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 Uttarakhand

Submitted to
United Nations Development Programme
(UNDP India)

teri
The Energy and Resources Institute

...towards global
sustainable development

Project Advisors

Dr J V Sharma (IFS Retd.)

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

Project Team (for all four SECURE landscapes)

Pia Sethi, Principal Investigator

Nidhi Srivastava, Legal expert

Uttarakhand: Siddharth Edake and Deborshi Brahmchari

Ladakh: Pia Sethi, and Yatish Lele

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

Himachal Pradesh: Rashmi Murali and Jonathan Donald Syiemlieh

Photographs by:

Mr. Siddharth Edake

Contact information

Dr Pia Sethi

Area Convenor and Senior Fellow

Centre for Biodiversity and Ecosystem Services

Forestry and Biodiversity Division

T E R I	Tel. 2468 2100 or 2468 2111
Darbari Seth Block	E-mail pias@teri.res.in
IHC Complex, Lodhi Road	Fax 2468 2144 or 2468 2145
New Delhi – 110 003	Web www.teriin.org
India	India +91 • Delhi (0)11

Table of Contents

Acknowledgements

Executive Summary

Uttarakhand (consisting of Garhwal and Kumaun Himalaya) —the 'abode of God' or *Dev Bhoomi* comprises majestic vistas lying within the Himalaya, rich wildlife and diverse vegetation. It covers an area of about 53,483 km² spreading 220 km in an east-west and 235 km in north-south direction, and is well known for its diverse land forms, panoramic views, perennial streams, lush green valleys, faunal and floristic diversity. Adding to its grandeur are its geographical features such as snow covered peaks, deep gorges, glacial moraines and perennial water streams.

Besides its natural beauty, Uttarakhand also offers adventure tourism including trekking, skiing, paragliding, camping, angling, rafting, mountaineering and rock climbing. Rural tourism, agri-tourism and eco-tourism in the form of bird and butterfly watching, is taking root in several villages. Tourism has gained momentum in Uttarakhand with the number of tourists increasing from 2.6 crores (26 million) in 2011 to 3.68 crores (36 million) in 2018[1]. The economy of the state is largely dominated by the service sector including tourism which contributed over 23% to the total GSDP from 2010-11 to 2014-15 (Niti Ayog, 2018). Due to higher volumes of religious and spiritual tourism in Uttarakhand, tourism contributes to more than one-fifth of the GSDP.

This study represents a baseline tourism assessment of the Gangotri-Govind and Darma-Byas landscapes of Uttarakhand as part of the SECURE Himalaya project. The study assesses both the strengths and challenges associated with tourism including issues specific to this landscape, and provides a series of strategies and recommendations that can guide conservation friendly tourism in these landscapes over the years. Below we present a summary of the issues related to tourism and ways to strengthen and enhance nature and adventure-based tourism in the landscape.

The Gangotri landscape is a part of the famous "Char Dham Circuit" of Uttarakhand and the tourism here is concentrated in Gaumukh-Nandavan-Tapovan circuit along with Dodi Taal, Sattal trek near Dharali, hot water springs near Gangnani, Harshil and Dayara Bugyal accessed from Raithal and Barsu villages. The number of tourists have increased in the Gangotri landscape from 72,439 in 2014 to 7, 70, 036 in 2018 of which 70% are pilgrims, 15% are trekkers and 15% are in the 'other' category. Though the Forest Department has put a cap on number of tourists visiting Gangotri NP (Gaumukh and Tapovan) to 150 tourists per day and Nelong valley to 24 tourists per day, the increasing tourism in other areas of the landscape has resulted in negative impacts as well. For example, in the Gangotri landscape, tourism has developed in an unplanned manner, resulting in haphazard building construction to provide tourist accommodations along with mushrooming of several shops & small hotels, choked drainage systems, and garbage heaps during *Yatra* season. The overall average yearly profit of hotels and resorts in the landscape is Rs 7 to 8 lacs while the homestays make an average yearly profit of Rs 1 lakh in comparison. Hence the overall concept of homestays is missing in the landscape as the existing ones too are made of cement concrete. Thus there is an urgent need to sensitize the locals to promote homestays that are made from local materials as well as the visitors to use them and opt for them as well.

In contrast to Gangotri, the Govind landscape is much more wild and rugged and is popular for trekking. The number of tourists have increased in the Govind landscape from 3,235 in

---

[1] Uttarakhand Tourism Board. https://uttarakhandtourism.gov.in/document/type/market-research-and-statistics/ Retrieved on 21.8.2019

2014 to 16,618 in 2018 however 90% of the total tourists opt for specific treks including Har-ki-doon and Kedarkanta. Other than these areas, a small percentage of tourists also visit Supin pass, Bharadsar lake, Bali pass and Devkyara which are a part of the 27 permitted treks by the Forest Department. Homestays using wood as local construction material are commonly preferred by the tourists in Sor, Gangar, Pawani and Osla while visiting the Har-ki-doon trek however almost all of them are not registered on the Uttarakhand tourism website. The overall average yearly profit of hotels in Sankri is Rs 6 to 7 lacs while the homestays make an average yearly profit of Rs 3 to 4 lacs in comparison. The trekking season (April to June and December to January) puts additional pressure on the local infrastructure. In order to cater to trekkers and campers, many temporary structures and shops selling snacks, chips, biscuits have been setup on the major trekking routes. However the locals and the visitors both seem sensitised on the issue of garbage disposal and hence do not litter. Hence the tourism is here is well organised and well managed and there are no immediate challenges due to tourism in the landscape.

The Darma-Byas landscape comprises of Darma valley which is well known for Panchachuli peaks while Byas valley is known for Adi Kailash or Chotta Kailash, Om Parvat and Parvati lake. The route to Kailash Mansarovar Yatra also passes through Byas valley visiting Narayan Ashram on their way. This has created employment opportunities especially in the Darma valley as homestay owners and in Byas valley as porters, guides, providers of load carrying stock, small-scale business. Despite these opportunities, the number of tourists have decreased in the Darma Byas landscape from 37,246 in 2016 to 14,378 in 2018. Thus the Darma-Byas landscape due to its remoteness and lack of accessibility is yet to become popular amongst tourists but has enormous potential with appropriate investment in enhancing the infrastructure and facilities in the landscape. Apart from lack of proper garbage disposal mechanism at specific sites/villages enroute Mansarovar & Adi Kailash Yatra route there are no immediate challenges due to tourism in the landscape. In comparison to other landscapes, the homestay owners mostly concentrated in Duktu and Dantu villages make an average yearly net profit of Rs 60 to 80 thousand.

There is a huge scope to promote nature based tourism and adventure tourism in Govind-Gangotri and Darma-Byas landscapes and a more diversified, year-round product offer is needed – a mix of winter and summer products, including bird and butterfly watching, skiing, hiking, mountain biking, other outdoor pursuits, spiritual and cultural experiences. We briefly list below the overall strategies to strengthen the nature based tourism and adventure tourism. The specific strategies and tourism products are provided in the Chapter.

1. Regular training programmes on hospitality for travel agents, homestay owners, guides, porters, pack animal operators and cooks (customer service, housekeeping service and food and beverage service, low-cost marketing, maximizing sales & managing money), first-aid, cooking & learning basic English

2. Regular training on developing tourism products for homestays as the homestay owners have expressed a lot of interest in developing local handicrafts, sweets, locally produced items as tourists often ask for souvenirs

3. Regular training programmes for local youth on nature interpretation (Identifying birds, butterflies etc). Currently there are no nature guides in any of the landscapes

4. Regular training programmes for youth from the landscapes at National Institute of Mountaineering (NIM, Uttarkashi) on various aspects of adventure tourism

5. Exposure visits for communities & other stakeholders to understand and implement successful case studies. Eg. Visit to Kuflon Basics in Gangotri landscape, Sarmoli village of Munsiyari in Darma-Byas landscape along with visits to Pawalgarh, Jabarkhet, Devalsari community initiatives within the State

6. Enhance signage at all entry checkposts and main points across the landscape as well as awareness and informational material. There is a need to develop comprehensive communication & marketing strategy by bringing together stakeholders focusing on preparing a pamphlet, a short video for social media & developing a website with a focus on nature based tourism, adventure tourism and cultural tourism

7. Set up mini-interpretation centres near some of the entry points into the landscape (e.g. Sankri forest barrier for Govind, Bhairoghati forest barrier for Gangotri and Tawaghat for Darma-Byas) to sensitize visitors coming to various landscapes

8. Establish Sustainable Tourism Development Unit (STDU)/Cell at UTDB to address all sustainable tourism development issues and serve as a nodal point for framing and implementation of sustainable tourism development policy and measures

9. Promote incentives, awards, recognition for private tourism service providers as well as community groups adopting best environment-friendly practices with a focus on Biodiversity conservation, sustainable use & local livelihoods through the project

In addition the specific potential tourism products for various SECURE Himalaya project landscapes are stated below:

Gangotri Landscape:

1. Some of the new tourist attractions could be marketing a new trekking route between Bagori in Uttarakhand to Chitkul in Himachal via Kyarkoti, Chowrangi to Hari Maharaj and Harunta Bugyal and day hikes to Gira waterfall and Mathena for rock climbing near Barsu village. Other than hiking there is scope to upscale skiing in Bugyals especially Bhanala & Dayara.

2. Bird and butterfly tourism can be developed in & around Salang, Tihar, Hurri & Bhangeli as these villages are not connected by motorable road and hence have intact biodv. that inturn has potential for nature based tourism. Other potential areas for bird watching include Doditaal, Burmitaal, Gangnani & trail between Bhukki to Kheda Taal.

3. Model of Apple orchard tourism in Ranikhet can be replicated in Harshil.

4. There is a huge scope to develop cultural tourism that gives insights in the life of local communities, their rich cultural traditions and dedication towards nature especially in the villages of Bagori and Raithal.

Govind Landscape:

1. Good alternative to the Kedarkanta trek visited by tourists during winter season to enjoy snowfall could be hiking at Vijay Top, Khaniyasni Top & Jhandi Top.

2. Inorder to enhance livelihood of communities from Doni, Satta, Pujeli and Khaniyasni, cultural tourism needs to be developed and promoted. Local dances & local folklore are currently being promoted at Khaniyasni village.

3. Bird and butterfly tourism can be developed in & around Tamsa river, Gibson waterfall etc. Angling which includes fish catch and release in Supin river can also be promoted.

