State has a separate *Disaster Management Plan for Department of Tourism* covers risk prevention and mitigation, risk reduction and disaster preparedness. It highlights gaps in capacity to address these stages of disaster but is limited to building capacity of the

³² Section 33, WLPA

³³ Section 38 O

³⁴ Section 38 X

³⁵ As per the guidelines, Physical Carrying Capacity (PCC) is the "maximum number of visitors that can physically fit into a defined space, over a particular time". Formula for $PCC = A \times V/a \times RF$ Where, A = available area for public use V/a = one visitor / M2 RF = rotation factor (number of visits per day)

government department officials, and not communities, business and commercial enterprises and tourists visiting the State.

HP State Action Plan on Climate Change

The State Action Plan on Climate Change (SAPCC) of Himachal Pradesh recognizes the importance of tourism in State revenue as well as the ecological threats associated with it. As per the Plan, the Department of Tourism, along with hotels and other stakeholders in tourism industry, has to develop adaptation strategies for nature based tourism in specific tourism regions and generally. The SAPCC also proposes regulating tourist inflows into mountain regions to keep within the carrying capacity of the region.

Other Schemes of possible relevance

Hunar se rozgar tak Scheme

Under the Capacity Building for Service Providers (CBSP) scheme, Ministry of Tourism launched a training programme to create employable skills in 2009 – 2010. Initially, the programme covered short-term skill oriented programmes related to only food and food products. However, the program was gradually extended to house keeping, heritage conservation, etc. The Programme can be extended to provide capacity building for ecotourism as CBSP Scheme already provides for giving preference to trainees engaged in eco-tourism and recognizes people in rural areas engaged in eco tourism activities as a service provider.

Swadesh Darshan Scheme

Ministry of Tourism launched the Swadesh Darshan Scheme as a Central Sector Scheme for integrated development of theme based tourist circuits in the country in 2014. There are fifteen theme-based circuits under the Scheme based on ecology, geography, culture and religion.³⁶ These are

- | | |
|-----------------------|-------------------------|
| i. Buddhist Circuit | ii. North-East Circuit |
| iii. Coastal Circuit | iv. Ramayana Circuit |
| v. Desert Circuit | vi. Rural Circuit |
| vii. Eco Circuit | viii. Spiritual Circuit |
| ix. Heritage Circuit | x. Sufi Circuit |
| xi. Himalayan Circuit | xii. Tirthankar Circuit |
| xiii. Krishna Circuit | xiv. Tribal Circuit |
| xv. Wildlife Circuit | |

Several of these circuits, especially wildlife circuit, Himalayan circuit, eco circuit are crucial for sustainable tourism in Himachal Pradesh.

National Mission on Pilgrimage Rejuvenation and Spiritual, Augmentation Drive

The National Mission on Pilgrimage Rejuvenation and Spiritual, Augmentation Drive or the PRASAD Mission was launched to promote pilgrimage and religious tourism. Since, several

³⁶ <http://swadeshdarshan.gov.in/index.php?Theme>

religious and pilgrimage sites are located in ecologically fragile areas, the Scheme has serious implications for sustainable development of ecologically sensitive and fragile areas. Under the Scheme, 41 religious cities/sites in 25 States have been identified for development. This includes Maa Chintpurni in Una, Himachal Pradesh.³⁷

The Scheme lays emphasis on improving local livelihood through religious tourism but remains silent on ecological footprint or carrying capacity of tourism in these areas. However, in guidelines for infrastructure development, it does call for procuring ecofriendly modes of transport and lighting.

Himachal Pradesh Heritage Tourism Policy 2017

The policy is aimed at preserving the heritage buildings, forts, palaces, lodges, mansions and havelis having a historical lineage spanning from princely states to the British-era and to make them maintainable in a sustained manner. This policy will help to diversify the tourism products of the state and bring about entrepreneurship activities and stimulate self-employment.

Har Gaon ki kahani scheme

‘Har Gaon ki Kahani’ was initiated by the Himachal Tourism department with the intention to diversify tourism from the tourist congested destinations and will facilitate visitors to gather knowledge and interest in the rich cultural heritage, folk lore and historical significance in the rural areas. The scheme has expedited a record number of tourists to opt to stay in the home-stays started under this scheme and appreciating the traditional local cuisines. It is targeted at enhancing the rural tourism in the state by inviting tourists to visit villages having historical significance in the rural areas with a view to associate rural enterprising youth with the tourism promotion activities.

Court orders and judgments

One of the earliest and most landmark cases on environment-tourism interface and environmental law in general is the *MC Mehta vs Kamal Nath* case, which incidentally originated in Himachal Pradesh. The apex court in this case discussed the public trust doctrine in the context of natural resources and held it to be a part of law of the land. In light of the environmental threat, the lease granted to Span motels by the Himachal Pradesh State government was cancelled and the government was asked to restore the land to its natural condition. The Motel was asked to pay for the restitution of environment and ecology and remove all the construction along the riverbed and banks of river Beas.³⁸

In 2012, a Bhopal based NGO, *Prayatna*, filed a PIL to protect tiger population in India and raised the issue of failure of several States to demarcate core and buffer areas in tiger reserves resulting in no clear inviolate areas free from tourists. The Supreme Court imposed an interim ban on any kind of tourism activity in core zone or core parts of tiger reserves across the country, pending detailed guidelines for utilization and restrictions in core and

³⁷ Ministry of Tourism, Rajya Sabha, Unstarred Question No-1081, Answered on-12.02.2019

³⁸ (1997)1 SCC 388

buffer areas.³⁹ The ban was subsequently lifted after the NTCA notified guidelines in October 2012.

Use of protected areas for commercial activities, including tourism, was challenged in court. The Central Empowered Committee prepared guidelines, which the court accepted, whereby no Forest Rest Houses or Inspection Bungalows located within the forest area including the Protected Areas are allowed to be run by any private or public-private entity for 'promotion of any form for tourism'. Thus, SC in its 2018 order, ruled that Forest Rest Houses or Inspection Bungalows within PAs and other forest area cannot be transferred to private commercial entities in the garb of public – private partnership for tourism or Ecotourism.⁴⁰

The High Court of Himachal Pradesh has also dealt with several cases relating to tourism. In 2018, a PIL came up before the HP High Court where it was alleged that under the garb of ecotourism, forestland is being utilised and being used for purposes other than the allotted purpose. The State government filed affidavit detailing the importance of ecotourism in conserving forests and spreading awareness and assured that the allotted land would be used for ecotourism activities only. HP High Court, in its judgment dated 18 September 2018, has directed the State Government to ensure that ecotourism is not used as an excuse for diverting forestland for non forest activities. Further, it directed the State government to ensure that any unit, which is set up diverting forest land, should be compliant with environmental laws and be eco-friendly.⁴¹

In an earlier case relating to packaging of edible products, the High Court of Himachal Pradesh reminded the State of its duty to provide potable water and suggested the State to set up vending machines to sell clean water at Tourist Centres to ensure elimination, reduction and reuse of plastic water bottles.⁴²

Unauthorised construction is rampant in several parts of tourist destinations. The NGT bench held failure of State Government and local authorities to discharge their constitutional obligations under the Constitution of India, Environment (Protection) Act, 1986, and the Town Planning legislation responsible for rampant construction in Simla, making it vulnerable. The NGT ruling banned any new construction in green/ forest area and restricted construction in other areas to a maximum of two storeys and in strict compliance with planning laws.⁴³

National Green Tribunal in an order dated 6th February 2014 had issued a number of directions to regulate traffic and manage solid waste in tourist spots around Manali, such as

39 Order dated July 24, 2012 in *Ajay Dubey Vs NTCA*, WP No.12351/2010

40 Supreme Court Order dated 05 July 2018 in *T.N. Godavarman Thirumulpad vs Union of India and Ors.* WP (civil) 202/1995; I A no. 2354-2355 In re: *Bikram Singh* regarding alleged misuse of Forest Rest Houses

41 Court on its own motion vs State of H.P and others, CWPIL No.: 114 of 2018

42 *Sanjeev Kumar vs State of HP* High Court Order dated 19 June 2010 in CWP No.1732/2010 with CWP No.1885/2020

43 *Yogindra Mohan Sengupta*, NGT Judgment dated 16th November, 2017

Rohtang Pass, Marhi, Kothi, Salang Nala.⁴⁴ NGT applied polluter pays principle in terms of tourism and issued following main directions – (i) Fees for every vehicle passing route ahead of Vashishta and Rohtang Pass, which is to be collected in Green tax fund and used for prevention and control of pollution, development of ecologically-friendly market at Marhi, for restoring the vegetative cover and afforestation; (ii) restrictions on horses in the pass; (iii) immediate collection and disposal of MSW on the entire route from Vashishta to Rohtang Pass. In a related order, in 2015, NGT reproached State for not managing the problem of pollution and increased glacial melt caused by increasing tourism and suspended use of snow scooters, ATVs, horse riding, paragliders, snow biking, tyre tube gaming in Solang, Rohtang and Marhi, and prohibited two wheelers and commercial activities such as restaurants, eateries at Rohtang Pass.⁴⁵ These restrictions were, however, eased in 2016. The Tribunal also gave directions for other options such as CNG use and building of ropeways. This is in addition to measures for building STPs and maintaining restrictions on entry of vehicles.⁴⁶ The tribunal has been monitoring the progress in terms of implementation of its orders by the State Government.

In a much recent case of encroachments in Triund peak by tour operators and littering by tourists, HC has ordered the Kangra district authorities to take action against those responsible for raising tents over the forest land without the permission of the government.⁴⁷

Summary and conclusion

Unlike Central government and several other States, Himachal Pradesh has a clear and dedicated policy on ecotourism. HP Ecotourism policy has certain clear and implementable provisions, such as institutional strengthening, awareness and capacity building, involving stakeholders, etc. However, these are policy prescriptions and not enforceable regulations, leaving it for the government and its officials to adopt them.

Tourism trade and tourist activities are regulated by the State under various Rules promulgated under the Himachal Pradesh Tourism Development and Registration Act. Registration for starting a tourist accommodation or other services, including adventure sports, have to be obtained from the department of tourism. Various conditions for eligibility and grounds for refusal of registration or licence are listed in the State Rules. However, these conditions do not take into account environmental aspects, especially for units providing accommodation to tourists. There could also be incentives to adopt sustainable practices in the form of , eg, priority in registration, or disincentives to engage in unsustainable practices, such as ground for refusal of registration.

There is only one standard of environmental importance - Every unit shall make provisions for the rain-water harvesting. And no such requirement is there for homestays, which are registered separately. There is still some recognition of environmental considerations and

44 Sher Singh Vs State of HP NGT Order dated 06/02/2014 in Application No. 237 (THC)/2013 (CWPIIL No.15 of 2010)

45 Court on its own Motion Vs. State of Himachal Pradesh & Ors. And Abhimanyu Rathor Vs. State of H.P. & Ors. NGT Order dated 6 July 2015

46 Court on its own motion vs State of Himachal Pradesh & Ors. NGT order dated 6 May 2019

47 CWP No. 1165 of 2019, HP HC order dated 28 May 2019

responsibilities in Rules governing adventure sports. Under the Rules, every rafting operator or operator of any adventure activity is enjoined with the duty to keep the environment clean. Technical Committees are supposed to undertake carrying capacity assessment of rivers and other sites for adventure sports. However, despite these Rules, the problem of pollution, melting of glaciers, and mounting waste is still prevalent in tourist areas.

Waste management in tourist areas is a major challenge in all States. Municipal solid waste is the responsibility of urban local bodies and urban development departments. Plastic waste is another menace, which is being regulated by both central and state level rules. There is a ban on use of plastic carry bags single use plastic items such as disposable plastic cups, glasses and plates in Himachal Pradesh. Responsibilities of various stakeholders have also been fixed. Fines collected on account of violation of ban on plastic and thermocol is deposited in the Himachal Pradesh Environment Fund for environment, which is used for restoration of environment in the State. Despite these provisions, both solid waste and plastic waste pose serious threats to the State, as seen in the case of plastic accumulation in river in Solan and heaps of untreated unsegregated waste in Kullu. The ban and rules for the same are clearly not enforced strictly and the users, sellers do not have adequate incentives and options to comply with the ban.

Forest clearances can be useful in checking unsustainable tourist activities, e.g. clamping down unapproved tourism activities in Triund; However, the same forest clearances can sometimes act as a barrier in promoting sustainable tourism activities, such as the inordinate delay in clearance for construction of ropeways to reduce inflow of motor vehicles in Rohtang pass.

Supreme Court, NGT and high court of Himachal Pradesh have issued orders to protect environment and ecology in tourist areas from time to time. Often, the courts have weighed in favour of environment over tourism or socio-economic benefits of tourism in the region. This is, to a large extent, due to encroachments and violation of environmental and forest laws and regulations by tourism entities in the State.

Disaster Management Plan for Department of Tourism covers risk prevention and mitigation, risk reduction and disaster preparedness. It highlights gaps in capacity to address these stages of disaster but is limited to building capacity of the government department officials, and not communities, business and commercial enterprises and tourists visiting the State. Capacity building measures are listed in a number of policies and guidelines. However, there is more focus on building capacity of local communities or government officials. Awareness and sensitization of visitors is not a measure in these plans or policies.

Chapter 6: Identifying Appropriate Frameworks for Conservation Friendly Tourism

Tourism carrying capacity assessment for Chandrataal Lake

About the lake

The Chandrataal wetland has been designated as a wetland of international importance under the Ramsar Convention in 2005 as well as a priority wetland under the State Wetland Conservation Programme – 2018. It is located in Chandratat Wild Life Sanctuary at an elevation of 4250 meters above sea level covering an area of 49 hectares (ha) and fed by glaciers and snow from mountain ranges of Losar and Chandrabhaga. The total area of sanctuary is 3856 ha and protected area is 6150 ha. The geographical location of the lake is Latitude- 3228'30" N and Longitude-77 37'E. The total wetland area is about 153 ha and circumference of the Lake is 4 kms. According to the Himachal Pradesh State Wetland Authority, close to 65% of the catchment area is degraded due to glacial action whereas the rest of the region is covered by patches of different nutritious herbs and grasses that are consumed by seasonal grazing of sheep and goats by *gaddis* (HIMCOSTE, 2017).