4. Model of homestays, insights into local traditional lifestyle and promotion of local traditional food currently being practiced mainly in Sor village can be replicated and promoted aggressively in other project villages.

5. Also demonstrations and short trainings on cooking local dishes, making local handicrafts can be promoted

Darma-Byas Landscape:

1. New tourists attractions have been identified by the communities. E.g Ruins of fort-Charha Ahya (*Ahya* meaning king) & Nolpa Bugyal near Dantu village; Nagling Bugyal, Baxi Bugyal, Baling Bugyal and Shiva cave near Sepu.

2. Other than trekking there is scope to develop skiing in Bon, Baling & backside of Nagling Bugyal.

3. Paragliding can be developed in the landscape as well

4. Wildlife tourism can be developed in the Bon Community Conservation Area

5. There is scope to develop cultural tourism in the landscape with developing special tours around the time of local melas (fairs). Jauljibi mela, Gulaj mela, Pandali mela are already famous

Introduction

*It is a land where a nature stands personified. It is the sum total of all 'tirthas' on earth. There is no place on this fair earth which can compare to this holy-land'- **Skanda Purana***

The state of Uttarakhand which is a part of Himalayan region shares international borders with Nepal and Tibet. This Himalayan region in India remains a popular tourist destination as it attracts massive inflow of tourist round the year. It provides both adventure and pilgrimage tourism along with wildlife tourism and educational tourism. The northern part of the state is composed of the greater Himalayan ranges, covered by the high Himalayan peaks and glaciers, while the lower foothills are somewhat densely forested. Most of the high-altitude lakes, alpine sites, and meadows are becoming increasingly important as tourist destinations. Hence, tourism is unarguably one of the most important sectors to the state's economy. The tourism is not only contributing to the total GSDP, but also providing livelihood across all parts of the state (including hinterland areas.) As the state moves on its vision to become a Green Economy, tourism sector will play an important role in realizing the State's socio-economic goals. A recent World Tourism & Travel Council (WTTC) report has pegged India as the 7th largest tourism economy globally in terms of absolute size, and further forecasts the sector to grow at 7% between 2017 and 2027, and the State of Uttarakhand is expected to match this trend in terms of attracting tourist (State Tourism Policy, 2018).

The Government of India (GoI) and United Nations Development Programme (UNDP), with support from the Global Environment Facility (GEF) are implementing a programme in the high altitude Himalayas entitled "SECURE Himalayas - Securing livelihoods, conservation, sustainable use and restoration of high range Himalayan ecosystems", to ensure conservation of locally and globally significant biodiversity, land and forest resources in the high Himalayan ecosystem, while enhancing the lives and livelihoods of local communities.

As a part of the SECURE Himalaya project, The Energy and Resources Institute (TERI) has been assigned a task titled '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 (Gangotri- Govind landscape in Uttarkashi district and Darma-Byas landscape in Pithoragarh) of Uttarakhand'.

This study will assist in fulfilling Outcome 2 of the project that envisages "Improved and diversified livelihood strategies and improved capacities of community and government institutions for sustainable natural resource management and conservation," of which community-based, low impact nature and adventure tourism is an important strategy.

This assignment aims to achieve following objectives namely:-

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 workshops for travel agents/tour operators

One of the objectives was to carry out a familiarisation trip for tour operators to the SECURE Himalaya project 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. This report represents a draft report for the Gangotri- Govind and Darma Byas landscapes in Uttarakhand. Additional suggestions from the workshop scheduled for 24th October, 2019 have been incorporated subsequently.

Photo 1: SECURE Himalaya Project landscape of Darma valley

Methodology

As stated above, the main objective of the assignment are to establish a long-term framework for tourism operations and management in order to ensure sustained socio-economic benefits for the local communities that also incentivizes conservation practices and restricts the negative impacts of tourism.

Consequently, before developing strategies for sustainable tourism in the important high altitude Himalaya, it is important to understand the impact of ongoing activities-on the people, for their livelihoods and culturally, on the ecology- forests and fauna as well as in terms of waste generation and even its contribution if any to exacerbating disasters-such as landslides, and for the economy. While there is great potential for tourism growth in high altitude Indian Himalayan region, it must be managed so that it is inclusive (focusing also on marginalized areas and groups) and sustainable (ensuring jobs, promotion of local culture and tourism products) and contributes to achieving the Sustainable Development Goals (SDGs), particularly SDGs 8 and 12. Thus developing an understanding on project stakeholders was crucial at the initiation of the task. A preliminary list of stakeholders was prepared based on a review of literature. This list was discussed during the state technical committee meeting organised by the Uttarakhand Forest Department in Dehradun on 27th February 2019. The list comprised of district administration of Uttarkashi and Pithoragarh; concerned line departments mainly tourism development board and forest department; Garhwal Mandal Vikas Nigam/Kumaon Mandal Vikas Nigam; hotel/ resort owners; tour operators; transporters; homestay owners; local guides and other institutes/ NGOs.

Later field visits were carried out at the Gangotri- Govind landscape in April 2019 and Darma-Byas landscape in June 2019 in order to assess the current state of tourism, key threats and challenges and to identify potential sustainable tourism products in the project landscapes with special focus on nature-based and adventure tourism. Detailed focus group discussions and key informant interviews were conducted with diverse stakeholders in both the SECURE Himalaya project landscapes and the preliminary findings were shared during the second consultation meeting organized by the Uttarakhand Forest Department in Dehradun on 8th August 2019. In addition, questionnaires were prepared for each type of stakeholders to serve as a guideline for discussions with them (Appendices 6-12).The following figure describes the steps we took to carry out this assignment.

Baseline study on impact of tourism activities in SECURE Himalaya landscape & to provide detailed recommendation for sustainable tourism with a focus on nature-based & adventure tourism

Literature review

Primary Surveys

Gap Analysis

Results

Information on existing tourism infrastructure & activities

Identifying stakeholders (line dept., tour operator, transporters, hoteliers etc)

Information on tourist visits & total tourist expenditure along with estimating benefits derived by local communities

Ascertain the drivers of tourist carrying capacity

Gap areas including infrastructure, level of training and capacity, community amenability & behaviour as per hospitality standards

Gap areas in existing policies & programmes in central & state Gov.

Baseline for impact of existing tourism

Existing tourism-based business models evaluated from the perspective of their sustainability

Drivers of Tourist Carrying Capacity for existing and potential tourism locations

Mechanisms/interventions to foster responsible tourist behavior

Conservation of important wildlife habitats and ecosystems

Findings and Recommendations for Sustainable Nature-based Tourism & Adventure Tourism

Appreciation of local cultures and traditional lifestyles

Provision of sustainable forms of livelihood for locals with fair & equitable sharing

Stakeholder consultation with local community, industry and government stakeholders to finalise the recommendations & strategies for sustainable tourism

Existing status of tourism in Uttarakhand

I. Introduction

A. About the State

Uttarakhand (consisting of Garhwal and Kumaun Himalaya) —the 'abode of God' or *Dev Bhoomi* comprises majestic vistas lying within the Himalaya, rich wildlife and diverse vegetation. It covers an area of about 53,483 km² spreading 220 km in an east-west and 235 km in north-south direction, and is well known for its diverse land forms, panoramic views, perennial streams, lush green valleys, faunal and floristic diversity. Adding to its grandeur are its geographical features such as snow covered peaks, deep gorges, glacial moraines and perennial water streams.

Uttarakhand has charming hill stations nestled amidst snow-covered mountains, with mighty rivers meandering through, and little villages scattered by the side of mountain roads. The state of Uttarakhand has about 68.4% of its geographic area under forest cover and is bestowed with a diverse array of natural vegetation ranging from the Sal forests of Terai- Bhabar to treeless herbaceous meadows in the high alpine region. World-renowned conservation parks like Jim Corbett Tiger National Park and Asan Wetland Conservation Reserve, as well as World Heritage sites like Valley of Flowers and Nanda Devi Biosphere Reserve are found here. Besides its natural beauty, Uttarakhand also offers adventure tourism including trekking, skiing, paragliding, camping, angling, rafting, mountaineering and rock climbing. Rural tourism, agri-tourism and eco-tourism in the form of bird and butterfly watching, is taking root in several villages. Tourism has gained momentum in Uttarakhand with the number of tourists increasing from 2.6 crores (26 million) in 2011 to 3.68 crores (36 million) in 2018[2]. The economy of the state is largely dominated by the service sector including tourism which contributed over 23% to the total GSDP from 2010-11 to 2014-15 (Niti Ayog, 2018). Due to higher volumes of religious and spiritual tourism in Uttarakhand, tourism contributes to more than one-fifth of the GSDP. Uttarakhand tops the Indian Himalayan Region as the top earner from tourism-revenue receipts are worth approximately INR 49 crore (490 million) annually (Niti Ayog, 2018).

B. About the landscapes

1. Gangotri-Govind

The Gangotri-Govind landscape falls within biogeographic province 2B in the Greater Himalaya. It is located in Uttarkashi district in Uttarakhand, spanning an area of approximately 8,000 km². The elevation of the landscape ranges from 3,000 m to 7,000 m. Some of the highest peaks in this landscape are Bandarpunch (6720m), Gangotri (6613m), Bhagirathi (6607m) and Swargrohini (6562m). There are very sharp undulations owing to high mountains, narrow valleys and deep gorges. The northern and eastern parts are covered with snow throughout the year.

The Gangotri region is one of the most spiritually important and biologically diverse landscapes of India. This area derives its name from the glacier that feeds the source of the Ganges at Gaumukh. It stands at an altitude of 3042 m between 78°55′E and 79°10′E and

---

[2] Uttarakhand Tourism Board. https://uttarakhandtourism.gov.in/document/type/market-research-and-statistics/ Retrieved on 21.8.2019

30°51'N and 31°1'. Towards the north of Gangotri, lie the villages of Nelong and Jadung located on the Chinese Tibetan border. On the east are the holy sites of Kedarnath and Badrinath, on the south is Tehri district, and the western boundary comprises the Yamuna valley where the source of the Yamuna at Yamunotri can be found. The four together comprise the famous "*Char Dham*" of Uttarakhand, one of the holiest of Hindu pilgrimage circuits. It attracts a large number of visitors each year: pilgrims, mountaineers, trekkers and sightseers. In addition, people come to the region in search of jobs as guides, porters and restaurant worker. Activities like trekking, mountaineering, skiing and bird watching are popular in this region. The popular sites in Gangotri landscape include *Gaumukh-Nandavan-Tapovan trekking circuit, Dodi Taal, Nelong valley, Harshil, Sattal trek near Dharali, hot water springs near Gangnani and Dayra Bugyal accessed from Raithal and Barsu villages.*

The Govind Pashu Vihar National Park and Wild Life Sanctuary is located in the Yamunotri valley in the Uttarkashi district of Uttarakand. Headquartered in Purola the landscape falls under the Tons forest division and covers a total area of 957.96 km². The protected area is contiguous with the forest division of Uttarakashi to the east, the Upper Yamuna to the South, the Tons to the West, all within the State of Uttarakhand. The Northern limits of the PA are contiguous with forests of Himachal Pradesh. *Trekking is very popular in the Govind landscape with 90% of the total tourists opting for specific treks like Har-ki-doon and Kedarkanta. Other than these areas, a small percentage of tourists also visit Supin pass, Bharadsar lake, Bali pass and Devkyara.*

Har-ki-doon valley is widely loved by nature lovers and is growing as a popular spot for bird watching and trekking. Developing tourism in this area can be important for the economic and social development of the local region and habitat.

Photo 2: Gangotri landscape (L) and Govind Landscape (R) in Uttarkashi district

2. Darma-Byas

The Darma-Byas valleys lie in the easternmost border of Kumaon Himalayas with Nepal on its east and Tibet to its North. It was an important trade route between India and Tibet before 1962. The valleys lie between an altitude of 2286 m and 4267 m. The Darma-Byas valleys have many old and traditionally built villages; which the local people (livestock rearers, traders and cultivators) normally occupy only during summer. During this season they practice farming and grow traditional crops like *lappu, phapapr, palti,* potatoes and *jimboo.* Local herdsmen also graze their herds in the pastures available in Darma-Byas

landscape. Large quantities of *Ophiocordyceps sinensis* or caterpillar fungus locally called as *keeda-jadi* is harvested from this region and consequently locals have made large sums of money from this. The local inhabitants, the *Bhotia Rung* tribe, have a very specific, locally evolved migratory or transhumance culture. They migrate to specific settlements called *kheda* in the lower reaches of valley during winter.

Darma valley has been recently connected by an un-metalled road. There is no motorable road in Byas valley. Darma valley is well known for **Panchachuli peaks while Byas valley is known for Adi Kailash or Chotta Kailash, Om Parvat and Parvati lake. The route to Kailash Mansarovar Yatra also passes through Byas valley visiting Narayan Ashram on their way**. This has created employment opportunities especially in the Byas valley as porters, guides, providers of load carrying stock, small-scale business. The number of tourists visiting these valleys is still very low when compared to other neighbouring areas like Munsiyari. Moreover these numbers have been consistently decreasing over the last few years owing to weak marketing strategies and lack of infrastructure like phone connectivity, motorable roads, proper toilets and sanitation in homestays.

Photo 3: Darma-Byas landscape in Pithoragarh district

II. Existing status of tourism

A. Existing tourism infrastructure and activities

1. Gangotri-Govind

The Gangotri landscape

The Gangotri region is part of the famous "Char Dham Circuit" of Uttarakhand which is one of the holiest of Hindu pilgrimage circuits. Gangotri township is situated on the banks of river Bhagirathi and the confluence of river Bhagirathi and Kedar Ganga. As a small seasonal township, Gangotri is located 105 km from district headquarter –Uttarkashi and 525 km from Delhi by road. The road bifurcates after a Forest Department barricade at Bhairoghati, where one road goes to Nelong valley and other to the main temple area in Gangotri tonwship. Gangotri was declared a revenue village in 1960 by the Uttar Pradesh government. Construction of a giant iron bridge over the Jadh River at Bhaironghati in 1985 resulted in a large influx of pilgrims and tourists to Gangotri. Shortly after, a "Special Area Development Plan" was formulated by the state government for the "balanced development" of Gangotri. Though Gangotri National Park was declared in 1989, earlier measures resulted in tourist lodges, ashrams and other illegal construction in and around Gangotri temple.

Currently the most popular site visited by both pilgrims as well as trekkers includes Gaumukh-Nandavan-Tapovan which can be accessed via Gangotri town. However, the forest department has decided to limit entrance to the Gangotri National Park (Gaumukh and Tapovan) to 150 tourists per day and Nelong valley to 24 tourists per day. The tourists usually hire buses and taxis from Dehradun, Haridwar or Rishikesh and reach Gangotri town via a metaled road that is in good condition. Local taxi stands are also available in Gyansu, Bhatwari and Joshiada blocks of Uttarkashi. The current booking rate is Rs 3000 per day for smaller taxis that can carry up to five persons and Rs 6000 per day for bigger taxis that can carry up to eight people.

The travel time from Uttarkashi to Gangotri is about three and a half hours and various villages/small towns that lie on the way are Uttarkashi- Maneri- Bhatwari- Bhukki- Gangnani- Sukki- Jaspur- Bagori- Harshil and Dharali. While the project villages that are off the main road include Salang, Tihar, Hurri, Bhangeli, Jhala, Purali and Mukhba. Dharali is the last migratory village of the area enroute to Gangotri via road. It is 25 km before Gangotri and includes modest tourist accommodation facilities. In order to cater to tourists, small shops and tourist lodges are mushrooming in villages like Gangnani, Sukki, Jaspur, Dharali and Harshil. Most of the locals who had land along the Uttarkashi-Gangotri road have constructed buildings that are mostly double storied. They have leased out the ground floor for establishing tea shops and restaurants while the first floor has been converted into 3 to 4 rooms that are rented out at between Rs 600 to Rs 1000 per room per night. The local construction material even of the homestays consists of concrete and lacks local material. Budget accommodation is also available in Gangotri town. There are no eateries or lodges between Gangotri Township and Gaumukh, except for a Garhwal Mandal Vikas Nigam (GMVN) tourist bungalow at Bhojbasa. Network connectivity is only till Bhatwari with BSNL working in a few sporadic spots.

Photo 4: Buildings constructed by the villages along the road leading to Gangotri

Harshil

Harshil is a small cantonment area on the banks of the Bhagirathi river located on the way to Gangotri at a distance of 72 km from the city Uttarkashi. It is a base camp of the Indian army and Indo-Tibetan Border Police (ITBP). Till 2016, there was a requirement of Inner Line Permit (ILP) to access Harshil but since the ILP has been removed, this area is gaining popularity amongst tourists due to its picturesque location. There are six to seven budget hotels and resorts in the range of Rs 800 to Rs 6000 per night available at Harshil. These include Sunder homestay, Hotel Himalaya, Snow valley, Rana's homestay and Gara homestay. Some of the prominent luxury resorts are Nelangana resort, Himalayan nature resort, Harsil cottages and Harsil retreat. GMVN also has a resort with 12 rooms on the banks of the Bhagirathi river.

Harshil also has a post office, Punjab National Bank with an ATM, two grocery stores and a couple of eateries.

Photo 4: A view of Harshil town (Left) and premises of Himalayan Nature Resort (right)

Dayara Bugyal via Barsu and Raithal

Dayara Bugyal is one of the most beautiful places in Uttarakhand, situated at an elevation ranging from 10,000 - 12,000 ft. The possibility of developing skiing is immense here, since during winter it provides one of the best ski slopes in India spread over an area of 28 km².

The road to Dayara Bugyal branches off near Bhatwari- a little township on Uttarkashi-Gangotri road which is about 35 kms from Uttarkashi. From Uttarkashi, vehicles can go up to the village of Raithal from where one has to trek a steep incline covering a distance of about 7 kms to reach Dayara and the other route is via village Barsu, 10 kms from Bhatwari from where one has to trek about 8 kms to reach Dayara Bugyal.

Tourists prefer to trek up to Dayara Bugyal via Barsu village as it is slightly easier to climb from here rather than from the Raithal side. Hence only a few homestays are available in Raithal village while in Barsu village there are hotels including Dayara resort with 17 rooms and one dormitory, Bugyal Sarai resort with 12 rooms and GMVN with eight cottages and eight rooms. Homestays are not available in Barsu except Sunder homestay which too is a concrete structure and not a traditional house. This is because there is no obvious incentive for the homestay owners to adopt or participate in ecotourism activities. Therefore, despite the potential, the linkages between homestays and ecotourism have not been utilized optimally. Also, under the Deendayal Upadhyaya Homestay Development Schemes and Guidelines 2018, though attractive incentives like capital subsidy, interest subsidy are offered to locals to build/renovate their houses with minimum standard of hospitality and hygiene there are no guidelines on using traditional materials like wood and stone for construction. *Hence there is an urgent need to sensitize the locals to promote homestays that are made from local materials as well as the visitors to use them and opt for them as well.*

Other than Dayara Bugyal which is at a distance of 7 km from Barsu villages, there are easy treks like Barsu-Barnala Bugyal (3 km) and difficult treks like Bakra top- Gidari- Syari Top etc.

Photo 5: Map of the Dayara Bugyal and other Bugyals in the vicinity (Source Forest Department)

Photo 6: On way to Dayara Bugyal (L) and Rhododendron forest in Gangotri landscape

The Govind landscape

The Govind National Park and Sanctuary lies in the Purola Tehsil of Uttarakashi district of Uttarakhand. The PA experiences heavy snowfall and the vegetation here is enriched by the River Tons which is an important tributary of the Yamuna. The PA which is a home to a number of endangered species can be accessed by metaled road via Purola-Mori-Netwar road. From Netwar the road bifurcates with one unmetaled path going to Doni and Satta villages while the other one goes all the way till Sankri followed by an unmetaled road till Taluka. A horse trail of 28 km leads to the Har-ki-doon through the National Park. This trail is also the only link for people living in the villages of Dhatmir, Gangar, Pawani and Osla along the route to Har-ki- doon. The small town of Naitwar is the entrance and starting point of the sanctuary while Sankri is the major hub of tourism related business in the area. The Govind landscape is famous amongst tourists for trekking and there are four basic trek routes in this park. The easiest one is the 9 km trek to Kedarkanta which is gaining popularity as a winter trek due to easy accessibility. Another easy and popular trek is the 38 km Sankri-Taluka-Osla-Har ki Doon route which ends at Ruinsara Tal. Next route is the 20 km high altitude Ruinsara Tal to Yamunotri trek route to the Block Peak and Banderpunch areas. The most difficult trek is the 60 km Netwar-Himri-Droni-Rupin Pass-Sangla route which partially lies in Himachal Pradesh.