Quick Facts on Chandratat

Location Coordinates	Latitude- 3228'30" N and Longitude-77 37'E
Total Area	49 ha
Elevation	4250 meters above sea level
Total Sanctuary Area	3856 ha
Total Protected Area	6150 ha
Total Wetland Area	153 ha
Lake Circumference	4 km

Some of the indigenous herbs include *Potentilla*, *Ranunculus*, *Acquilegia*, *Primula*, *Aconitum*, *Aster*, *Asteraglus*, *Bistorta afnis*, *Delphinium*, *Geranium*, *Oxyria*, *Polygonium*, *Ranunculus*, *Rosularia*, *Stellaria* and *Thymus* species belonging to family Ranunculaceae, Poaceae, Asteraceae, Polygonaceae, Rosaceae, Gentianaceae, Caryophyllaceae, Polygonaceae, Geraniaceae, and Lamiaceae. Poa and Agropyron are grasses with high nutrient content.

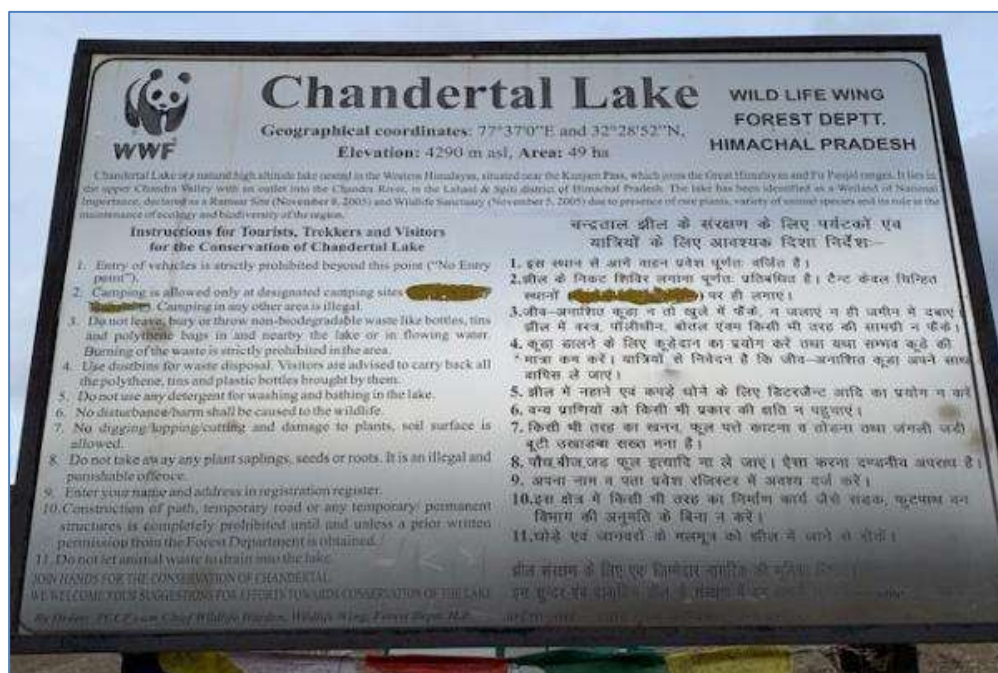
The wetland is home to a number of faunal species which include Blue Sheep (*Pseudois nayaur*), Marmot (*Marmota bobak*) Snow leopard (*Panthera uncia*), Red Fox (*Vulpes vulpes*), Snow Cock (*Tetrogallus spp*), Wild Chukar (*Alectors chukar*), Black Winged Stilt (*Himantopus himantopus*), Brahminy Duck (*Tadorna feruginia*), Golden Eagle (*Aquila chrysaetos*), Goat (*Capra ibex*) (HIMCOSTE, 2017).



Chandrataal



Dos and Don'ts issued by DFO Wildlife Spiti, Kaza for Chandertal



Instructions for tourists, trekkers, visitors for the conservation of the lake

Issues surrounding carrying capacity

In recent years, Chandertal has faced an increasing spurt in tourism with an average of almost 30,000 tourists recorded per season in 2017 and 2018⁴⁸. The tourist season begins from June and lasts till mid-September. No permanent structures or human settlements are present in the catchment area other than ad-hoc shelters set up by migrating local *gaddis* during July-September.

Local communities and *gaddis* mention that erratic tourism has brought with it a host of problems. The *gaddis* have traditional rights to grazing in the wetland and complain that excessive tourism has endangered grazing grounds and reduced forage for goats and sheep. Unruly tourists travelling off the designated trails destroy and trample the mountain areas which are covered in herbs and grass of nutritive value for the livestock. *Gaddis* have also mentioned that grazing area is affected by camp sites.

The area also holds religious importance as it is worshipped by indigenous communities who revere it through traditional festivals and mythological stories. Noise pollution created with blaring speakers by rude and insensitive tourists at a place considered sacred is not acceptable; this also affects the animals grazing in the meadows. Solid waste management is also becoming a major issue at the campsites (Kuniyal, Kumar, & Kumar Thakur, 2010).

Guidelines have been issued by the forest department to campsite owners regarding waste management, littering of garbage by tourists and campsite owners which the TERI team saw during their visit. The forest department mentioned that locals from Losar village have been hired to help in maintaining cleanliness within and around the lake. According to the forest department, disturbance to the wetland is also caused by excessive livestock grazing by

⁴⁸ Obtained during discussions with Range Forest Officer, Kaza, Mr. Devender Singh Chauhan

gaddis. Perhaps under the SECURE Himalaya project, a study on this can be commissioned to understand their impact on the ecosystem.

Table 9: Data for number of visitors coming to Chandratol

Year	Foreign visitors	Indian visitors	Total visitors
2017	1698	26538	28236
2018	1756	27839	29595

Source: Range Forest Officer, Kaza

Discussions with the range officer, Kaza revealed that the eastern section of the lake spanning 10-15 ha is prone to erosion. There have been reports in the past that the lake was shrinking as a result of heavy siltation and erosion from the surrounding barren mountain slopes of the left bank (Kuniyal, et al., 2010). Kitchen waste generated from unregulated camping near the lake over the last couple of years is also posing a threat to its ecology.

Data from the forest department states that in 2018-19 camping companies received temporary permission from the forest department to operate from July to Mid-September at a cost of 100 INR per tent per day in a designated campsite area which is located at a distance of 4 kms from the lake (Annexures). The camps comprised 86 dual occupancy tents as of 2018, each having capacity to accommodate at least two people. In July 2019, the Koksar panchayat had intervened by banning camping close to the lake and imposed hefty fines for any violations (The Tribune, 2019).



Interaction with Range Forest Officer Kaza, Mr. Devender Singh Chauhan

Literature on Carrying Capacity

Discovering an appropriate balance between economic benefits and environmental costs is indispensable to attain a sustainable model of tourism, and guaranteeing that the numbers of tourists do not exceed the carrying capacity of the destination. The concept of tourism carrying capacity (TCC) emerged in the 1970s and 1980 and in recent years has received significant attention as part of an effective strategy to address environmental, economic, and social issues (Coccossis & Mexa, 2004) (Davis & Tisdell, 1995). The point at which more visitors would damage the environment or lower people's enjoyment below an acceptable level is as the conventional definition of carrying capacity (Doswell, 1996). The term carrying capacity is commonly understood as the largest number of tourists that can fit based on maximum use of the land and space available. However such a "physical" constraint is unlikely to be reached as other factors are likely to limit the number of tourists to a lower level (Rey-Maqueira et al., 2004).

The carrying capacity concept of tourist destinations is generally discussed in relation to the quality of the tourist experience, such that carrying capacity represents the maximum number of visitors that a destination can fit without the quality of the tourist experience deteriorating (Canestrelli and Costa, 1991; Hovinen, 2002). (Bulter, 1999) defines TCC as the limit of human and physical resources to absorb the effects of tourism so that tourism and other activities and attributes would be able to be maintained over the long term.

Uncontrolled rise of tourists and tourism activities in the areas of natural beauty and historical significance is exhausting the very resources that transform an area into a tourist destination (Bhattarcharya & Banerjee, 2003). Tourism carrying capacity studies have been broadly used for guiding conservation and ecotourism related decisions, permitting recreational activities to be undertaken within natural areas in an orderly and systematic way that can generate least impact (Carr, 2000; Frascchetti et al., 2002; Gossling, 2002; Coccossis and Mexa, 2004).



Notice boards at the point of entry to Chandratat near the camp site where a forest guard is present

A number of studies have been undertaken pertaining to different aspects of the carrying capacity for National Parks and protected areas (Papageorgiou and Brotherton 1999, Lawson et al. 2003), (Sayan & Atik, 2011). The idea of the maintenance of the integrity of the resource-base as well as the provision of a high-quality recreation experience to users was put forward by Papageorgiou & Brotherton, (1999). Some newer definitions of carrying capacity for protected areas lay emphasis on the human impacts of visitation and take into account social factors (location and mode of travel, season of use, group size, and behavior of visitors), biophysical characteristics (soils, topography and vegetation), and management policies (restrictions on visitor use) than the actual number of visitors (Prato, 2001).

According to the World Tourism Organization, sustainable tourism is “Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities (UNEP & WTO, 2005). This kind of tourism should also sustain a high level of tourist contentment and safeguard a meaningful experience to the tourists, building their responsiveness about sustainability issues and endorsing sustainable tourism practices amongst them.”

Taking into account the scientific literature on TCC, three aspects namely physical-ecological, socio-demographic and political-economic can help reflect the impacts of tourism (Coccossis & Mexa, 2004) which suggests three kinds of indicators.

- Physical-ecological indicators (Natural Environment and Biodiversity, Air Quality, Noise Pollution, Energy, Water, Waste, Cultural Heritage, Tourist Infrastructure, Land, Landscape, Transport and Mobility)
- Socio-demographic indicators (Demography, Tourist Flow, Employment, Social Behaviour, Health and Safety, Psychological Issues)
- Political-economic indicators (Tourism Earnings and Investments, Employment, Public Expenditure and Revenue, Policy for Tourism Development).

By condensing these parameters into a broad framework, the present study attempts to assess the factors that could potentially enhance or restrict the growth and development of tourism for a particular landscape, and arrive at the optimal levels of tourist visitations that would not compromise the endemic environmental, social, cultural, political and economic facets, while also ensuring a fulfilling experience for tourists.



Notice boards before entry to Chandratat with instructions

Drivers of Carrying Capacity and Proposed Framework

Carrying capacity of a region or landscape is influenced by myriad factors. A comprehensive assessment of the carrying capacity would require all possible factors that affect it, to be identified and analysed. Provision of physical infrastructure (like accommodation), socio-cultural factors, economic factors, tourist feedback, etc. are some of the many aspects that govern the capacity of a region for tourism development. These drivers may have enhancing as well as limiting effects. For instance, the presence of hotels and homestays in place may be more inviting to potential tourists whereas their absence may prove to be discouraging. Some people might not want luxury hotels but prefer culturally appropriate homestays.. In the context of conservation of already threatened or sensitive places, like wildlife sanctuaries or lakes/wetlands, the limiting factors that are assumed to restrain the physical limit of carrying capacity, become extremely crucial.

The indicators would also vary from one place to another with respect to the specific context. The SECURE Himalaya conservation landscapes of Lahaul and Pangi have not been subjected to mass tourism yet. This directly influences the presence of tourist infrastructure, waste management, economic impacts on the community, and has an indirect bearing on socio-cultural factors like the community's acceptance of tourists. The objectives of management envisioned by institutions like the forest department, tourism department, municipal bodies, etc. would also affect carrying capacity levels. For example, the Great Himalayan National Park (GHNP) whose focus is conservation of biodiversity has specific guidelines for appropriate tourist behaviour in the Park and has also specified trek routes and sight-seeing options. The guidelines for tourism in the GHNP help curtail unregulated tourism.

The general formula of carrying capacity assessment specifically for protected areas was first proposed by Cifuentes (1992) and was subsequently adapted for various contexts. Although, carrying capacity determinations are still done, there is a general consensus that the concept

is flawed due to its limited practical applicability (fixing the limits of carrying capacity tends to be very subjective) and because the situation in reality is dynamic, while carrying capacity assumes a stable and predictable environment. Moreover, the behavior of individuals frequently determines carrying capacity-even low numbers of visitors who transgress all rules and impose negative impacts on the environment have a far more detrimental effect than larger numbers of aware visitors (e.g. school children versus aware birdwatchers). Moreover, the focus is on, "how much use is too much?" rather than, "What natural conditions are desired here (Stankey, et al., 1985)?"

Subsequent approaches such as Limits of Acceptable Change (LAC) is based on the idea that rather than there being a threshold of visitor numbers, any tourist activity has an impact; therefore management should be based on constant monitoring of the site as well as the objectives of management. According to Lawrence (1992), economic development through tourism should be based on acceptable levels of changes in environmental and social quality.

The LAC framework focuses on resource management by objective (McCool and Stankey, 1992)-this is particularly relevant for conservation areas (PAs, reserve forests, etc.) where the primary objective of management is conservation. A nine step process is usually followed.

1. Identify area concerns and issues.
2. Define and describe opportunity classes
3. Select indicators of resource and social conditions.
4. Inventory existing resource and social conditions.
5. Specify standards for resource and social indicators.
6. Identify alternative opportunity class allocations.
7. Identify management actions for each alternative.
8. Evaluate and select preferred alternatives.
9. Implement actions and monitor conditions.