At present, tourists prefer to halt in Sankri and then continue to trek further. There are currently 15 hotels in Sankri with large hotels (with 50 rooms) like Swarg Rohini, Wild Orchid Hotel and GMVN which has been privatized recently. The closest ATM is in Mori while the closest hospital is in Purola. On the famous Har-ki-doon trek, there are guesthouses of the Garhwal Mandal Vikas Nigam (GMVN) at Seema (next to the Forest IB near Osla village) and Har-ki-doon. Permanent camping sites are available at Seema and Kalkatiyadhar where tour operators and travel agents pay a small fee to the villagers of Osla village on a daily or a monthly basis.

Homestays are also commonly preferred by the tourists in Sor, Gangar, Pawani and Osla, however almost all of them are not registered on the Uttarakhand tourism website. Currently the approximate number of homestays is 17 in Sor, 12 in Gangar, 12 in Pawani and 20 in Osla. Most of the local houses (homestays) use wood as local construction material.

There is almost nil tourism in other project villages of Doni and Satta as well as Khaniyasni and Pujeli. Two to three km before Doni and Satta villages, a trekking path cuts to Bharadsar lake and Rupin pass from Dhaula village. Hence there are some homestays and hotels here to cater to tourists but overall tourist footfall is very low in this entire area.

Photo 7: Homestays in Gangar village enroute to Har-ki-Doon

2. Darma-Byas

The Darma-Byas valleys of Pithoragarh District represent alpine habitats of tremendous biological wealth that lie in the Kailash trans-boundary landscape and harbour good populations of high altitude fauna including the snow leopard. The current tourism in the landscape consists of a mix of religious tourism and trekking. Darma valley is well known for the *Panchachuli* peaks while Byas valley is known for *Adi Kailash* or *Chotta Kailash*, *Om Parvat* and *Parvati* lake. Trekking routes have also been developed to reach *Adi Kailash* via Darma valley (Goe-Rama-Bidang-Singla la pass-Jolingkong- Kuti). The route to *Kailash Mansarovar Yatra* also passes through Byas valley.

The Darma Byas landscape can be accessed by a metaled road from Pithoragarh via Dharchula. Distance between Pithoragarh and Dharchula via Ogla-Askote-Jauljibi-Baluwakot metaled road is about 91 kms while that between Dharchula and Tedang village (Darma valley) via Sobla-Sela unmetaled road is about 85 km. There is no motorable road beyond Tawaghat to access Byas valley and the only viable option is to trek.

At present, there is limited tourism in the landscape and the tourists first halt in Dharchula and then proceed to Darma or Byas valleys. Due to an option of a motorable road till Duktu village which lies at the base of the Panchachuli peaks, many of the tourists hire a local transport till here and then start trekking up from this village. In Dharchula, there are 15-20 hotels with basic facilities that cost Rs 600-900 per night.

Other than the private hotels, KMVN Tourist Reception Centre (TRC) is also present in Dharchula that can accommodate up to 45 tourists. KMVN has also setup infrastructure in all the important stops/villages on route of the *Mansarovar Yatra* as well as *Adi-Kailash Yatra*. In addition, KMVN runs tourist huts at the base camp of Panchachuli peaks near Duktu vllage, five snow huts in Nagling village for tourists traveling to Vyakasi village from Nagling and five rooms plus four snow huts near Narayan Ashram. There are 84 registered homestays at the moment of which 66 homestays are from Darma valley and 18 homestays are from Byas valley. In Darma valley, Dantu village overlooking Panchachuli peaks has the

most homestays (18) followed by Duktu (16), Nagling and Baling (15 each). Similarly in Byas valley, Nabi village has the most homestays (14) followed by Gunji (4) and Kuti (2). Traditional materials like wood and stone are used in construction. Network connectivity is only up to Dharchula with only BSNL working at some sporadic spots in the two valleys.

Photo 8: Traditional homestay in Dantu village (top) and KMVN snow huts in Nagling village (below)

B. Tourist visits and tourist expenditure

The number of tourists has increased substantially in Uttarakhand due to opening of new avenues and new destinations for tourism. From a total of 1.11 crore (> 11 million) tourists visiting the State in 2000 this number increased to 2.31 crore (>23 million) in 2008 and 3.68 (> 36 million) in 2018 (Tourism Development Board 2018). The average expenditure per day per foreign tourist in the state is INR 7,550, while the average domestic tourist expenditure lies in the range of INR 1000-2000. The average per-trip expenditure for domestic tourists in the holidaying and leisure category is INR 29,137 (including package and non-package items – travel and stay and food, recreation, etc). (NCAER 2016)

1. Gangotri-Govind

Gangotri landscape

According to the Forest Department records, around 7-8 lakh tourists visit Gangotri landscape each year. This number has been steadily increasing over the years. The tourists comprise of 70% pilgrims, 15% trekkers and 15% in the 'other' category. As per the tourism statistics for important tourist attractions in the Gangotri landscape including Harshil, Gangnani and Bhatwari, the number of tourists visiting in the last five years is provided in Figure 1 below:-
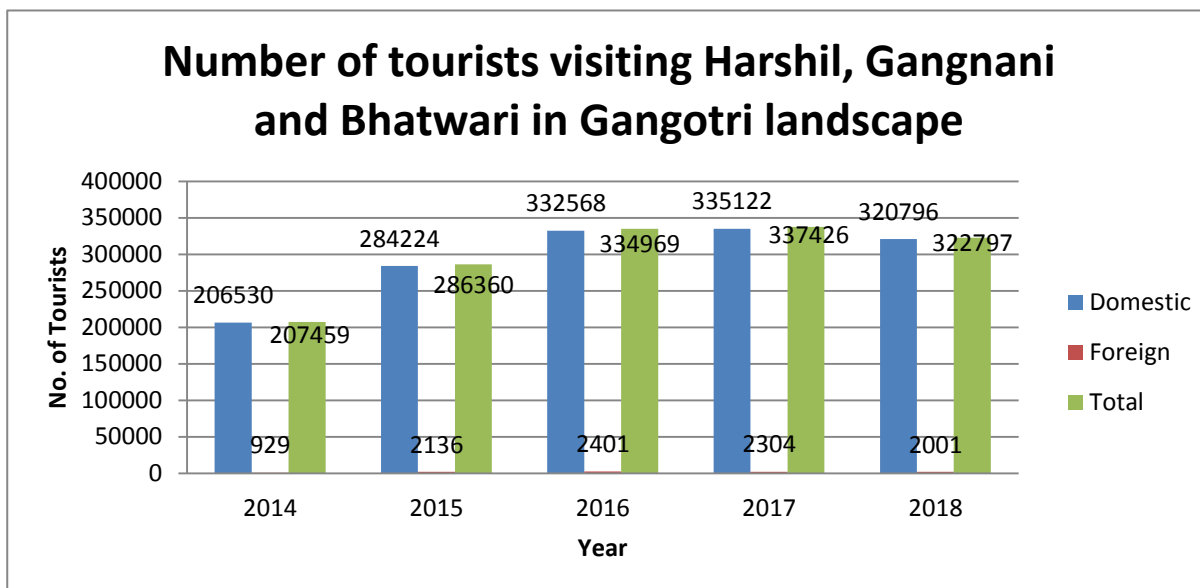
Figure 1: Number of tourists visiting Harshil, Gangnani and Bhatwari in Gangotri landscape

Source: Uttarakhand Tourism Development Board

As evident from the Fig. 1 above, the total number of tourists visiting major tourist attractions like Harshil, Gangnani and Bhatwari has increased from 207,459 in 2014 to 322,797 in 2018. However the proportion of foreign tourists is very low compared to Indian tourists. Similarly the number of tourists visiting Gangotri area (Gangotri temple and Gaumukh- Tapovan) in the last five years is provided in Figure 2.
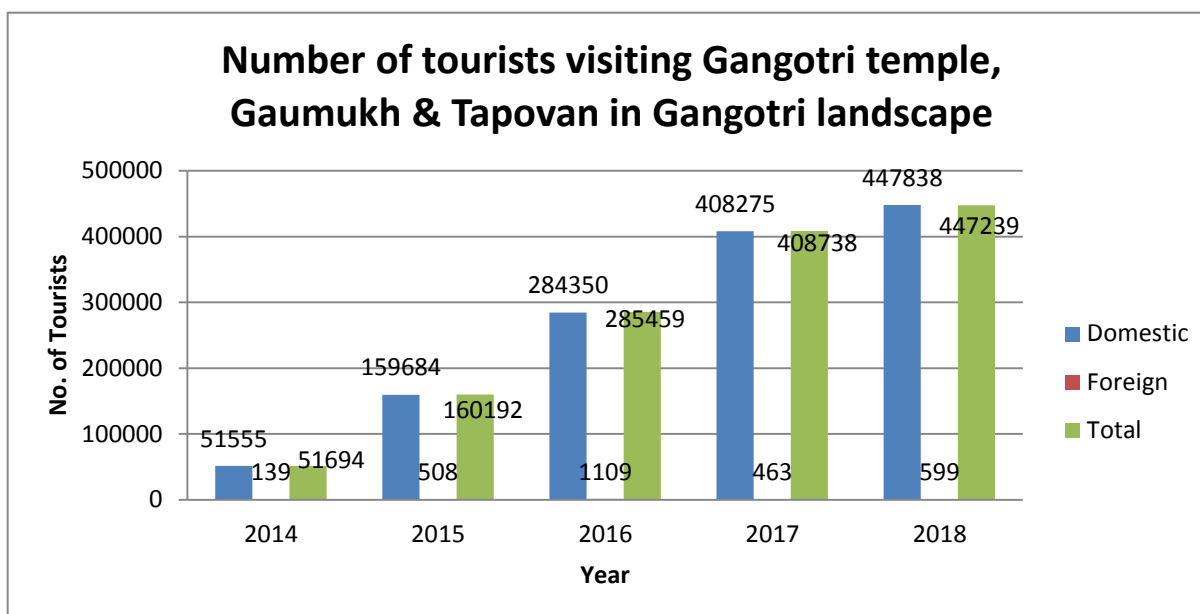
Figure 2: Number of tourists visiting Gangotri temple, Gaumukh & Tapovan in Gangotri landscape