In general, the planning framework involves the development of social and environmental indicators. The participants in this process are those with a long-term interest in the area which might include sociologists, biologists, tourist guides, government officials, tour operators, etc. Once a panel of experts is chosen, a Delphi survey is used to establish consensus on the variables that require further study.

A similar process is the Visitor Impact Management developed by the US National Park Service which recognises that the impacts of visitors on the environment, and the quality of the recreational experience of visitors is complex and influenced by other factors than levels of use.

Utilising such approaches is often time consuming, complex and expensive. Frequently, however, the use of guidelines for visitors is used as a way to ensure sustainable tourism given that inexperienced visitors are largely unaware of the impacts of their activities. Drawing from the LAC and the Visitor Impact Management approach, is the identification of a list of indicators that can be used to monitor the impacts of tourism on an area. In general, several parameters impact the degree of sustainable tourism in an area. The first is the **biophysical component** of carrying capacity which establishes a threshold beyond which irreversible and detrimental change in the biophysical environment is likely to occur such as

decrease in habitat quality, impacts on species populations. The **socio-cultural component** refers to the socio-cultural impacts that might occur if tourism crosses certain levels. The **economic component** refers to the beneficial economic impacts of tourism on local communities including livelihood benefits. The **psychological component** of carrying capacity refers to the maximum number of visitors that can provide a quality experience at any one time. The **managerial component** refers to the managerial capacity to manage tourism and the maximum level of visitation that can be adequately managed in a given area. This includes factors such as number of staff, open hours, number of interpretation services and facilities, parking space, all of which are closely linked to the physical facilities available for visitors. In practical terms, very often it is simply the level of infrastructure and **physical capacity** that influences the number of visitors (e.g. number of available rooms to stay, etc.)

For this study, therefore, we do two two things a) create a general framework that can be used as a template/questionnaire for any area and then b) mention the indicators/drivers that are likely to be relevant in a particular context and landscape. To develop the general framework for assessing carrying capacity of each area-we have also included parameters such as the objectives of management, fragility of ecosystem, number of endemic, endangered threatened species, current sources of income, etc. and based on this try to identify the existing and potential for tourism in the project landscapes

The broad categories under which drivers of carrying capacity were analysed are as follows.

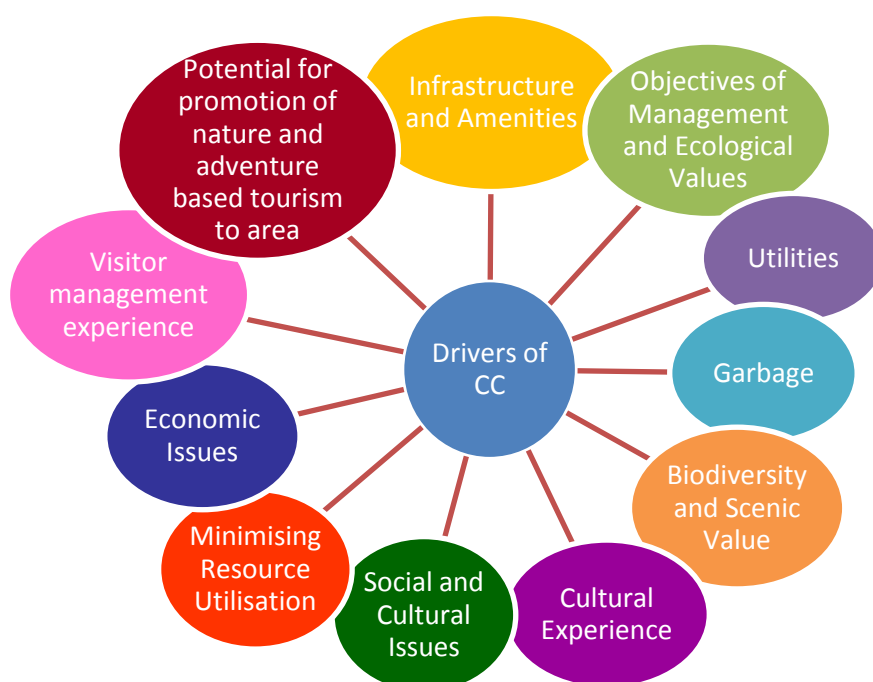


Figure 2 Possible drivers of Carrying Capacity

In Table 10, we have divided the drivers of carrying capacity into eight broad categories.

- Category 1. Availability of infrastructure and amenities (Physical facilities)

This indicator category refers to the basic physical infrastructure and amenities such as availability of homestays, lodges, toilets, etc which directly limit the number of tourists.

- Category 2. Objectives of management and ecological values

This category derives from the area's management status (PA, fragile conservation value) and the indicators stem from this such as the existence of zoning, including ecotourism zones, the presence of Rare Endangered and Threatened Species (RET), the extent of damage for flora and fauna due to tourism.

- Category 3. Utilities and information on area for tourists

This category refers to the utilities available for tourists for example presence of interpretation centres, extent of marketing and publicity for the area, as well as the ease of obtaining permits to visit the area

- Category 4. Garbage and waste management

This relates to the extent of garbage, plastic and other wastes generated, their impact on the environment and the impacts for feral dog populations and other human-wildlife conflicts

- Category 5. Visitor exposure to biodiversity, adventure and scenic values

This category tries to gauge the biodiversity and scenic value that is maintained which also contributes to the visitor experience. For example, whether sighting of wildlife is easy (also helps to gauge the conservation status of the area), whether trained guides are present and what is the extent of knowledge of the biodiversity of the area.

- Category 6. Cultural experience for tourists

This refers to the extent to which visitors get to understand local culture through the availability of handicrafts and exposure to culture through dances, homestay experience, etc. This is important as an add-on to nature-based or adventure tourism and hence has been listed separately.

- Category 7. Socio-cultural factors

This category refers to the social and cultural experience of the local communities. For example whether visitors are culturally insensitive (e.g. homestay owners in Korzok complaining that visitors were rude about their homes), and the impacts on local culture.

- Category 8. Minimising resource utilisation

This refers to the extent that natural resource utilisation is minimised-e.g. use of local vegetables, minimisation of use of water, recycling or elimination of plastic water bottles.

- Category 9. Economic issues

This indicator assesses the impacts of tourism for the economy and livelihoods of local communities. We have also tried to assess the impacts of tourism on migration levels (e.g. reduction due to increased incomes and incentives).

- Category 10. Visitor management experience

This set of indicators assesses the extent of management which contributes to the visitor experience (e.g. levels of overcrowding, of garbage, of dust and noise, traffic, etc.)

- Category 11. Potential for promotion of nature and adventure based tourism to area

This indicator set assesses the potential to promote sustainable tourism especially nature and adventure-based tourism.

Table 10: Drivers of Carrying Capacity/Sustainable Tourism

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
A	<u>Availability of infrastructure and amenities (Physical capacity)</u>				
1	Number of homestays	✓		✓	
2	Number of hotels and lodges (Non-homestays)	✓		✓	
3	Number of camping sites	✓		✓	
4	Number of porters	✓		✓	Too many porters can also put pressure on the ecosystem
5	Number of ponies	✓		✓	Too many ponies can also put pressure on the ecosystem
6	Number of guides	✓		✓	Too many guides can also put pressure on the ecosystem

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
7	Number of certified guides	✓		✓	
8	Willingness of local communities to develop homestays	✓		✓	
9	Existence and quality of roads	✓		✓	
10	Transport facilities	✓		✓	
11	Presence of toilets and quality	✓		✓	
12	Adequacy of trek routes (number, maintenance)	✓		✓	
13	ATMs and banking facilities	✓		✓	
14	Medical facilities-first aid	✓		✓	
15	Rescue facilities in emergencies	✓		✓	
B	<u>Objectives of management and ecological values</u>				✓
	<i>Area's protected status and ecosystem concerns</i>		Applicable to Chandratat wildlife sanctuary	Applicable to Seichu Tuan wildlife sanctuary	

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
1	Adequate number of trails earmarked by wildlife department	✓		✓	
2	Existence of ecotourism zones	✓		✓	
3	Presence of rare, endangered species	✓		✓	
4	Areas vulnerable to erosion (can be assessed through vulnerability classes)	✓		✓	
5	Disturbance to vegetation (vulnerability of density classes of vegetation)	✓		✓	
6	Disturbance to wildlife (can be assessed through timing of breeding season, vulnerability, etc.)	✓		✓	
7	Vulnerability based on elevation status	✓		✓	
8	Number of visitors and crowding	✓		✓	
9	Awareness levels of visitors (e.g. sensitive to area's ecological value)	✓		✓	
10	Appropriate size of visiting/trekking groups	✓		✓	
11	Existence of tourist management	✓		✓	

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
	mechanisms -alternative routes				
12	Existence of rules and regulations/guidelines for tourists	✓		✓	
13	Extent of pursuance of rules and regulations by tourists	✓		✓	
14	Open period (hours per day, months per year)	✓		✓	
C	<u>Utilities and information on area for tourists</u>				
1	Presence (and quality) of interpretation centres	✓		✓	
2	Presence of websites/ease of obtaining information on area	✓		✓	
3	Information centres in the landscape	✓		✓	
4	Ease of obtaining permits (forest department, people, defence)	✓		✓	
5	Existence of tourist sensitisation programmes	✓		✓	

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
6	Publicity for area	✓		✓	
D	<u>Garbage and waste management</u>				
1	Extent of garbage generation and quality of environment	✓		✓	
2	Extent of plastic waste	✓		✓	
3	Presence of garbage management systems	✓		✓	
4	Garbage and wildlife conflicts (e.g. feral dogs)	✓		✓	
E	<u>Visitor exposure to biodiversity, adventure and scenic values</u>				
1	Adequate numbers of knowledgeable trained bird guides	✓		✓	
2	Adequate numbers of knowledgeable, trained butterfly guides	×		×	Not applicable to Lahaul-Pangi landscapes

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
3	Adequate numbers of knowledgeable, trained wildlife guides	✓		✓	
4	Sightings of RET birds and butterflies-specials in area	✓		✓	
5	Extent of publicity regarding bird and butterfly specials in the area	✓		✓	
6	Extent of publicity regarding wildlife specials in the area	✓		✓	
7	Existence of films and documentaries on the area	✓		✓	
8	Availability of brochures, pamphlets, trail maps available	✓		✓	
9	Presence of well-marked, identified trails	✓		✓	
10	Ease of sighting of wildlife in area	✓		✓	
11	Quality of scenic value	✓		✓	
12	Presence and adequacy of adventure activities, treks	✓		✓	

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
F	<u>Cultural experience for tourists</u>				
1	Availability of interesting handicraft products	✓		✓	
2	Availability of local produce (e.g. cardamom, jams, wines, juices, chillies)	✓		✓	
3	Showcasing of cultural traditions (e.g. dances, games)	✓		✓	
G	<u>Social and cultural issues</u>				
1	Extend of disturbance/overcrowding created for residents by tourists	✓	Only applicable for Chandratat	×	
2	Extent of culturally insensitive visitors (for residents)	×	Not relevant as tourism has not picked up on a large scale	×	Not relevant as tourism has not picked up on a large scale
3	Decision making role of local people in tourism	✓		✓	

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
4	Extent of ownership of tourism resources by local people	✓		✓	
5	Impact of tourism on irrigation/other water availability for local people	×	Not relevant as tourism has not picked up on a large scale	×	Not relevant as tourism has not picked up on a large scale
6	Enhanced awareness of conservation values amongst local people	✓		✓	
7	Improvement of infrastructure	✓		✓	
8	Change in cultural norms (e.g. use of alcohol, eating habits)	×	Not relevant as tourism has not picked up on a large scale to impact cultural norms	×	Not relevant as tourism has not picked up on a large scale to impact cultural norms
9	Improvement of medical facilities for local people	✓		✓	
10	Functioning of local governance institutions	✓		✓	
11	Preservation of local art and culture (e.g.	✓		✓	

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
	nomadic lifestyle, use of pashmina				
H	<u>Minimising resource utilisation</u>				
1	Encouraging zero waste, use of alternatives to plastic	✓		✓	
2	Recycling of water	✓		✓	
3	Recycling of waste	✓		✓	
4	Use of LPG, kerosene in place of fuel-wood	✓		✓	
5	Usage of local produce (vegetables, meat)	✓		✓	
I	<u>Economic issues</u>				
1	Proportion of livelihoods derived from tourism	✓		✓	
2	Types of tourism preferred by tourists (e.g. trekking, birding, cultural, food,	✓		✓	

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
	etc.)				
3	Changes in cost of living for residents due to tourism	✓		✓	
4	Proportion of high value tourists (e.g. low impact, high paying)	✓		✓	
5	Proportion of revenues flowing to local communities v/s outsiders	✓		✓	
6	Degree of Involvement of local people versus outside tour agencies/companies	✓		✓	
7	Months that areas are open for tourism	✓		✓	
8	Availability of jobs for local people	✓		✓	
9	Impact of tourism on migration levels	✓		✓	
J	<u>Visitor Management Experience</u>				
1	Affordability of homestays and/or other accommodation for tourists)	✓		✓	
2	Courtesy/friendliness displayed towards	✓		✓	

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
	visitors by residents				
3	Hospitality standards	✓		✓	
4	Overcrowding, littering of landscape due to tourism	✓		✓	
5	Dust, smoke and noise generation due to vehicular traffic in the area	✓		✓	
6	Loss of aesthetic value of the area	✓		✓	
7	Tourism facilities/ amenities has enhanced due to tourism in the area	✓		✓	
8	Desire to visit area again	✓		✓	
9	Extent to which tourism rules are followed	✓		✓	
10	Visitor feedback assessment done?	✓		✓	
11	Hours/months for which area is open	✓		✓	
K	<u>Potential for promotion of nature and adventure based tourism to area</u>				

S No.	Factors	Relevant to Lahaul		Relevant to Pangi	
		Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks	Perception (Good/Satisfactory/Poor)	Quantitative (if known) & remarks
1	Number of specialised visitors to area for bird watching	✓		✓	
2	Number of specialised visitors to area for butterfly watching	✓		✓	
3	Number of specialised visitors to area for wildlife (snow leopard) watching	✓		✓	
4	Potential to enhance adventure activities	✓		✓	

Carrying Capacity of Chandrataal Lake

TERI was asked to assess the carrying capacity of Chandrataal in light of increasing tourist footfall during the peak season between June to September. According to the Range Forest Officer, Kaza the average number of tourists visiting Chandrataal during 2019 was 40,000. In contrast to Western Lahaul and Pangi landscapes, Chandrataal has been receiving a burgeoning number of tourists. The data procured from the state forest department, Kaza for 2017 and 2018 indicate an average of 30,000 tourists per season to the lake. With a motive to protect the ecology of the lake, the local panchayat at Koksar has implemented a ban on camping near and around the lake from July 2019 and have also imposed stringent fines on those violating the order. The forest department have posted a block officer and two beat officers near the lake to oversee and manage the area during the peak season.