Source: Uttarakhand Tourism Development Board

Total number of tourists visiting Gangotri area (Gangotri temple and Gaumukh- Tapovan) has increased from 51,694 in 2014 to 4, 47,838 in 2018, a nine-fold increase.
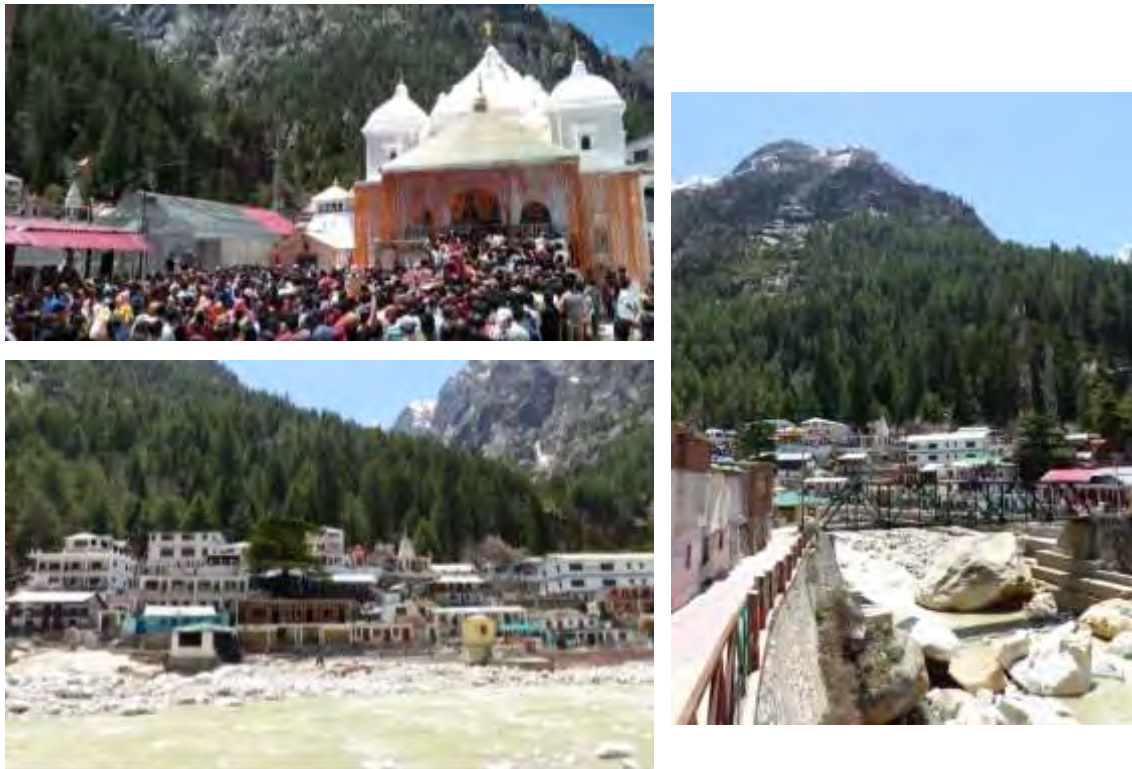
Photo 9: Pilgrims at Gangotri Temple (Source: Sukhanta Mukherjee) and constructions in Gangotri town

The month-wise trend of tourists visiting the Gangotri area (Gangotri temple and Gaumukh-Tapovan) for 2018 is provided in Figure 3 below.
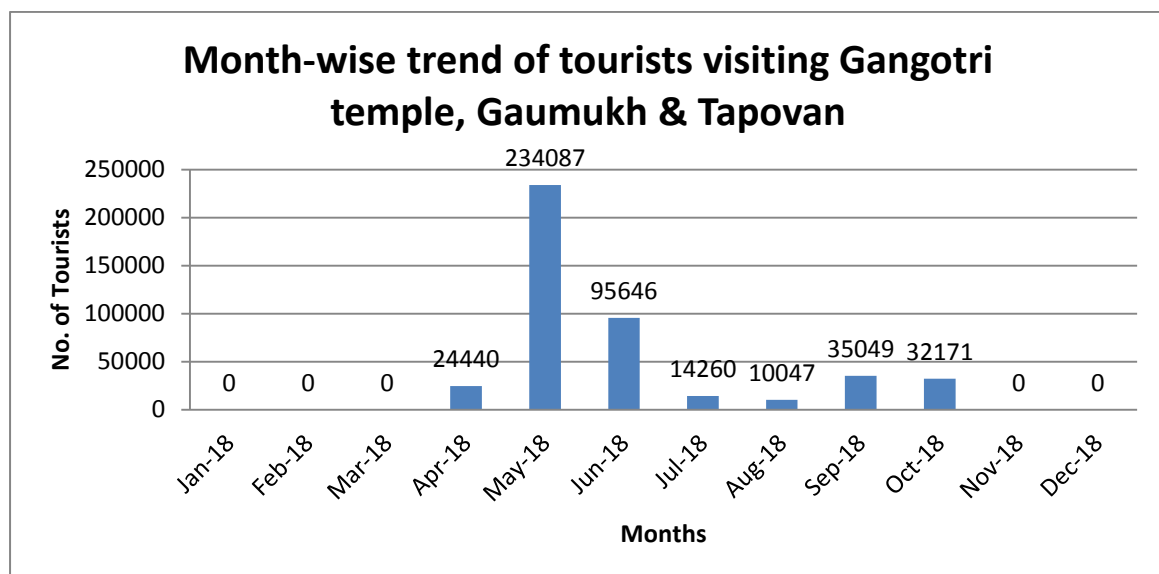
Figure 3: Month-wise trend of tourists visiting Gangotri temple, Gaumukh & Tapovan

Source: Uttarakhand Tourism Development Board

The maximum numbers of tourists, mostly pilgrims, visit the Gangotri landscape between the months of May to July during the *Yatra* season. Since the temple is closed during the winter the villagers in these areas migrate to lower altitudes; consequently there is no tourism from November to March.

Govind landscape

In Govind National Park and Sanctuary, trekking is the most important tourism activity and most of the tourism in concentrated around Har-ki-doon and Kedarkanta trekking routes. The number of tourists visiting the PA for the last five years is provided in Figure 4 below.

As evident from figure 4, the total number of tourists visiting Govind National Park and Sanctuary has increased rapidly from 3,235 in year 2014-15 to 16,307 in year 2018-19. This is mainly due to the increasing popularity of the Har-ki-doon and Kedarkanta trekking routes.

Photo 10: Trekking groups in Sankri and enroute Har-ki-doon trek

The month-wise trend of tourists visiting the Govind National Park and Sanctuary area for 2018 is given in Figure 5 below.
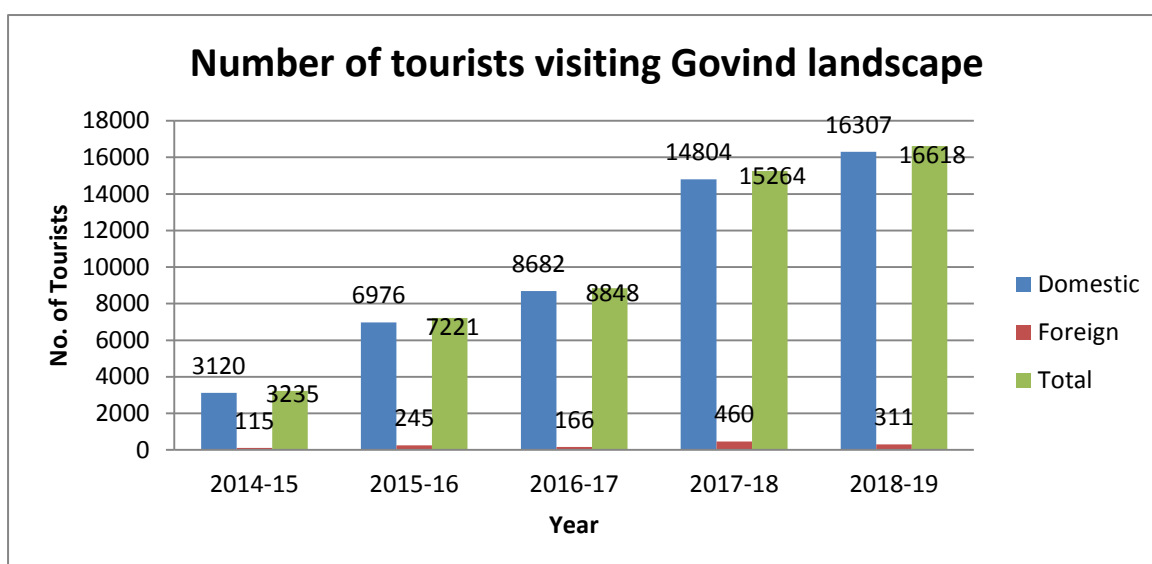
Figure 4: Number of tourists visiting Govind landscape

Source: Forest Department, Purola
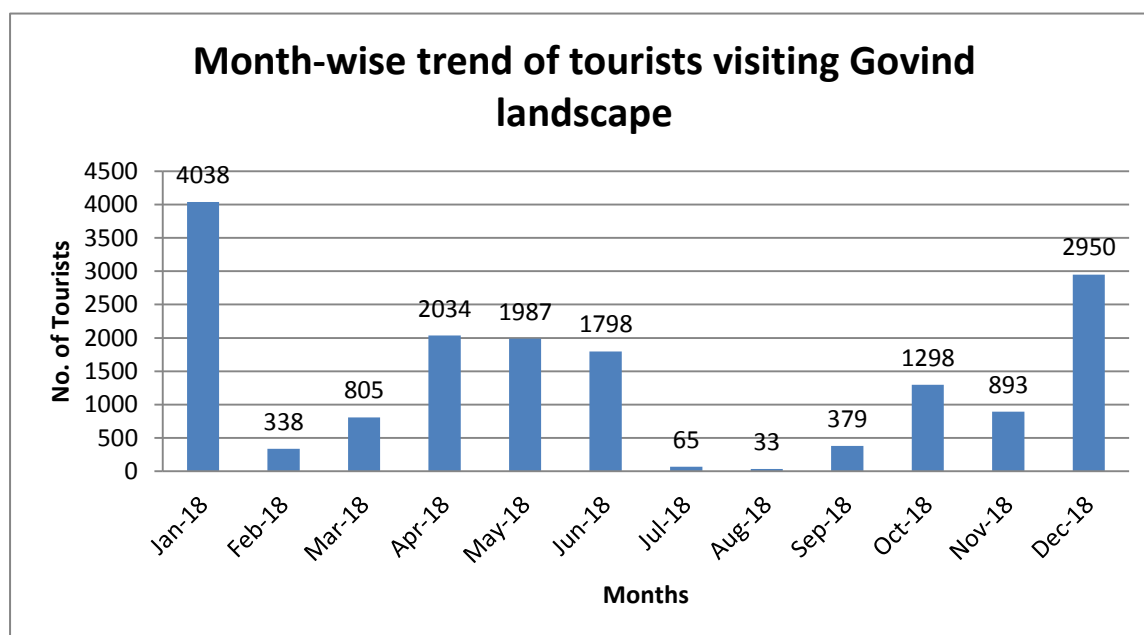
Figure 5: Month-wise trend of tourists visiting Govind landscape

Source: Forest Department, Purola

The maximum numbers of tourists visit the Govind landscape in the months of December and January during the winter season. This is because of the accessibility of the Kedarkanta trek during the winter season, and the growing interest of tourists in enjoying snowfall and the winter landscape. The spring season from April to June is also popular amongst tourists for trekking. As most of the schools are closed for summer, children in big numbers visit the landscape to trek upto Har-ki-doon and Kedarkanta. Overall except for the rainy months of July-August, tourists flock to this area all year round.