There is a demarcated camping area allotted by the forest department on a temporary basis during the peak season. It is located 4 km away from the lake and houses 86 dual occupancy tents. The names of camping agencies have been mentioned in Annexure 10. The camps utilise LPG stoves for cooking and solar heaters/geysers for heating water with minimal fuelwood utilisation.

The forest department have set rates for various activities like tenting and camping in designated spaces in protected areas and non-protected areas, rates have also been fixed for videography and shooting documentaries, parking, boating and cycling activities as appended in Annexure....The charges for setting up tents at the lake for commercial camping companies are 100 INR per tent per day for a single/ dual occupancy tent.

Estimating the carrying capacity of Chandrataal

The conventional carrying capacity for a protected area involves a three step process (Ceballos-Lascurain, 1996)

Step 1. Calculation of the Physical Carrying Capacity (PCC) which is defined as the maximum number of visitors that can physically fit into a defined space, over a particular time

Step 2. Calculation of the Real Carrying Capacity (RCC) which is defined as the maximum permissible number of visits to a site, once the corrective factors have been applied to the PCC. These are obtained by considering biophysical, environmental, ecological, social and management variables and addressing their limiting values and then subtracting them from the PCC. Authors have used several approaches to calculate the Real Carrying Capacity of an area and we have used two of these methods as given in the Chandrataal example below.

Some of these methods include a) calculation of magnitude of values based on actual data or approximations (e.g number of winter months with heavy snowfall when no one visits divided by the total months of the year or gap between number of visitors every year and number of available rooms)

b) use of surveys and perceptions of visitors and experts-so for example if 50% of visitors feel that the quality of campsite is unacceptable then this is used as the limiting factor.

Other methods include to develop vulnerability assessments or use indices, for example, various vegetation classes falling within an area can be ranked on the basis of their vulnerability (e.g low, moderate, high and very high vulnerability rankings being assigned values of 1,2, 3, 4) followed by a calculation of the weight of each parameter relative to the

other ecological parameters (e.g. weight of vegetation vulnerability versus soil erodibility, elevation, etc.) based on pairwise comparison method.

Step 3. Calculation of the Effective or permissible Carrying Capacity (ECC) which is the maximum number of visitors that a site can sustain given the management capacity available. The management capacity is defined as the sum of conditions that the PA administration requires for it to carry out its functions and objectives. This includes variables such as number of staff and their qualifications, legislative support, infrastructure, facilities and equipment, funding, motivation, etc.

Calculation of Physical Carrying Capacity of Chandrataal

1) Physical carrying capacity (PCC)

$$PCC = A * V/a * Rf$$

A=Available area for public use

V/a = one visitor per sq. m

Rf= Rotation factor, that is number of visits per day and is usually calculated as

Rf= open period/average time of visit

In general, 1 sq. m is used per visitor, though larger values of 5 sq. m are also used (e.g. Bera et al., 2015). In this study, Bera's estimate of 5 sq. m for a similar scenario of shore area in Neil Island, Andaman, is used.

We calculate the beach area of the lake which is used frequently and where over 90% of the visitors come and view the lake landscape for an average period of 60 minutes as well as the camping site. The area of the lake and beach is detailed below.

Chandra Taal Lake Area (In Square Meters) : 489103.783

Chandra Taal Lake Area (In Square Kilometers) : 0.489

Beach Area (In Square Meters) : 414.940

Beach Area (In Square Kilometers) : 0.000414

Camp area in sq. m: 8586000

Total area in sq m: 8586414.94

Rotation factor

The beach can be accessed 13.5 hours per day. People are allowed to visit the lake between 5am to 6.30 pm during the summer months of operation between June-September. Based on our discussions with visitors, the average visit time is about one hour.

Therefore, the rotation period is =13.5 hours open period/1 hour average length of one visit.

The rotation period is therefore 13.5 hours.

The total PCC is =13.5 hours* 8586414.94 sq. m beach area* 1/5 sq. m of space per visitor or 23183320 visitors per day.

Calculation of Real Carrying Capacity of Chandrataal

The formula for the RCC is given below.

2. Real carrying capacity (RCC)

The maximum permissible number of tourists to the specific site, once the Correction factors (CF) derived from the particular characteristics of the site have been applied to the PCC.

Formula: $RCC = PCC - Cf1 \times Cf2 \times Cf3 \times Cf4 \times \dots \times Cfn$

Where: RCC = Real Carrying Capacity; PCC = Physical carrying capacity; Cf = Correction factors expressed as percentages

$RCC = PCC \times (100 - Cf1/100) \times (100 - Cf2/100) \times \dots \times (100 - Cfn)/100$

Correction factors are calculated using the following formula.

$Cfx = (M1/Mt) \times 100$

Where: Cfx = Correction factors of variable x;

M1 = Limiting magnitude of the variable

Mt = Total magnitude of variable x.

a) Correction factor 1: Breeding season of birds

The peak breeding season of birds coincides with the summer tourism season. This is likely to cause disturbance to wildlife.

The breeding season of birds seen at Chandrataal lake is given below

Great Crested Grebe	June to August
Merganser	June
Brown headed gull	June and July
Ruddy shelduck	May and June
Bar-headed Goose	end May and June
Lesser Sand Plover	June to mid July

On average the breeding season of all these birds covers the same three months (May, June, July)

Therefore, the limiting magnitude of M₂ is 3 months while the total magnitude is 12 months and Cf₂ is 25%

c) Correction factor 3: Winter season (extreme cold)

Peak tourism is from June to September. Cold winter months with extreme snowfall extend from Oct to May. Therefore, M₃ = 8 Months while Mt is 12 months and Cf₃ is 66.67%

The remaining correction factors were assessed through a survey consisting of nine multiple-choice questions. This was given to current and previous visitors to Chandratal and circulated to a) the Himalayan club and b) Backpackers groups on facebook to increase the sample size. The survey is included in the Annexure.

d) Correction factor 4: Management of garbage

The survey question asked if the management of garbage in Chandratal was a) good b) satisfactory or c) poor. 48% of those surveyed found it to be poor which was used as the value of Cf4=48%

e) Correction factor 5: Adequacy of camp numbers

The survey question asked if the number of camps in Chandratal was a) high b) sufficient or c) few. 76% of those surveyed found the camps to be few which was used as the value of Cf5=76%

f) Correction factor 6: Quality of camps

The survey question asked if the quality of camps in Chandratal was a) good b) satisfactory or c) poor. 24% of those surveyed found the camps to be poor which was used as the value of Cf6=24%. Most of those surveyed found the camps to be just satisfactory (70%) rather than good.

g) Correction factor 7: Level of crowding

The survey question asked if the level of crowding in Chandratal during peak season (number of vehicles, tourists, and people) was a) high b) just right or c) low. 95% of those surveyed found Chandratal to be overcrowded giving the value of Cf7=95%.

h) Correction factor 8: Quality of infrastructure

The survey question asked if the quality of infrastructure (accommodation, toilets, tourist information centre, dhabas) in Chandratal was a) good b) satisfactory or c) low. 38% of those surveyed found Chandratal to have poor infrastructure giving the value of Cf8=38%. However, 48% found the infrastructure to be satisfactory.

i) Correction factor 9: Maintenance of beauty of lake and shore area

The survey question asked if the beauty of the lake and shore in Chandratal was a) well maintained b) adequately maintained or c) poorly maintained. 14% of those surveyed found Chandratal to have poorly maintained giving the value of Cf9=14%. However, 67% found the beauty to be well maintained.

j) Correction factor 10: Level of bird sightings (breeding, others)

The survey question asked if the bird sightings in Chandratal was a) good b) satisfactory or c) poor. 71% of those surveyed found the bird sightings to be poor giving a value of Cf10=71%.

k) Correction factor 11: Impact of tourism on ground water levels

The survey question asked if water levels (ground water) had been impacted by withdrawals for tourism a) yes b) no c) not sure. 14% of those surveyed found the ground water to be impacted giving a value of Cf11=14%. Most had insufficient information to comment and said they were unsure (76%).

1) Correction factor 12: Impact of tourism on quality of water

The survey question asked if water quality had decreased due to tourism (leach from waste, etc.) a) yes b) no c) not sure. 19% of those surveyed found the quality of water to be impacted giving a value of Cf12=19%. Most had insufficient information to comment and said they were unsure (81%).

Therefore, the real carrying capacity is 3439 visitors per day.

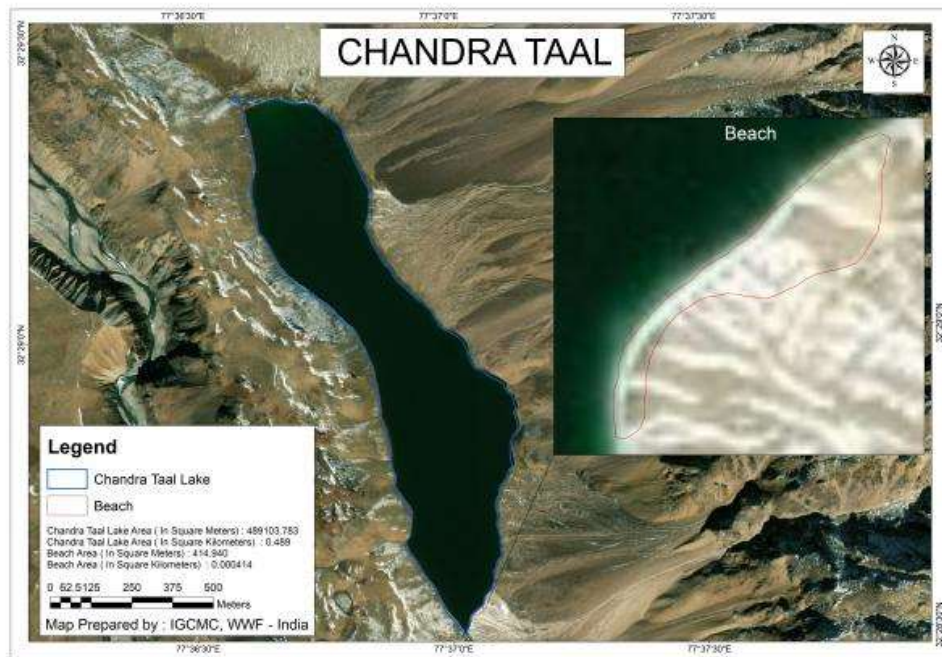


Figure 3: Map of the Chandrataal showing the beach area

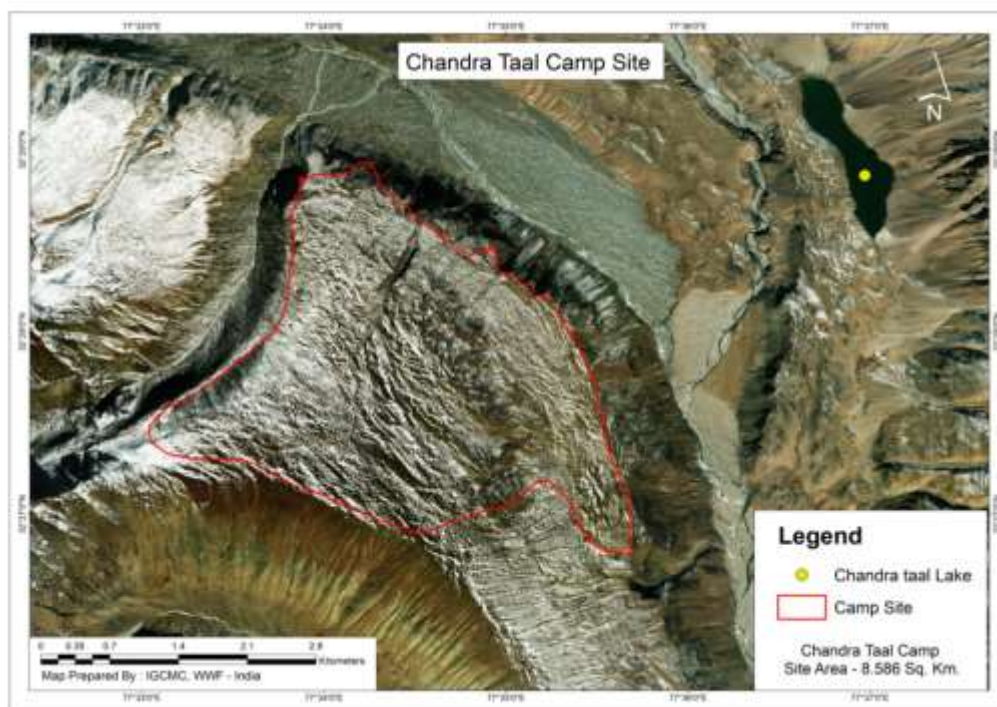


Figure 4. Map of Chandrataal camp area

Calculation of Effective Carrying Capacity of Chandrataal

Chandrataal currently has low management capabilities. The presence of forest department staff near the lake appears adequate (a block officer and two beat officers are posted near the lake to oversee and manage the area during the peak season). However, other management capabilities could improve. Use of water for the camp sites, management of garbage, regulation of visitors and most importantly their education and awareness still needs to be enhanced. Assigning a management effectiveness figure is ultimately subjective.