2. Darma-Byas

The Darma-Byas landscape due to its remoteness and lack of accessibility is yet to become popular amongst tourists but has enormous potential with appropriate investment in enhancing the infrastructure and facilities in the landscape. The current tourism here comprises of a mix of religious and adventure tourism. The number of tourists visiting the Dharchula area has continuously decreased from 37,246 in 2016 and 24,153 in 2017 to 14,378 in 2018 (Uttarakhand Tourism Development Board, 2018).

The month-wise trend of tourists visiting the Darma-Byas landscape for 2018 is provided in Figure 6 below. While most people visit in May to June and October, August- September and November are lean months.
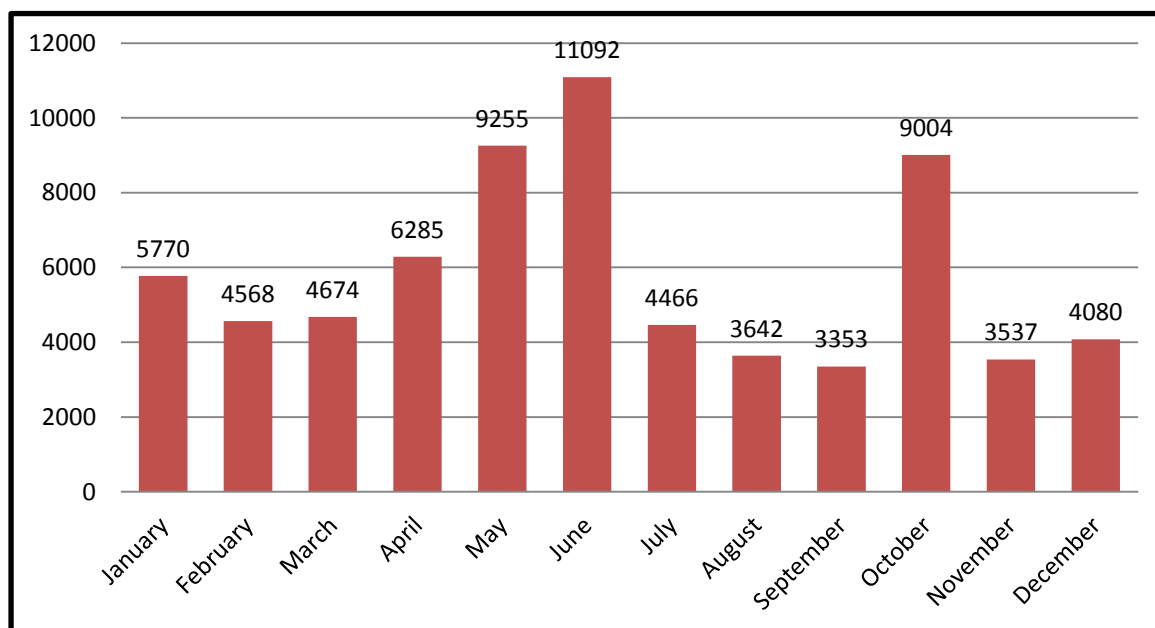
Figure 6: Month-wise trend of tourists visiting the Darma-Byas landscape for 2018

Source: Uttarakhand Tourism Development Board

C. Tourism related benefits generated for communities: actual and potential

Tourism has been one of the main sources of employment generation, with the sector estimated to generate 90 jobs per Rs 10 lakhs of investment (Human Development Report of Uttarakhand, 2018). Though there is no separate account of tourism's share in GSDP in Economic Survey 2017-18 of Uttarakhand, tourism including trade, hotel and restaurants form 13.57% share of GSDP. The number of tourist arrivals in Uttarakhand has been steadily rising from 117.08 lakh in 2002 to 347.23 lakh in 2017, except for 2011 and 2013 while budget outlays for the tourism department has gradually declined from 0.67% of GSDP in 2004-05 to 0.28% of GSDP in 2017-18 (Human Development Report of Uttarakhand, 2018).

For communities faced by an absence of significant economic alternatives, Community-Based Tourism (CBT) focused on the local environment and culture, is an important solution that has the potential to alleviate poverty and support biodiversity conservation. CBT ''encompasses the desire to encourage empowerment, gender equity, capacity building, education and strengthening of cultural identity and traditions (Moscardo, 2008)''.

Detailed focus group discussions and key informant interviews were conducted by TERI in the Gangotri- Govind and Darma-Byas landscapes with the tourism and forest departments, tour operators, hotel/ resort owners, homestay owners, transporters, local guides, porters, NGOs, community institutions and individuals. Based on these, an average of yearly income and average net profit per year is recorded as reported by various stakeholders. It is depicted in Table 1 below:-

Table 1: Average yearly income & avg. net profit per year for stakeholders in landscapes

Type of Stakeholder	Stakeholder Details	No. of tourists / year	Average Yearly Income (INR)	Average Yearly Net Profit (INR)
GANGOTRI				
Transporters	Taxi Union in Uttarkashi	75-100/ taxi/year	3,00,000	1,50,000
Hotel/ resort owners	Hotel/ resort owners in Uttarkashi	400-500/hotel or resort/year	18,00,000-20,00,000	8,00,000-10,00,000
Hotel/ resort owners	Hotel/ resort owners in Harshil	300-400/hotel or resort/year	13,00,000-15,00,000	7,00,000-8,00,000
Local guides	Local guides in Barsu (Dayara Bugyal)	100-120/guide/year	1,00,000-1,20,000	-
Hotel/ resort owners	Hotel/ resort owners in Barsu (Dayara Bugyal)	200-300/hotel or resort/year	1,00,000-1,20,000	5,00,000-6,00,000
Porters	Porters (Mule owners) in Barsu (Dayara Bugyal)	15-20 trip/year	20,000	15,000
Homestay owners	Homestay owners in Barsu (Currently only 10)	60-80/ homestay/ year	1,60,000	1,00,000
GOVIND				
Hotel/ resort owners	Hotel owners in Sankri	1500-2000/hotel /year	12,00,000-14,00,000	6,00,000-7,00,000
Homestay owners	Homestay owners in Sor, Gangar, Pawani and Osla	800-1200/ homestay/ year	5,00,000-7,00,000	3,00,000-4,00,000
Local guides	Most of the local guides are on payroll of tour operators	Fixed income per year independent of number of tourists catered to	1,80,000-3,00,000	-
Porters	Porters (Mule owners) on Har-ki-doon and Kedarkanta trekking routes	150-200 trip/year	1,25,000-1,50,000	80,000-1,10,000
Porters	Cooks on Har-ki-doon and Kedarkanta trekking routes	150-200 trip/year	1,40,000-2,00,000	-
DARMA-BYAS				
Transporter	Taxi Union in Dharchula	100-120 trip/year	4,00,000-5,00,000	2,00,000-2,50,000

Type of Stakeholder	Stakeholder Details	No. of tourists / year	Average Yearly Income (INR)	Average Yearly Net Profit (INR)
Hotel/ resort owners	Hotel owners in Dharchula	1500-2000/hotel /year	15,00,000-20,00,000	7,00,000-9,00,000
Homestay owners	Homestay owners in Duktu and Dantu	300-400/ homestay/ year	2,00,000-2,50,000	60,000-80,000
Local guides	Local guides from Duktu, Dantu, Nabi, Gunji and Kuti	40-50/guide/year	1,00,000-1,25,000	-
Porters	Porters (Mule owners) on Adi Kailash route in Byas	10-15 trip/year	1,00,000-1,25,000	50,000-70,000

Source: Field surveys by TERI team

As evident from Table 1, if we compare average yearly incomes (in INR) of hotel/ resorts from tourism owned by the local communities, then it is highest for Harshil (Rs 7,00,000-8,00,000/year) in Gangotri landscape followed by Sankri (Rs 6,00,000-7,00,000/year) in Govind landscape. Since many of the hotel/ resorts are not owned by locals in Uttarkashi and Dharchula the tourism related income is not percolating to the local communities.

Similarly, if we compare average yearly income (in INR) of the homestays from tourism operating in the SECURE Himalaya landscapes, then it is highest for homestays in Sor, Gangar, Pawani and Osla in Govind landscape (Rs 5,00,000-7,00,000/year) while it is low for homestays in Barsu village enroute Dayara Bugyal (Rs 1,60,000/year). This is because there has been a decrease in the number of visitors after the High Court order in 2018 to ban camping, night stays and construction in *Bugyals* including Dayara. Also in the entire Gangotri landscape including Harshil and Barsu there are concrete structures in the name of homestays that are not traditional houses. This is because there are no guidelines on using traditional materials like wood and stone for construction of homestays in the State Homestay Policy neither is there any deterrent for homestays to check practices that are unsustainable in nature. Average yearly income (in INR) of the homestays from tourism is also low in Darma-Byas landscape (Rs 2,00,000-2,50,000/year). This is because though the homestays are made of traditional eco- friendly material, they lack proper toilets and sanitation and proper maintenance. Also lack of infrastructure facilities like road and electricity as well as network connections has resulted in decreases of tourists visiting the landscape.