Some of the best managed areas (e.g Kanha national park) have been given management capacity weightage of 30% by NTCA. Since the capability of management could be enhanced further we tentatively assign a weightage of 10%. Using this value, the effective carrying capacity of Chandrataal is 344 visitors per day. In reality about 482 people visit per day (e.g. 40,000 visitors this year over an open season of 83 days which is 138 people more per day than the effective carrying capacity. Moreover, 40,000 people are just the available estimates from the forest department. Discussions with tourists and stakeholders and tour operators all suggested that strict data on the number of visitors is not collected. Therefore, in all probability more than 482 people are likely to visit the tiny beach area per day. This suggests that the number of tourists need to be regulated or the negative impacts reduced through effective management.

Chapter 7: Strategies for Promotion of Sustainable Tourism

Strategies

Installing sign boards within and outside the Lahaul-Pangi landscape s

Signage providing important information was conspicuously absent in both Lahaul as well as Pangi. Direction signs to the various villages were also missing, leaving first time visitors solely dependent on guidance from locals. As internet barely works in these remote regions, accessing online maps for directions is also futile. Thus, the importance of proper signage assumes even more significance. Notably, local respondents acknowledged and stressed the urgent need for installing sign boards as way of informing and promoting their landscape to tourists.

- The first point of action may be identifying and developing different kinds of signage required for the regions. Signage may cover diverse information ranging from simple directions, location of basic facilities (hospitals, pharmacies, ATM's/banks, Panchayat Office, Police Station, Forest Post, etc.), information on local flora and fauna, to detailed maps of the landscape. The involvement of responsible government agencies with cooperation from community members is crucial. This signage can also be developed under the SECURE Himalaya project
- A group comprising members of relevant government departments and suitable representation from the villages may be constituted. This group may be empowered to select suitable sites in the landscape, as well as collate information to be showcased on sign boards.
- Local tour operators or community members with experience in trekking in the landscape may be involved in preparing detailed trekking/hiking maps of the landscape, marked with additional information such as suitable spots for camping, nearest places for basic amenities, emergency contacts, prohibited areas, and wildlife sightings, among others.
- The forest and wildlife department may take up the responsibility of preparing sign boards detailing the indigenous flora and fauna of the landscape. Collaborations may be invited from wildlife and conservation groups (including those involved in SECURE Himalaya) to create briefs of important animal and bird species with photographs that may be installed.
- There is also a need for signage detailing Dos and Don'ts for visitors to the valley, which should be installed on popular hiking trails to prevent accidents and to ensure the fragility of the landscape is respected.
- Sign boards have to be essentially installed at all entry points to the landscape which are Sansari Nalla and Purthi for Pangi Valley; and Udaipur and Tindi in Lahaul. Other important locations within the landscape such as Killar, Sural Bhatori, Urgos, and Khanjar mandatorily need signage.

Documenting Important Trails and Other Points of Interest

Pangi Valley is still a virgin destination for exploration. Its untouched natural beauty must therefore be preserved from reckless tourism, including common adventure activities like

trekking and hiking. Although Miyar Valley in Lahaul has been documented by mountaineers from around the world, it is still largely unknown to Indians.

In the interest of conservation while also providing a fulfilling experience to visitors, it is important to earmark important trails in the landscape for trekkers, and ensure checks to prevent off-roading. Since many people from the communities have engaged in tourism and assisted in treks, their experience may be drawn for documentation of trek routes in the valley. This information may be made available at all nodal points, such as government and forest offices, Panchayat centres, photocopy shops, websites, etc. A detailed listing of these trails has been provided on pages 53, 58 and in the Executive Summary.

For other forms of tourism such as spiritual tourism and nature tourism, pamphlets and brochures may be prepared taking inputs from the community, and be made available with tour operators and tourism offices and interpretation centres across the states. These locations may be updated on the Himachal Tourism website as well.



Trek trails to Sural Bhatori waterfall, Chamba



Bridge at Karpat village, W Lahaul

Explore Shepherd Trails

In older days, when roads had not yet reached these remote hills, people would trek to their destinations, which would often take days on end. Some of these routes are still in use. Besides, shepherds or *gaddis* are known to traverse this terrain with their herd of sheep and goats. These routes can be documented and developed into specialised trails and marketed to niche groups of low impact and high value tourists. Such tourists would have the inclination to explore the way of life of the shepherds. Shepherds may be brought on board and trained to conduct and guide these tours, serving as an additional source of income.



Frequent route taken by *gaddis* in Pangi, Chamba district

Need for Local Tourism Offices

Pangi Valley and Western Lahaul should have a dedicated tourism office, having single window registration of hotels, homestays, campsites, and guest houses. At present these offices (DTDO) are situated far away from the landscapes, the nearest one being in Chamba and Keylong, causing inconvenience. It is particularly discouraging to small entrepreneurs and potential homestay owners as they have to make regular trips to these offices to get

their ventures legalised. A lot of time elapses between the initial application, inspection of the establishment by tourism officials, and final approval. As was observed in the field, many homestay owners have been waiting for a long time to get their units registered. Also in order to make it more convenient for potential homestay owners to access the homestay application forms, which are currently available in only in the tourism office, it was suggested by some of the stakeholders that these forms may be made available at local photocopy shops.

As hotels require more legal formalities to be fulfilled, their registration time is even longer. Killar is an example, where only one prominent hotel has received legal recognition. Others, which are still in the process, are currently operating illegally. Having a local tourism office is also beneficial for establishing campsites, regulation of visitors to the valley, registration of tour operators, guides, porters, and supporting initiatives for further developing tourism..



Registration certificate of homestay in Lahaul

Establishing Tourist Interpretation Centres

In the current scenario, visitors to Lahaul do not spend much time in off-beat locales like Udaipur and Tindi as they are not well marketed. Miyar Valley, though explored regularly by trekkers and climbers, finds little mention among the 'popular' tourist destinations of Himachal Pradesh. Pangi, is also almost largely unvisited, except for the stretch of Killar-Kishtwar Road, which is popular as one of the most dangerous routes for bikers.

Therefore, for as the Lahaul-Pangi landscape, the presence of tourist interpretation centres could be useful. These centres could be equipped with all the requisite information about the landscape, such as ecology, options for sight-seeing, trek routes, list of hotels/homestays, basic amenities, important contacts, etc. These may also spread the message about ways to

conserve the landscape avoiding negative impacts. The local communities can run these centres has been done in Sikkim in the Yuksom area.

Entry points to the landscapes must necessarily have these centres, while mini centres or kiosks may be established at important locations like Killar and Udaipur. Though this comes under the purview of the tourism department, the regional forest office may also offer active assistance, in the interest of conservation of the sensitive landscapes.

Pamphlets and brochures prepared for Lahaul-Pangi may also be distributed to other frequently visited interpretation centres in the state so as to pique the interest of visitors.

Regulation on Hotel/Homestay Construction

Unregulated construction activities, that flout norms, have historically had adverse effects on fragile landscapes leading to problems of waste management, pollution of water sources, and erosion of hill slopes, among others. Filling up of hotels with tourists during peak seasons also puts pressure on natural resources and fails to provide local communities with income options.

In order to avoid such a situation for the landscapes of Lahaul-Pangi, it may be mandated that hotels with more than five rooms be constructed only in towns like Killar and Udaipur, whereas higher altitude areas like *bhatoris* (of Pangi) and villages in Tindi and Miyar Valley may have only homestays. Guidelines to this effect must be issued. The implementation of this should be strictly overseen, and stringent penalties, to the extent of cancelling permits, must be imposed on defaulters by the Department of Town and Country Planning as well as the HP Tourism department. However, irrespective of the type of accommodation, there must be a basic uniform standard for all to follow, so that tourists of all budget categories may get a quality experience.

Capacity Building and Promotion of Homestays

Homestays are thought to be more aligned to the principles of eco-tourism and conservation than other accommodation options like big hotels and guest houses. Homestays have also been endorsed as a way to promote local culture, cuisine and lifestyles among visitors, leading to cultural exchanges. Most importantly homestays provide local people with livelihood opportunities that help them invest in conservation. However, in the Lahaul-Pangi landscape, there are very few homestays some of which were still awaiting registration. Many of the respondents were not even aware of the state government's homestay scheme.

Further, the services in the homestays are inadequate. For instance, cleanliness of rooms and bathrooms is an issue, and some homestays do not provide meals. Homestay owners do not keep a record of guests staying with them.

Tour operators from outside Pangi, who bring visitors to the landscape also complain of the lack of homestays. One of the tour operators, Mr Vijay from Gold Drop Adventures, Manali, rightly says, *"All houses are homestays. One just needs to develop them"*.

An urgent need for regular training for running homestays thus arises. This is echoed by many community members who expressed a desire to be trained in hospitality to better serve guests. These can be organised under the SECURE Himalaya project.. Specialised and easy to understand pamphlets printed in local language may be distributed among participants. Training modules must specifically focus on hospitality issues.

As suggested by community respondents, potential homestay entrepreneurs must be encouraged to construct their units using local materials in traditional styles of architecture. This will, make these units exclusive representations of the Lahaul-Pangi culture. Assistance for planning such units should be provided by the tourism and forest departments, to ensure scarce resources such as timber are not over exploited.

Rural homestay owners are generally not aware of travel and tourism fairs held in different parts of the country, and mostly cannot afford to visit them to publicise their venture. It is recommended that current and potential homestay owners from each Panchayat be taken on exposure visits to travel fairs, which could prove to be a learning experience for them as well as serve to promote the landscape.

As tourism develops in the landscape, tourists may be encouraged to rate these homestays on various platforms. Best homestays should be 'awarded'. These homestays can be linked with platforms such as AirBnB that are currently promoting homestays all over the Himalaya.



A typical dorm in a homestay in Urgos, W. Lahaul

Formal Training and Certification of Local Guides, Porters, Cooks

Although many local people engage seasonally as guides with visiting expedition teams, hardly any are formally trained. Only three people from Miyar Valley were found to be trained from ABVIMAS, sponsored by Methusa Foundation, but no longer worked as guides. In Pangi too, there were no trained guides, and the ones reported to be trained and certified were all based out of Manali and working with agencies there. Lack of income security owing to the seasonal nature of tourism, is also a deterrent for people. The forest department has also not trained 'eco-guides' due to lack of tourist footfall in the Lahaul-

Pangi landscape. Marketing and promoting niche tourism in these areas is therefore key to its promotion here.

It is recommended that the state forest and tourism department sponsor mountaineering courses for select groups of interested candidates from the community, and facilitate their registration with the state tourist department. The candidates may be selected or nominated from each Panchayat, and women candidates must be encouraged.. Spoken English language courses would be useful given the that international tourists, visit Miyar Valley.

It is also recommended to display the names, registration certificates and contact details of all registered guides and porters of Lahaul-Pangi on the websites of tourism and eco-tourism (under forest department) departments.

Creating Rescue Groups

The valleys in the landscape, which have immense potential for adventure activities, are also characterised by treacherous terrain. As tourism is limited presently, proper systems for rescue of tourists/trekkers in distress were not found in the landscape. The closest provision made for this was found in Miyar Valley, where a police check-post in Tingrat village noted down details of people entering, solely for the purpose of tracking tourists going for treks. As tourism is expected to grow in the future, it is imperative to have proper systems in place. It is highly recommended to constitute and train a rescue team for all adventure activities, from the local communities as they are well versed with the landscape. Each Panchayat should be mandated to have such a team in place. However, all trekkers must fill an indemnity form with the local communities. Government mountaineering institutes can provide the requisite training.

Regulating Tourist Entry to Fragile and Protected Areas

Uncontrolled tourist visitations to the landscapes will undoubtedly affect the serenity and fragility of the region. Though it is not possible to discriminate and differentiate between 'good' and 'bad' tourists, certain checks should be imposed in order to achieve some level of regulation in tourist numbers.

For the Seichu-Tuan Wildlife Sanctuary-

- Timings for entering and leaving should be fixed.
- Check-posts must be established at all possible entry points, managed by forest staff to regulate visitors.
- Trek routes must be demarcated, and any off-trail exploration of the sanctuary area must be discouraged and penalised.
- Pitching of tents for overnight camping should be made chargeable.
- Check post should be authorised to collect all plastic/disposable items at the entry point.
- Best practices from the Great Himalayan National Park (GHNP) model may be emulated.
- An interpretation centre must be created in all the sanctuaries in the region

The Bhatoris of Pangi Valley all have a single road for access (other than trek routes), and small interpretation centres can be created for these villages. These can be managed by community groups such as *Praja Mandal*, *Mahila Mandal* and *Yuva Mandal*, and they may be authorised to take steps to ensure the preservation of the area.

- Cars and other motor vehicles may not be allowed beyond a certain point, and parking spaces can be pre-designated with parking charges.
- Sale of food, beverages, etc. must be restricted to designated spots.
- Plucking of flowers and herbs should be strictly forbidden.
- Teasing or feeding wild animals should be discouraged.
- Community volunteers may monitor tourists.
- Fines may be imposed for non-compliance of rules.

In Lahaul, similar steps can be practiced in Miyar Valley which is the hub of trekking and climbing. Although at present there were no issues reported it is better to establish norms now, as tourist numbers are expected to surge when the Rohtang Tunnel opens.



Signboard indicating rules for Seichu Tuan wildlife sanctuary

Establish Guidelines for Trekking Groups

Tour operators can be provided with guidelines which in turn can be circulated to their customers. Ideally, an optimal size for trekking groups for each area can be decided in consultation with trekking experts. Ideally, the local communities can charge a fee for entry to their community that is deposited in a conservation fund. Trekkers must be made to adhere to the principles of 'Leave No Trace' to ensure minimal impact to the trek routes and surroundings.

Leave no trace principles which can be adopted by trekkers

Leave No Trace Principles

1. Plan Ahead and Prepare

This involves researching the place in advance and making appropriate arrangements with respect to rules and regulations, weather conditions, proper scheduling, appropriate group sizes, etc.

2. Travel and Camp on Durable Surfaces

Durable surfaces ideally recommended for trekking include established trails and campsites, dry grass, gravel and snow. For popular areas, the following points are to be noted-

- Stick to existing trails and campsites.
- Camp at least 200 feet from lakes and streams.
- Keep campsites small and restrict activity to low vegetation areas.
- Walk single file in the middle of the trail.

For pristine areas, it is advised to prevent creation of new trails and campsites by dispersing the use.

3. Dispose Waste Properly

This is an extremely important principle that can be summarised in the following actions-

- Pack all the litter and food leftovers from in and around the campsite
- Deposit solid human waste in catholes dug 6 to 8 inches deep, at least 200 feet from water, camp and trails. Cover and disguise the cathole when finished.
- Take back toilet paper and hygiene products.
- Washing to be done 200 feet away from streams or lakes.

4. Leave What You Find

- Do not touch, cultural or historic structures and artefacts.
- Leave rocks, plants and other natural objects as you find them.
- Avoid introducing or transporting non-native species
- Do not build structures, furniture or dig trenches.

5. Minimise Campfire Impacts

Caution should be maintained while lighting campfires.

- Use established fire rings, fire pans or mound fires.
- Keep fires small and use small sticks to light it.
- Burn all wood and coals to ash, put out campfires completely, then scatter cool ashes.
- Don't bring firewood from home.

6. Respect Wildlife

- Never feed animals.
- Store food, rations and trash securely.
- Control pets always or leave them at home.
- Avoid wildlife during sensitive times: mating, nesting, raising young or winter.

7. Be Considerate of Others

- Respect other visitors.
- Be courteous to others on the trail.
- Step to the downhill side of the trail when encountering pack animals, such as horses and mules.
- Take breaks and camp away from trails and other visitors.
- Avoid loud voices and noises.
- Manage your pet.

Source: <https://www.rei.com/learn/expert-advice/leave-no-trace.html>

Waste Management Systems

A proper mechanism for waste management must be implemented in the landscapes following the solid waste management guidelines established by the local municipal bodies. At present household waste is being buried or burnt. It was reported that waste collected in Killar by trucks was being dumped in the Chandrabhaga River in the absence of landfills. A positive practice was the utilisation of organic waste for fodder and fertiliser. But, as tourism begins to flourish in the landscape, problems of waste management will become inevitable. Thus, proactive planning in this regard is of utmost importance.

- Dustbins must necessarily be installed at regular intervals in all villages for segregated waste collection.
- Proper toilet must be enforced for all potential homestays.
- Waste collection by trucks must be extended to remote villages as well.
- Collaboration with the state planning department for delineating a landfill and waste treatment/recycling site.
- Dry toilets must be installed at nodal points/campsites for popular trek routes.
- Lahaul-Pangi landscape may be declared and promoted as a 'Plastic- Free Zone'. Sikkim's zero waste trails (in Yuksom) and banning of plastic bottles in some areas of N. Sikkim can be emulated in this regard.



Dustbins placed at Karpot village, W. Lahaul

Upgrade Forest Rest Houses

At present FRHs are the most significant accommodation options for visitors to the Lahaul-Pangi landscape. However, some of the FRHs are not well-maintained or equipped to serve guests. Problems may range from non-availability of staff, food, or availability of hot water.. For instance, the FRH at Khanjar, the only one in Miyar Valley, was not operational due to lack of water pipelines/plumbing, and the FRH in Hudan Bhattori did not have food

arrangements. These issues need to be urgently looked into by the forest department and necessary action taken.



FRH at Udaipur in Lahaul

Associated Livelihood through Local Products

Local handicrafts made by women's groups, such as woollen socks, caps and scarves are not sold commercially to tourists. These are mostly for self-consumption. As women are mostly free after the harvest, they can be encouraged to produce extra items for sale. However, currently these products lack the refinement to be sold to tourists. Thus, training programmes may be organised for interested women, coordinated by the Panchayat and self-help groups, to impart necessary finesse to producing fashionable yet traditional products.

Local herbs like *kala jeera* and hazelnut (Pangi), and *rajma* can be packaged attractively and marketed to customers through local marts. Finished products from these herbs like biscuits, jams, cosmetics, etc. may also be developed within the villages and sold to both tourists and outsiders through marts and online marketing. Capacity building and skill training for this should be facilitated by concerned government departments and local NGOs.

CEVA has taken the first step towards popularising local products of Pangi Valley through their outlet in Chamba. It will be even more useful to have such outlets within the landscape at important locations like Killar, Udaipur and Tindi. Herbal medicines may also be

promoted among tourists by certified local practitioners. Registered practitioners must be listed on the official tourism website.

Local cuisine using indigenous ingredients must be served to visitors in homestays. Women community members should be provided training for incorporating local culinary elements into dishes that are served to guests.



Roti prepared from local grains in Parmar Bhatori

Promotion and publicity through internet and social media

The internet is a vital part of any travel planning in today's times, as potential tourists make use of travel blogs, websites, and social media groups, among others to gain ideas and share feedback on places to visit, types and prices of available accommodation, transportation options, and tourism activities. Therefore, the internet should be leveraged for advancing the cause of conservation friendly tourism to the Lahaul-Pangi landscape.

Other forms of social media like Facebook and Instagram pages and Twitter accounts can be created for the landscape. These may be handled by trained people from the community with assistance from the forest department. Lahaul-Pangi may also be promoted on popular Facebook/Instagram pages on travel, nature, and conservation.

Further, the websites of Himachal Tourism and Eco-tourism society should be updated with information on the Lahaul-Pangi landscape. The Eco-tourism society website currently does not list all FRHs in Lahaul-Pangi, which must be added. Details of homestays, etc. in the landscape can be provided on these websites.

Arrange Competitions, Contests, Drives

Contests centred on conservation and eco-tourism may be organised from time to time, to raise awareness among the masses. These may be simple art and craft competitions for students, international photography contest and exhibition for professional and amateur photographers, or local cuisine or handicrafts making events for adults. These events should be adequately publicised through social media, radio, or print media. Announcing attractive prizes would serve to further popularise these events.

In a similar manner, various themed drives may be organised and participants be invited from across sectors.

- Cleanliness Drives may be conducted to raise awareness about the importance of cleanliness and sanitation.
- Wildlife or nature walk may serve the purpose of raising awareness about conservation, along with providing participants the opportunity to enjoy the natural beauty of the landscape.
- A Culture Trail may be curated to highlight the rich and vibrant culture of the landscape, offering a glimpse into local lifestyles and traditions.
- Cycling Tours in the valleys is a way to promote adventure and nature together.

Organise Pangi Valley and Lahaul Adventure Weeks

As the SECURE Himalaya component on eco-tourism lays emphasis on developing adventure tourism in the project landscape, specialised occasions for its promotion, targeted specifically on serious adventure enthusiasts, may be organised. National, international, and regional adventure tour associations and operators may be engaged to organise different adventure activity events. Participants may be invited from around the world. Government agencies like tourism department, forest department, sports ministry, youth affairs department, etc. may be called upon for assistance. All the events may be promoted through different forms of mass media.

Creation of Unions/Associations

Private vehicle operators may be registered as a Taxi Union with links to taxi unions of other places in the state in order to lessen the number of outside vehicles, thus preventing traffic congestion during peak seasons.

Association of homestay owners should also be initiated and legally registered so as to formalise basic facilities provided and ensure fair pricing, which would make it convenient for tourists to avail their services.

An association of guides, porters, instructors, and other people associated with adventure activities must also be necessarily constituted to safeguard their livelihoods as well as to offer fair deals to tourists.

Coordination between tourism department and eco-tourism wing

Tourism and eco-tourism being two separate entities in the state administrative set-up creates confusion and clash of objectives. While eco-tourism has been entrusted to the forest department in the interest of conservation, the tourism department also has a mandate of developing sustainable tourism. Coordination and collaboration between tourism department and eco-tourism wing of forest department must therefore be established so as to align the common objective of sustainable tourism of both departments, and achieve successful implementation of their respective and joint goals.

Construction of Chaini Tunnel

In Pangi Valley, there was a demand for the construction of Chaini Tunnel by the local population, for better connectivity between Pangi and Chamba. The tunnel would connect Tissa (Chamba) and Mindhal (Pangi). The tunnel would also facilitate the availability of essential goods for the local population, especially during winters, as well as serve as a faster all-year route for tourists visiting Pangi. As a long-term measure, the government may consider this proposal.

Developing alternative accommodation and commuting options for Chandratāl

At present the campsites near Chandratāl are the only options for tourists willing to stay overnight. However, with the large volumes of tourists arriving at Chandratāl every year, the capacity of the camps is often not sufficient to accommodate them. Instead of permitting more camps to be established in the fragile environs of the lake, arrangements in the form of small rest houses or homestays can be made in Chhatru, Batal (from Manali/Lahaul side) or Losar (Spiti side). Further, it will be beneficial to have special bus services to Chandratāl from designated spots such as Manali, to promote the use of public transport over private vehicles to the lake.

Chapter 8: Conclusion

The SECURE Himmlaya landscapes of Lahaul-Pangi are characterized by unparalleled natural beauty untouched by unsightly development. Nestled in the remote stretches between the districts of Chamba and Lahaul and Spiti, the Lahaul-Pangi conservation landscape is an ecologically fragile region offering immense potential for developing focused tourism products, notably those of adventure and nature tourism. We recommend the setting up of specific trails and

There is thus a need to pre-empt the disastrous effects of unregulated tourism and take lessons from other over-exploited tourist destinations of the state and design mechanisms to help achieve tourism growth in the landscape in a sustainable manner, having minimal impacts on biodiversity, while providing sustainable livelihood options for the local community. The strategies proposed in the study aim to contribute to making Lahaul-Pangi a model example for ecotourism development in India.

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Appendices

Appendix 1. Questions for government agencies

Tourism department & forest department

General information

1. What is the number of tourists (domestic and foreign) that visits this landscape each year? (Data for the last 10 years if possible)
2. Which are the main locations that tourists visit in this area?
3. When do tourists normally visit the area?
4. Are there any trends in visitation rates and reasons (more some years, particular areas/treks preferred)
5. In your view, what are the most important drivers of carrying capacity of tourists in the specified landscapes

Presence of protected area (NP or WLS) and permissions required	Yes	No	Details
Negative impact on flora and fauna of the area			
Presence of few trails			
Inadequate infrastructure (homestays, transportation, roads)			
Lack of training and capacity building of communities			
Few tourism products (e.g. not enough activities for tourists)			
Seasonality			
Garbage and waste management			
Water availability and management			
Type of tourists and demands (e.g. aware, low footfall tourists or those with high negative impacts on the area)			
Overcrowding and high density of tourists			

Security issues (international borders) and permissions required			
Cultural issues			
Poor marketing and inadequate publicity			

Impact of tourism

1. What are the major impacts that tourism activity has had on the region? (Provide details on each of the following)

Impact	Positive	Negative	Mixed	Not sure	Details
Employment					
Economic growth					
Income levels					
Improvements in infrastructure – roads, public transport, electricity and water supply etc.					
New infrastructure which can also be used by locals – restaurants, shopping complexes etc.					
Community-based infrastructure-e.g. number of homestays					
Upgradation in community skills-e.g as bird or butterfly or adventure guides (pls specify)					
Conservation (fauna, tree and forest cover-pls specify)					
Air quality					
Water quality and availability					
Waste management, cleanliness, sanitation					
Noise levels					
Traffic					

Increased vulnerability to disasters					
Any others					

Eco-tourism

1. What initiatives have been taken to promote eco-tourism?
2. What is the business model followed in these initiatives to ensure economic viability?
3. To what extent does fund flow directly reach communities versus others (e.g. percentage of total fund flow to local communities)
4. What are the key challenges you have faced while promoting eco-tourism?
5. How can these challenges be addressed? What solutions do you propose, especially to promote nature based and adventure tourism?
6. How many homestays have been created in the landscape, where?
7. What are the average earnings per homestay per year and in what seasons?
8. What initiatives can be taken to promote enterprise and skill development in the tourism sector? Additional business opportunities (e.g. handicrafts, food, souvenirs)
9. How can members of the local community be integrated into current and planned tourism activities in the area?
10. What are the best ecotourism products for these landscapes? Please specify. Eg. rural tourism, cultural tourism, culinary tourism, volunteer tourism, nature-based tourism, wildlife tourism, soft adventure activities and extreme adventure activities.

Policy / regulatory framework

1. Which other agencies are responsible for regulating tourism in the area?
2. What are their roles and responsibilities?
3. Which policies, if any, govern tourism in the area (State and landscape)? (Try to get a copy of the policy/policies). Do some have a direct bearing on promoting ecotourism/community-based tourism?
4. Which of the following instruments currently exist to regulate tourism in the area? Please provide details.

Policy instrument / regulation	Yes	No	Details
Monitoring and tracking number of tourists that enter the area			
Restrictions on the number of tourists allowed to visit the area			
Taxes such as user charges to facilities, on tourism, vehicle entry etc.			