Role of local guides is very crucial in all the three landscapes. If we compare average yearly income (in INR) of local guides from tourism, then it is highest for local guides operating in Govind landscape (Rs 1,80,000-3,00,000/year) who are mostly on the payroll of tour operators, and have a fixed income per year independent of the number of tourists they cater to. Local guides in Barsu village who accompany tourists usually to the Dayara Bugyal, earn around Rs 1,00,000-1,20,000/ year while the local guides from Duktu and Dantu village in Darma valley who accompany tourists to Panchachuli peaks and those from Nabi, Gunji and Kuti villages in Byas valley who accompany tourists to Adi Kailash, Om Parvat and Parvati lake earn around Rs 1,00,000-1,25,000/ year. Though there are more tourists visiting

Gangotri-Govind landscape than Darma-Byas landscape, the latter treks are harder and of longer duration. Hence the local guides are engaged for more number of days in a year.

Similarly, if we compare average yearly income (in INR) from tourism of the porters or mule owners operating in the SECURE Himalaya landscapes, then it is highest for Govind landscape (Rs 1,25,000-1,50,000/year) due to popularity of Har-ki-doon and Kedarkanta trekking routes followed by Darma-Byas valleys (Rs 1,00,000-1,25,000/year) and lowest in Barsu village enroute to Dayara Bugyal (Rs 20,000/year).

The current rates of tourist related services in SECURE Himalaya landscapes are provided in Table 2:

Table 2: Current rates of tourist related services in SECURE Himalaya landscapes

	Hotel Owners and GMVN/KMVN	Resort Owner	Homestay Owner	Local Guide	Porter/ Mule	Local Cook	Transporter	Entry Fees
GANGOTRI LANDSCAPE (Cost In Rs)								
Uttarkashi	1000-1500/ night/ room + 800 meal charges	2000-3500/ night/ room + 1000 meal charges	-	-	-	100-150 / meal	2800/day- 5 seater and 6000/day- 8 seater	-
Dayara Bugyal (Barsu)	1000-1500/ night/ room + 1000 meal charges	1500-2500/ night/ room + 1000 meal charges	500-800/ bed including meals	1000/ day	500/ day	800/ day	Same as above	10- Local 50- Foreigner
Harshil	1000-1500/ night/ room + 1000 meal charges	1500-2500/ night/ room + 1000 meal charges	800-1000/ bed including meals	-	-	150-250 / meal	Same as above	-
Gangotri- Gaumukh- Tapovan	800-1500/ night/ room + 800 meal charges	-	-	1000/ day	500/ day	800/ day	Same as above	150- Local 600- Foreigner
GOVIND LANDSCAPE (Cost In Rs)								
Sankri	800-1200/ night/ room	-	500-800/ bed including meals	1000/ day	700/ day	100-150 / meal	5500/day- 5 seater from Dehradun to Sankri. Rs 600 for local taxi from Sankri to Taluka	-
Sor	-	-	500-800/ bed	1000/	700/	-	Same as above	-

	Hotel Owners and GMVN/KMVN	Resort Owner	Homestay Owner	Local Guide	Porter/ Mule	Local Cook	Transporter	Entry Fees
			including meals	day	day			
Gangar/ Pawani/ Osla- Harkidoon	-	-	500-800/ bed including meals	1000/ day	700/ day	100-150 / meal	-	50- Local 300- Foreigner

Additional Charges for Hiring Trekking/ Mountaineering Equipment: 1) Sleeping Bag- 150/day, 2) Four men Tent- 400/day, 3) Crampon micro spike –200/day, 4) Trekking shoes- 200/day, 5) Trekking stick-50/day, 6) Trekking bags- 200/day, 7) Snow Goggles – 50/day

DARMA-BYAS LANDSCAPE (Cost In Rs)

Dharchula	800-1200/ night/ room+ 600 meal charges	-	-	-	-	100-150 / meal	3000/day- 5 seater from Pithoragarh to Dharchula and Rs 400 for local taxi from Dharchula to Tedang	-
Duktu/ Dantu	-	-	700-800/ bed including meals	1000/ day	700/ day	800/ day	-	150- Local 600- Foreigner
Nabi/ Gunji/ Kuti	-	-	700-800/ bed including meals	1000/ day	700/ day	800/ day	-	150- Local 600- Foreigner

Source: Field surveys by TERI team

D. Key Challenges in the Landscapes and Solutions

The Himalayan region in India remains a popular tourist destination as it attracts a huge influx of tourists round the year. The state of Uttarakhand which is a part of the Himalayan region provides both adventure and pilgrimage tourism along with wildlife tourism and educational tourism. The northern part of the state is composed of the Greater Himalayan ranges, covered by the high Himalayan peaks and glaciers, while the lower foothills are somewhat densely forested. Most of the high-altitude lakes, alpine sites, and meadows are becoming increasingly important as tourist destinations. Tourism in the state has increased by 168 per cent (213 per cent according to the Uttarakhand tourism department) over the past 12 years (Pathak et.al., 2017).

However, excessive use of transportation and inflow of tourists in natural habitats including ecologically sensitive forest ecosystems often contributes to degradation of the fragile landscape due to solid waste pollution, trampling of soil and vegetation, and extraction of fuelwood and other biomass for camping that may negatively affect aesthetic and cultural values. The impact of unregulated tourism on the mountain ecosystems of the Indian Himalayas and their bio-resources has been identified as a major concern, particularly in view of the uniqueness of the biodiversity and the environmental sensitivity of the region. Many tourists, particularly pilgrims, harvest juniper and other woody shrubs at high altitudes to cook food. There are issues of waste disposal, sanitation, and water pollution, and adverse impacts on the wetlands, as well as inappropriate and un-aesthetic infrastructural development (Ning et.al., 2013).

The sustainable tourism guidelines issued by Convention on Biological Diversity suggest that for the effective management of tourism and biodiversity, a multi-stakeholder process including involvement of local communities is necessary. This also contributes to their income generation and helps in poverty reduction and a decrease in threats to biodiversity. The main thrust of the guidelines is that tourism management should be based on ten steps, including the development of an overall vision for the sustainable development of tourism activities; the setting of short-terms objectives to implement the vision; the review and building of regulations and tourism standards; the assessment of the potential impacts of tourism projects; the monitoring of impacts and compliance; and the implementation of adaptive management in relation to tourism and biodiversity.

In case of Uttarakhand to tackle the pressures arising due to unregulated tourism, community-based rural tourism and nature tourism is a viable option for providing livelihood opportunities to the communities residing in villages near the forest areas, and to provide visitors a glimpse of rural hill-village life.

1. Gangotri-Govind landscapes

In the Gangotri landscape, tourism has developed in an unplanned manner, resulting in haphazard building construction, drainage systems, and garbage heaps. Several small shops and local hotel have mushroomed along the road from Uttarkashi all the way to Dharali and then in and around Gangotri temple. There is no planned infrastructure in place except for a single tourist bungalow situated at Bhojbasa. The unavailability of any alternative fuel source has resulted in the destruction of Birch forests and Juniper bushes. Moreover, the number of pilgrims and tourists to Gaumukh is increasing yet facilities to cater to such large numbers of tourists remain slim. This creates chaos during the tourist / pilgrimage season as well as putting pressure on local infrastructure and resources. The leftover untreated garbage then flows into the Bhagirathi river causing water pollution.

Also, the emerging middle class trend to avail summer holidays and go to the Himalayas en masse is emerging as another new threat. This is forcing huge crowds to the Himalayan heights in general, and Harshil and Gaumukh in particular. It was recorded during an interaction with the community members in Harshil that many of them are leasing out their land for 99 years to businessmen from big cities who wish to invest in big resorts and other infrastructure given the increased tourist flow in Harshil. However there is no mechanism to share their profits with the local communities.

Photo 11: Garbage generated by tourists (L) and Unplanned hotels and shops (R)

Another impact of mass tourism was construction of permanent structures like toilets and sheds to facilitate tourists by local communities in Dayara Bugyal impacting its fragile ecosystem. This had a negative impact on the local flora and fauna as large influx of tourists would trample local flowers & grasses and the night camping would also effect the movement of wildlife like Blue Sheep and Himalayan Black Bear. In addition, lack of maintenance of toilets also resulted in seepage in local water bodies and ground leading to further problems. However a High Court order in 2018 has now put a ban on camping, night stays and construction of any form in all the bugyals including Dayara Bugyal.

As mentioned in earlier sections, adventure tourism is very popular in Govind National Park and Sanctuary as almost 100% of the tourists visiting are trekkers and campers. Though the Forest Department has opened and promoted around 27 treks in the landscape, more than 90% tourists visit Har-ki-doon and Kedarkanta trekking routes due to their popularity. As the number of tourists in the landscape has increased by 20% in last four years it has created pressure on existing resources in specific areas enroute to Har-ki-doon and Kedarkanta trekking areas. In addition, the heavy influx of tourists during specific times of the year (April to June and December to January) also puts additional pressure on the local infrastructure. In order to cater to trekkers and campers, many temporary structures and shops selling snacks, chips, biscuits have been setup on the major trekking routes. However the locals and the visitors both seem sensitised on the issue of garbage disposal and hence do not litter.

Photo 12: Temporary shops enroute to Har-ki-doon (L) and locals collecting fuelwood to cook food for tourists at small *dhabas* and hotels (R)

1. Darma-Byas

The concern of solid waste management is increasing with increase in number of visitors and related tourist activities in camping sites, trekking route and near the lakes. The major type of waste found includes polythene bags, leftovers of consumed food and beverages and wrappers of toffee chips, etc.

Since the number of tourists visiting the landscape is limited, there are no immediate threats to the landscape due to tourism. However, lack of proper garbage disposal mechanism at specific sites/villages enroute to Mansarovar and Adi Kailash Yatra routes have been reported, and may lead to a bigger problem if not tackled immediately.