Policy instrument / regulation	Yes	No	Details
Incentives to hotels, home-stays, tour operators, and transporters to promote sustainable tourism			
Regular audits of hotels, home-stays, tour operators, and transporters to check for compliance with rules and regulations			
Penalties on hotels, home-stays, tour operators, and transporters for non-compliance with rules and regulations			
Awareness campaigns about sustainable tourism among tourists and residents			
Training for hotels, home-stays, tour operators, and transporters			
Budgetary support for creating infrastructure and public utilities in the area			
Tourism traffic management (forecasting and managing vehicular traffic)			
Strategy and mechanism for waste management			
Mechanism to track air pollution and mitigation strategy to address any adverse impact on air pollution			
Mechanism to measure water demand, availability and strategy to meet water demand			
Mechanism to involve private tour operators, hotels, etc. in the development of tourism norms			
Strategies for enterprise and skill development in the tourism sector			
Branding and tourism development strategies			
Any others			

Transport department

1. What rules are currently in place to monitor vehicular entry into the areas?
2. How is the entry of vehicles regulated?
3. How are transport agencies, taxi service providers etc. regulated?
4. What steps have been taken to improve public transport in the area?
5. What has been the impact of tourism on traffic?

6. How can local communities be integrated into current tourism activities, specifically the provision of transport services? Is there any data on involvement of local communities from the landscapes in the transport sector?
7. Are there any records of number of vehicles owned by communities from the local landscape?

Appendix 2. Questionnaire on ecotourism for tourists visiting the landscape

Background

Tourists to the identified landscapes (Can be identified from hotels, stations, airports, at entry head of trails, important tourist destinations in the landscapes). Please make sure that different categories of tourists are targeted and also assess whether they would be interested in other kind of tourism if these could be developed, e.g.

- a) i) Homestay 'types' ii) Mid level hotel 'types'-e.g. those visiting for religious reasons, honeymoons and iii) High end tourists iv) campers
- b) i) nature and wildlife ecotourism-birds, butterflies, landscape, general ii) cultural iii) adventure and trekking, rafting, offroading, bicycling iv) culinary tourism v) volunteer tourism vi) religious
- c) i) Domestic ii) Foreign

Basic information about the tourist

- a) Name b) Occupation c) Age d) Country and city or place of origin

Tourism logistics and expenditure

1. What are your reasons for visiting the landscapes-e.g. work, pleasure and details?
2. What is the duration of stay in the landscape?
3. Is/was this trip part of a longer tour programme? Are/were you also visiting other places?
4. If yes please write the names of the other places according to your priority

Places visited	Ranking

5. Have you visited the landscape before (Y/N), will you visit again? (Y/N)

6. Where are you staying on this visit? What is your preferred option for stay?

Community-based homestay			
Hotel/Lodge			

High end hotel			
Others			

7. What are the costs per day of a) room b) lodging (and your estimated expenditure on this trip-if willing to provide details)
8. How did you get to know about this landscape-e.g. from friends, brochures, the internet, etc.?
9. Have you tied up with any tourist agency, tour guides, bird guides etc.? If not, how did you plan your trip?
10. Did you require any special permission to reach this area? Were these easy to obtain?

Tourism information and experience

1. Were you provided with any educational or awareness information on the biological, cultural and other values of the area? Please provide details?
2. Are you aware of the conservation value of this landscape? If so, pls provide details?
3. Did you visit any interpretation centre/information centre?
4. Were you requested by anyone to minimise waste, avoid use of plastic or reduce water consumption?
5. How would you describe the quality of tourism/recreational benefits at the landscape?
6. If not satisfied with the experience, please explain why ?
7. In general, what types of recreational and other improvements would you like to see in the area. e.g

Sightseeing	
Bird /butterfly watching opportunities	
Relaxation places	
Walking tracks/trails	
Recreational facilities for children	
Road conditions /better connectivity	
Trained guides	
Appropriate signage	
Waste disposal and cleanliness	
Eating spots	
Restrooms	
Proper sewage /drainage systems	

Local field guides/brochures indicating important hotspots for bird/butterfly/plant sighting	
IT based technology	
Less congestion	
ATM and banking services	
Others	

7. Have you bought any local products or hired any equipment? Could you provide us with some idea of your expenditure on these items, e.g.

- a) Temples, religious activities b) treks, c) guides (bird, butterfly, trek) d) porters e) local artefacts f) food items-eg honey, wine g) handicrafts

Ecotourism development potential

1. Are you aware of the concept of ecotourism/sustainable tourism/nature based and community-based ecotourism? What is your understanding/view on these ideas
2. What kind of ecotourism/sustainable tourism do you think is most appropriate for the area?

Type	Yes	No	Details
Adventure tourism (pls specify			
Wildlife tourism-any particular type			
Cultural tourism			
Volunteer tourism-pls provide details			
Landscapes			
Culinary			
Others			

3. Do you think that current tourism in the landscape impacts the environment a) positively or b) negatively? Why?
4. Did you notice measures being taken in the landscape to recycle or reduce resource use (e.g. use of renewable energy like solar, use of kerosene/LPG and alternatives to fuelwood, waste minimisation or water conservation?
5. Would you like to see such measures introduced?
6. Similarly, are measures being taken to conserve nature and wildlife?
7. Should there be restrictions on tourists entering certain areas of the landscape in the interest of conservation of the natural environment?

8. Do you think that sufficient benefits are reaching the local people and communities?
Do you think that local people from the landscape are being employed ?How can this be improved?
9. Would you be willing to pay a community fee to encourage local communities. If so, how much?
10. What attributes of the landscape do you value the most-e.g. a) scenic beauty b) wildlife c) forests/grasslands/deserts c) cultural aspects d) religious aspects-e.g. pilgrimage spots e) food f) others
11. How do you think that sustainable tourism can receive a boost in the area? Your suggestions based on visits to other areas in a) India b) other countries?
12. Any other suggestions or comments on your experience?

Appendix 3. Guiding questions for NGOs

1. Name and address of the NGO?
2. What are the various aspect of tourism/sustainable tourism that the NGO is associated with?
3. Information on start of tourism activities in the landscape?
4. Information on type of tourism activities in the landscape?
5. Of all the tourism activities in the landscape, what is percentage share of nature-based and adventure tourism?
6. Information on tourist hotspots/areas visited by maximum tourists?
7. Main stakeholders in the landscape?
 - Government:
 - NGOs:
 - Communities:
 - Tourism Service Sector:
8. What are the touristic destinations that are currently negatively impacted by tourism?
9. What are some of the successful initiatives taken up by communities to promote nature tourism/homestays etc?
10. What is the percentage of tourists preferring to opt for homestays/community based ecotourism?
11. Of all the monetary benefits generated from the tourist destinations, what percentage benefits go to the local communities implementing homestays & nature tourism?
12. What are the main drivers of tourism carrying capacity in the landscape?
13. What are the key challenges for eco-tourism in the landscape today?
14. What are some things (1 to 3 things) that tourists should do to be more eco-friendly when travelling?
15. What are the positive and negative policies & programmes impacting the tourism sector?
16. Comments/Suggestions to promote nature based and adventure tourism sustainably in the landscape?
17. Are there any reports/studies that have been carried out on the tourism value/carry capacity of the landscape.

Appendix 4. Questionnaire for Tourism Operators

Tour operators, guides and Agents

Category A – General information

1. What is the name of your agency? (Will not be published)
2. How long has your agency been in operation?
3. In which areas do you operate?
4. Do you operate in the X landscape? If not why not?
5. What activities does your agency offer?

(Adventure sports/ Trekking/ Mountaineering/ Religious/ Cultural or nature visits)

Category B – Operations

1. What is the average/approximate number of tourists you provide services to annually?
2. What are the types of tourists you usually receive (business/leisure/trekkers/others)?
3. Categorize the approximate number of tourists for each activity in a tourist season/year.
4. Comment on the change in number of tourists in the past 5 years.
5. Comment on the change in the types of tourists in the past 5 years.
6. Are you a part of a larger association of agencies?
7. Are your operations seasonal? If yes, then which seasons?
8. Do you have arrangements for off-season tourists?
9. Set of protocols followed in terms of solid waste management, focus on local resources, safety by your agency etc
10. Has your firm ever received guidelines from government or tourism – related departments when new policies on tourism and environment come out? (Please specify if possible)
11. What is your approximate annual income?
12. Comment on the change in annual income over the past 5 years.

Category C – Ecotourism

1. What is your understanding of the term ecotourism?
2. Do you involve the local community in any of these activities? If yes, what is the level of their involvement?
3. How many people from the local community are employed in your operations? In what capacity?
4. Do you invest in the area where your business operates? E.g. does any profit go back to the local community where you operate to help preserve and protect the area where your customers visit?
5. Do you provide any awareness training/information to local tourists on the conservation and cultural significance of the landscape?

6. Do you provide the tourists with guidelines-dos and don'ts to encourage sustainable resource use, buy local products, avoid use of fuelwood and on waste and water use minimisation-make them more environmentally conscious in general?
7. Do you undertake any conservation/reduction measures for water, waste and energy?
8. If you offer tours – what size are your tour groups?
9. Are there any Government ecotourism policies in place? What is your level of understanding of the policies?
10. What are the positive effects of tourism in your landscape?
11. What are the negative effects of tourism in your landscape?
12. What practices do you follow to maintain your local area? What was the basis of creating the rules?
13. Would you say that tourists who visit are sensitive towards the local rules and needs?
14. Do you try to make tourists aware of the local sensibilities?
15. Have you ever faced situations when your local area was damaged or trashed by tourists? What measures did you take to mitigate it? What preventive measures did you develop afterwards?
16. Do you feel the need to introduce checks on the number of tourists visiting the area in the interest of conservation?
17. How do you manage waste generated during activities?
18. Would you be interested in setting up best practices for activities and operations?

Appendix 5. Questionnaire for large homestay owners and local hotels

Category A – General information

1. What is the name of your homestay/ hotel? (Will not be published)
2. How long are you in this operation?
3. In which areas do you operate? (No. of branches)
4. What facilities do you offer to tourists?
(Adventure sports/ Trekking/ Mountaineering/ Religious/ Cultural/Nature visits)
5. Does your hotel/homestay have tie-ups with tour operators/planners to offer different activities (adventure sports/trekking/cultural or nature visits)?

Category B – Operations

1. What is the average/approximate number of tourists you cater to annually?
2. What are the types of tourists you usually receive (business/leisure/trekkers/others)?
3. Comment on the change in number of tourists in the past 5 years.
4. Comment on the change in the types of tourists in the past 5 years.
5. Where do tourists prefer to stay in- in hotel or homestays?
6. Are you a part of a larger association of agencies?
7. Are your operations seasonal? If yes, then which seasons?
8. Do you have arrangements for off-season tourists?
9. Have you received training w.r.t hospitality?
10. Has your firm ever received guidelines from government or tourism – related departments when new policies on tourism and environment come out? (Please specify if possible)
11. What is your approximate annual income?
12. Comment on the change in annual income over the past 5 years.

Category C – Ecotourism

1. What is your understanding of the term ecotourism?
2. For hoteliers, do you involve the local community as staff or in any activity? How many local staff are employed? How many non-local staff?
3. Do you invest in the area where your business operates? E.g. does any profit go back to the local community where you operate to help preserve and protect the area where your customers visit?
4. What training do you provide your local staff?
5. Do you provide any awareness training/information to local tourists on the conservation and cultural significance of the landscape?

6. Do you provide the tourists with guidelines-dos and don'ts to encourage sustainable resource use, buy local products, avoid use of fuelwood and on waste and water use minimisation-make them more environmentally conscious in general?
7. Do you source your products locally? Do you use organic products?
8. What is the average group size of tourists?
9. Are there any Government hotel/ homestay policies in place? What is your level of understanding of the policies?
10. What are the positive effects of tourism in your landscape?
11. What are the negative effects of tourism in your landscape?
12. Initiatives undertaken for sustainable use of water or solid waste management?
13. Would you say that tourists who visit are sensitive towards the local rules and needs?
14. Do you try to make tourists aware of the local sensibilities?
15. How do you manage waste generated during activities?
16. Would you be interested in setting up best practices for activities and operations?

Appendix 6. Questionnaire for Communities and guides and homestay owners

Individuals/Communities/Panchayat/EDCs/Village Councils/villages

Village/Panchayat Name:

Name of Respondent:

Age:

Designation:

What are the main functions of this village council/EDC/Conservation Committee?

What are the main livelihood sources of the people in this village/ Panchayat/ etc?

List the public infrastructures that is found in this Panchayat- road, electricity, health centre, banks, etc.?

Does your village receive a lot of tourists? Since when was this area made accessible to tourists? (Please give numbers per season)

Are records of the tourists kept? If so where can they be found?

On average how long do the tourists stay in your area/village

Which is the peak tourist season? (Please give the days/months)

Do you feel your Panchayat area can accommodate the number of tourists arriving here?

Do you feel the influx of tourists affects the natural environment and culture of the village?

If yes, in what ways?

Have you seen any noticeable change in the forest cover and wildlife of your village and its surroundings in the last ten years?

What according to you may have caused this change? (For e.g. construction of roads, buildings, trampling of vegetation on path, disturbance)

Do you attribute any of these to tourism?

How has it affected forest produce and those dependent on it for income?

What is the source of water for the Panchayat? Have the water levels remained the same/increased/decreased since this village started receiving tourists?

Have you seen any shift in livelihood options of the people from the traditionally practiced ones?

Have people in this Panchayat made use of tourism as a source of livelihood? If so, how?

Have homestays been created in your village? If yes please provide details (number of homestays, number of beds per homestay.)

Do people prefer to stay in homestays or in big lodges and hotels? What proportion?

Do you think opening of homestays and hotels have led to increased income? What is the trend for the last five years?

Can you explain how tourism has positively affected your village?

Can you list some negative effects of tourism?

What steps has the Panchayat/EDC taken to preserve the natural environment of the village?

What provisions have been made by the Panchayat/village council for waste management and sanitation?

What provisions have been made by the Panchayat/village council for reducing use of fuelwood

In Panchayat meetings, do community members raise issues related to tourism development?

Have Panchayat/EDC members made appraised higher government authorities on the infrastructural requirements or grievances related to tourism? Have they taken adequate measures to address them?

Local travel guides-bird, butterflies, trekking, porters, local transporters, homestay owners

Guides/porters/owners of ponies

Name of the respondent:

Age:

Occupation:

Where are you from?

Since how long have you been in this field?

What are the main activities that you conduct (for guides and porters)

What are the main trekking routes where you operate? Which routes do tourists prefer?

Are you registered with the government/Panchayat/Tourism Department/Forest Department?

Have you received any formal training for this? If yes, please provide details?

Are other porters/guides from this village? Approximately how many?

How were you initiated into this profession?

How many trips do you make in the peak tourist season?

What is your average earning per trip?

Do you charge a fixed rate or is it negotiable?

Are you directly contacted by tourists or through some agency/hotel? Is this agency local?

In your opinion how frequently do tourists enlist guides/porters/birders?

Has there been an increase/decrease in the demand for your services?

Are there other such porters/birders/guides in this village?

Are you a part of any association? If yes, what is the main purpose of the association?

The government has workshops/trainings for guides/porters. Have you attended any?

Do you feel you need some skill development? If so, what are those?

While going on trips, do you make sure tourists pay attention to preserving the natural environment?

Do you pre-inform tourists about local customs and cultures?

Are you satisfied with your work?

Transporters

What options are present for local transport?

Are there any restrictions for outside vehicles?

Is there any local taxi union that operates in the area? Are you a part of that?

In the last five years has vehicular congestion increased in this area?

What steps do you take to reduce air pollution? (e.g. timely vehicle servicing, discarding very old vehicles)

What is the average per km charge for a taxi in this area?

Are drivers trained for tourism (like language training, connections with hotels/homestays)?

Do you have the necessary permit for driving in this landscape?

In peak tourist seasons how much do you earn per day on average?

Are most of the vehicles owned by local people? By people from Sikkim (but outside landscape) or by people from outside Sikkim?

Do you feel the current trend of tourist influx positive or negative? Please explain.

Some additional questions specifically for bird and butterfly guides

- How many bird/butterfly expeditions do you lead per season?
- What is the average group size for birding/butterfly watching?
- What are the average rates per head (per day or per expedition)?
- Which are the preferred seasons? Why (e.g. migratory birds-winter or breeding period in spring), etc.
- Which species do birders/butterfly watchers request you show them?
- Is there a bird/butterfly checklist for the area? Could you share it with us?
- What are the specials, rare, endangered species of the landscape?
- Which routes are preferred by birders/butterfly watchers?
- Do you use call playback?
- Do visitors ask for call play back?
- Are most of your visitors photographers or just birders?
- Has the number of birders/butterfly watchers increased over the years? If so why?
- How many other trained bird and butterfly guides are available?
- Do you impart training to the youth to train them as birders or butterfly watchers?
- What recommendations do you suggest to enhance bird and butterfly watching in the landscape?
- What measures can be taken by the government/others for this?
- Do the visitors prefer to stay in local homestays?

Homestay owners

- Since when have you started this business?
- Are you registered with the tourism department? In what category
- What are the room rent and food charges in your homestay?
- How many rooms do you have? How many beds/room
- Do you employ local people? How many? What are their wage rates?
- How many homestays in this area are there? Are they all owned by locals?

Is there a need for more homestays? Why?

How much do you charge for cultural activities if any? Per day or per activity?

What activities do the visitors prefer? Trekking, viewing nature, bird watching, butterfly watching other?

Do you keep a record of your visitors? May we see it?

Do you take visitor feedback? What are their main suggestions?

Has the government adequately promoted homestays or are you doing your own publicity (how)?

Do you feel this village could be promoted for eco-tourism?

Would you like to upgrade the services you provide in the homestay? How?

How much would you be willing to spend?

Do you feel the need for any training in hospitality to better run this?

Is the government providing any such training?

Do you think tourism has detrimental impacts on a) the forests b) wildlife c) environment-air, water, soil

How do you manage garbage and waste?

Where do you get water from? Is electricity an issue?

What is the additional revenue you generate from ecotourism per month (over and above your costs) for this homestay?

Do you use locally grown vegetables and other produce?

Do you sell any products (handicraft/food). If so details and costs.

Youth

Name:

Age:

Occupation:

What activities do the youth of this area generally do? studies/working/business/etc

What is the general level of education among the youth?

Do you feel the youth could be engaged in tourism activities? How?

Have you heard of any travel/hospitality courses?

How interests are you in pursuing this as a career?

What are the advantages of pursuing a career in tourism in this landscape?

What are the various economic activities that can be taken up here?

Do you feel the awareness regarding tourist activities is high/low in this village?

What steps could be taken to address this?

Have you heard of eco-tourism?

Do you feel it could be useful in preserving the landscape and develop the local economy?
How?

Are you a part of any association?

If yes, what are the main activities you conduct?

Has the youth taken any measures to spread awareness about conserving the natural habitat in the community?

Do you spread any such awareness amongst tourists also?

Appendix. 7. Questionnaire for Civil Society Organisations

Name of respondent:

Organization / affiliation:

About the study: TERI seeks to conduct a study to examine existing impacts of tourism related activities and provide recommendations to promote sustainable tourism, with a focus on nature-based and adventure tourism in the states of Himachal Pradesh, Jammu and Kashmir, Sikkim, and Uttarakhand. In this State, the X landscape has been selected for the purpose of this study.

1. What is the nature of your work in the state, specifically related to sustainable tourism?
2. Which areas in the landscape are major tourist attractions?
3. What are the major types of tourism activities undertaken in the state? (for example – adventure tourism, nature-based tourism etc.)
4. Which areas would you suggest we focus on while trying to understand. Pls suggest areas to visit
 - (i) key challenges in promoting sustainable tourism (an area which is currently facing a lot of issues because of unsustainable tourism):
 - (ii) local level actions that can promote sustainable tourism (an area that can serve as an example of the sort of action that can be taken in this regard):
1. What are the major impacts of tourism on the following: For the landscape?

Impact	Positive	Negative	Mixed	Not sure	Details
Employment					
Economic growth					
Income levels					
Improvements in infrastructure – roads, public transport, electricity and water supply etc.					
New infrastructure which can also be used by locals – restaurants, shopping complexes etc.					
Tree and forest cover					
Air quality					
Water quality and availability					
Waste management, cleanliness, sanitation					

Impact	Positive	Negative	Mixed	Not sure	Details
Noise levels					
Traffic					
Increased vulnerability to disasters					
Any others					

2. Can you list any policies / regulations which govern tourism in the state?
3. Can you share some examples of local initiatives taken to promote community based eco-tourism/homestays?
4. What are the major challenges faced in promoting community-based eco-tourism/homestays?
5. How can the challenges you have listed above be addressed? How can community based eco-tourism be promoted in the state?
6. Can you share any details about the manner in which communities generate and manage revenue from any existing initiatives relating to community based eco-tourism?
According to you, roughly what portion of revenue generated by community based eco-tourism activities goes to communities?
7. Are you aware of any studies on carrying capacity done in the selected landscape?
8. Are there any specific issues you recommend we focus on during the course of our study?

Annexures 8 List of government stakeholder discussions undertaken

Name	Designation	Organisation	Stakeholder Type
Dr. Savita	PCCF, Wildlife	HP Forest Department	Govt.
Nagesh Guleria	CPD (JICA), former CCF	HP Forest Department	Govt.
Sanjay Sood	CCF cum CFO (Eco-Tourism)	HP Forest Department	Govt.
S. S. Kataik	Director (South)	HP State Forest Development Corporation Ltd.	Govt.
Manoj Sharma	Addl. Director	HP Tourism	Govt.
Nishant Mandotra	DFO (WL) Chamba	HP Forest Department	Govt.
Sunny Verma	DFO (T) Bharmour	HP Forest Department	Govt.
Dharam Singh	RO (WL) Seichu	Seichu wildlife Sanctuary, HP Forest dept.	Govt.
Mr. Manikaran	RO (T), Killar	HP Forest Department	Govt.
Om Prakash Sharma	R.O. Udaipur (addl. charge of Tindi)	HP Forest Department	Govt.
Dr. Monika	Superintendent of Police	HP Police Department	Govt.
Amarchand	Ex-PCCF (retd.)	HP Forest Department	Govt.
Vijay Kumar	Guard, Tingrat check post	HP Police Department	Govt.
Hem Lal	Chowkidar, Seichu Forest Nursery	HP Forest Department	Govt.
Chain Lal	Chowkidar, Forest Rest House, Seichu	HP Forest Department	Govt.
Shiv Kumar	Forest Guard, Udaipur	HP Forest Department	Govt.
Diwan Chand	Caretaker, FRH, Tindi	HP Forest Department	Govt.

List of community and NGO interactions

Name	Designation	Stakeholder Type
Haresh Sharma	Founder, Collective Efforts for Voluntary Action (CEVA)	NGO
Dem Chand	Member, CEVA	NGO
Gurudev	Member, CEVA	NGO
Jagdish	Member, CEVA	NGO
Jeevan Sharma	Member, CEVA	NGO
Pradeep Sangwan	Founder, Healing Himalayas Foundation	NGO

Name	Designation	Stakeholder Type
Jitender Kumar	Ex-ward member, Killar	Community
Barkat Raj	Current ward member, Killar	Community
Khem Raj	Panchayat secretary, Killar	Community
Kishan Chand	Kfw Chairman, Sural	Community
Ram Charan	President of Forest Group- Sural	Community
Bir Singh	Up Pradhan, Udaipur	Community
Prem Dasi	Pradhan, Karpot village	Community
Satish Sharma	Vice Pradhan, Killar	Community
Mr Pasang	Pradhan, Parmar Bhatori	Community
Devi Lal	Vice Pradhan, Hudan Bhatori	Community
Bimla Devi	Pradhan, Hudan Bhatori	Community
Prakash Chand Thakur	Pradhan, Karyas Panchayat	Community
Chattar Singh	Vice Pradhan, Karyas	Community
Amarnath	Pradhan, Tingrat Panchayat & owner of Amarnath Homestay, Urgos	Community
Sehdev	Owner, Fobrong Homestay, Urgos	Community
Ram Nath	Member-village council, Phindroo	Community
Khesar Chand	Pradhan, Phindroo	Community
Sonam	President, Mahila Mandal, Urgos	Community

Other stakeholders

Name	Designation	Stakeholder type
Neeraj Rana	Director, Atal Bihari Vajpayee Institute of Mountaineering and Allied Sports (ABVIMAS)	Mountaineering Institute
Dikki Dolma	Mountaineer, ABVIMAS	Mountaineering

Name	Designation	Stakeholder type
		Institute
Sunil Koul	VP, IPE Global Limited	Consultant
Bato Batan	Guide, Parmar Bhatori (KVT Adventure Travels)	Guides
Gyan Singh	Local Guide, Sural	Guides
Mangal Chadha Thakuri	Proprietor, Hotel Shivay, Killar	Hotel
Mast Ram	Ex guide, Sural (KVT Adventure Travels)	Guides
Prakash Chand Thakur	Proprietor, Raj Hotel, Killar	Hotel
Ravi Thakur	Founder, Himalayan Caravan	Tour Operator
Kaushal Desai	Founder, Above 14000 feet	Tour Operator
Rishav Mahendroo	Journalist	Tourist
Lakshmi Selvakumaran	India Hikes (Green Trails)	Tour operator
Vivasvat Chauhan and Aman Sood	Founder, Anthill Adventures, New Delhi	Tour operator
Tenzin Chhultim	Guide, Urgos village	Guide
Karan Singh Bedi	Owner, Himalayan Shepherd	Tour operator
Rahul Noble Singh	Consultant, Menthusa Centre, Urgos	Consultant
Gaurav Sharma	Founder, Under Mango Tree	Architect
Tenzing Chhevang,	Manager, Menthusa Centre, Urgos	Community
Neeraj Rana	Owner, Kang La Camps, Changut village	Community & tour operator
Ranbir	Driver, Urgos	Tour operator
Ranjeet Bodh	Guide, Khanjar village	Guide
Rinzing Dospa	Guide, Urgos	Guide
Deepanshu Gupta	IT professional	Tourist (Biker)
Sumantra Ray		Tourist (Biker)

Appendix 9. Survey of visitors at Chandratal

1. Is the management of garbage in Chandratal
a) Good b) satisfactory c) poor
2. Are the number of camps
a) High b) sufficient c) few
3. Is the quality of camps
a) Good b) satisfactory c) poor
4. In your opinion, is the level of crowding (number of tourists, vehicles, people)
a) High b) Just right c) Low
5. Is the infrastructure (accommodation, tourist information centre, restaurants, toilets)
a) Good b) satisfactory c) Poor
6. In your opinion has the beauty of the lake and shore
a) Been well maintained b) Adequately maintained c) poorly maintained
7. Has the sighting of birds (breeding, others) been
a) good b) satisfactory c) poor
8. Do you think that water levels (ground water) has been impacted by withdrawals for tourism
a) Yes b) No c) Not sure
9. Do you think that quality of water supply has been impacted by tourism
a) Yes b) No c) Not sure

Appendix 10. Names and number of camps in Chandratal campsite including tent fees for the year 2018

Name of Camp	No. of Tents	Amount Paid for Pitching Tents to Forest Dept. (INR)
Samsong Camp	5	31,000
Jamaica Camp	5	31,000
Kabila Camp	5	31,000
N.D. Nomads Camps	7	43,400
Tenzin Camps	13	80,600
Devachen Pema Thang	10	62,000
You See Camps	6	37,200
Moon Lake	12	74,400
Parasol Camps	13	80,600

Source: Range Forest Officer, Kaza | October, 2019