Photo 13: Temporary shops and hotels enroute to *Adi Kailash* route in Byas valley

Photo 14: Comparison of homestays from Gangotri (upper left), Govind (upper right) and Darma-Byas (lower centre) landscapes

Identifying appropriate frameworks for conservation friendly and sustainable tourism

Issues of carrying capacity

Achieving a fine balance between encouraging tourism and a quality visitor experience without adverse impacts for the environment or the culture or livelihoods of local communities is the goal of sustainable tourism. In the SECURE Himalaya landscapes which are fragile, of significant importance culturally and as habitats for wild plants and animals including the snow leopard, this balance becomes critically important. To a great extent for these remote and biodiverse regions, conservation-based livelihoods, particularly sustainable tourism acquires special importance. The other issue is the impact of tourism on the landscape, especially the lack of awareness and sensitivity of most travellers to conservation, environmental and sometimes cultural norms. Sheer numbers of visitors to sensitive areas (e.g. Gangotri National Park- areas of Gangotri temple, Tapovan etc), overcrowding, garbage, etc. have very negative impacts on the environment. In this context, the issue of carrying capacity acquires importance to regulate the impact of tourism in the landscape.

Ecotourism has been defined by the International Ecotourism Society as, "responsible travel to natural areas that conserves the environment and improves the welfare of local people." Another definition according to the Ecoworks Foundation, (2003) that applies more accurately to the SECURE Himalaya context is, "travel to fragile, pristine and usually protected areas that strive to be low impact and usually small scale." The term ecotourism is often used synonymously with nature-based tourism, although culture and adventure tourism are also important facets of ecotourism. A more encompassing term is sustainable tourism, which according to the World Tourism Organisation[3] 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*." Ideally, sustainable tourism should focus on using natural resources in an efficient manner, enhance ecological process as well as help to conserve the natural heritage and biodiversity of the host destination. According to WTO, it should, "enhance the socio-economic and cultural authenticity of the host community as well as conserve the built cultural heritage and traditions of the local community. Finally, it should ensure viable, long term economic opportunity as well as enhance socio-economic benefits arising from tourism i.e. provide employment opportunities to the local community and help in poverty alleviation. It should be integrated with sustainable development agenda at global, national and local level policy/decision making process (UNWTO, 2005)."[4]

Stemming from the idea of sustainable tourism is an assessment of carrying capacity. Tourism Carrying Capacity" is defined by the World Tourism Organisation as "*the maximum number of people that may visit a tourist destination at the same time, without causing destruction of the physical, economic, socio-cultural environment and an unacceptable decrease in the quality of visitors' satisfaction*". Middleton and Hawkins Chamberlain (1997) define it as "*the level of human activity an area can accommodate without the area deteriorating, the resident community being adversely affected or the quality of visitors experience declining*".

---

[3] http://sdt.unwto.org/content/about-us-5
[4] http://sdt.unwto.org/content/about-us-5 (last accessed on: 17/03/2016)

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)[5]?"

Subsequent approaches such as Limits of Acceptable Change (LAC) are 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:-

- Identify area concerns and issues.

- Define and describe opportunity classes

- Select indicators of resource and social conditions.

- Inventory existing resource and social conditions.

- Specify standards for resource and social indicators.

- Identify alternative opportunity class allocations.

- Identify management actions for each alternative.

- Evaluate and select preferred alternatives.

- 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

---

[5] Stankey, G. H. et al. 1985. The Limits of Acceptable Change (LAC) system for wilderness planning. Forest Service, US Department of Agriculture, Ogden, UT, USA.

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, etc. 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.)

Framework and indicators for assessing sustainable tourism

While varying aspects of carrying capacity can be determined as described above viz, the physical, biophysical, economic, psychological, managerial and social-cultural, it is important to understand what the drivers of carrying capacity are in a particular landscape-for example are their limitations based on existing infrastructure, or capacity or are they in terms of impacts on culture for local communities or because of conservation concerns and likely impacts on the ecology. The exact drivers will vary in a landscape depending on various management objectives and methods and will be unique to a particular area.

Khangchendzonga NP in Sikkim is an example, where local communities are active in managing ecotourism through homestays, as guides, porters, tour operators. They have put into place exemplary garbage management initiatives such as the concept of a zero waste trail where tourists have to fill out the details of the items they are carrying and make sure they return with them. They have garbage segregation units and are recycling garbage to make attractive items for tourists. Nevertheless, Khangchendzonga also has factors that limit the carrying capacity such as the impact of tourists on the flora and fauna along popular x trek routes. Since this is a protected area, the primary focus is on the conservation of the PA, which necessitates low impact tourism to reduce impacts on the forests and their wildlife. Hence in this case the management objective of the Protected Area imposes restrictions on the carrying capacity.

For this study, therefore, we do 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 approach we have used, therefore, is largely the LAC based on the initial premise that these are conservation areas whose management objective is conservation. In Table 2, 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 waste 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 and if it impacts on the 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 3: Drivers/Indicators of Sustainable Tourism

S No.	Factors	Gangotri	Govind	Darma	Byas	Notes
I)	**Availability of infrastructure and amenities (Physical capacity)**	*These questions can be addressed to the local authorities, local people and tourists*				
1.	Number of homestays	Y	Y	Y	Y	
2.	Number of hotels and lodges (Non-homestays)	Y	Y	N	N	
3.	Number of camping sites	Y	Y	N	N	
4.	Number of porters and pack animals	Y	Y	N	Y	Too many porters and ponies can also put pressure on an ecosystem
5.	Number of guides	Y	Y	Y	Y	
6.	Number of certified guides	Y	Y	Y	Y	
7.	Willingness of local communities to develop homestays	Y	Y	Y	Y	Question for local authorities/NGOs/communities
8.	Existence and quality of roads and trek routes	Y	Y	Y	Y	
9.	Transport facilities	Y	Y	Y	Y	TF not on trekking routes but till the starting point of the trek routes
10.	Presence of toilets and quality	Y	Y	Y	Y	Currently the homestays, tourist ecohuts & FD resthouses provide toilet faciltiies

S No.	Factors	Gangotri	Govind	Darma	Byas	Notes
11.	Adequacy of trek routes (number, maintenance)	Y	Y	Y	Y	
12.	ATMs and banking facilities	Y	X	X	X	Since many of these are remote areas this may not be applicable in most cases the landscapes
13.	Medical facilities-first aid	Y	Y	Y	Y	Very important on the trek route
14.	Rescue facilities in emergencies	Y	Y	Y	Y	
II)	**Objectives of management and ecological values** **Area's protected status and ecosystem concerns**	*These issues can be addressed to both the forest department and tourists. However, views will differ since tourists might not know or understand the objectives of management (e.g. limiting number of trails to tourism zone to reduce pressure on forests and wildlife*				
1.	Adequate number of trails earmarked by wildlife department	Y	Y	N	N	
2.	Existence of ecotourism zones	Y	Y	N	N	
3.	Presence of rare, endangered species	Y	Y	Y	Y	
4.	Areas vulnerable to erosion (can be assessed through vulnerability classes)	Y	Y	Y	Y	
5.	Disturbance to vegetation (vulnerability of density classes of vegetation)	Y	Y	Y	Y	

S No.	Factors	Gangotri	Govind	Darma	Byas	Notes
6.	Disturbance to wildlife (can be assessed through timing of breeding season, vulnerability, etc.)	Y	Y	Y	Y	
7.	Number of visitors and crowding	Y	Y	N	N	
8.	Awareness levels of visitors (e.g. sensitive to area's ecological value)	Y	Y	Y	Y	
9.	Appropriate size of visiting/trekking groups	Y	Y	N	N	
10.	Existence of tourist management mechanisms - alternative routes	Y	Y	N	N	
11.	Existence of rules and regulations/guidelines for tourists	Y	Y	Y	Y	
12.	Extent of pursuance of rules and regulations by tourists	Y	Y	Y	Y	
13.	Open period (hours per day, months per year)	Y	Y	Y	Y	
III)	**Utilities and information on area for tourists**					
1.	Presence (and quality) of interpretation centres	Y	Y	Y	Y	
2.	Presence of websites/ease of obtaining information on area	Y	Y	Y	Y	

S No.	Factors	Gangotri	Govind	Darma	Byas	Notes
3.	Information centres in the landscape	Y	Y	Y	Y	
4.	Ease of obtaining permits (forest department, people, defence)	Y	Y	Y	Y	
5.	Existence of tourist sensitisation programmes	Y	Y	Y	Y	
6.	Publicity for area	Y	Y	Y	Y	
IV)	**Garbage and waste management**					
1.	Extent of garbage generation and quality of environment	Y	Y	N	N	
2.	Extent of plastic waste	Y	Y	N	N	
3.	Presence of garbage management systems	Y	Y	Y	Y	
4.	Garbage and wildlife conflicts (e.g. feral dogs)	Y	Y	Y	Y	
V)	**Visitor exposure to biodiversity, adventure and scenic values**					
1.	Adequate numbers of knowledgeable trained bird guides	Y	Y	Y	Y	

S No.	Factors	Gangotri	Govind	Darma	Byas	Notes
2.	Adequate numbers of knowledgeable, trained butterfly guides	Y	Y	Y	Y	
3.	Adequate numbers of knowledgeable, trained wildlife guides	Y	Y	Y	Y	
4.	Sightings of RET birds and butterflies-specials in area	Y	Y	Y	Y	
5.	Extent of publicity regarding bird and butterfly specials in the area	Y	Y	Y	Y	
6.	Extent of publicity regarding wildlife specials in the area	Y	Y	Y	Y	
7.	Existence of films and documentaries on the area	Y	Y	Y	Y	
8.	Availability of brochures, pamphlets, trail maps available	Y	Y	Y	Y	
9.	Presence of well-marked, identified trails	Y	Y	Y	Y	
10.	Ease of sighting of wildlife in area	Y	Y	Y	Y	
11.	Quality of scenic value	Y	Y	Y	Y	
12.	Presence and adequacy of adventure activities, treks	Y	Y	Y	Y	

S No.	Factors	Gangotri	Govind	Darma	Byas	Notes
VI)	**Cultural experience for tourists**					
1.	Availability of interesting handicraft products	Y	Y	Y	Y	
2.	Availability of local produce (e.g. cardamom, jams, wines, juices, chillies)	Y	Y	Y	Y	
3.	Showcasing of cultural traditions (e.g. dances, games)	Y	Y	Y	Y	
VII)	**Social and cultural issues**					
1.	Extent of disturbance/overcrowding created for residents by tourists	Y	N	N	N	
2.	Extent of culturally insensitive visitors (for residents)	Y	Y	Y	Y	
3.	Decision making role of local people in tourism	Y	Y	Y	Y	
4.	Extent of ownership of tourism resources by local people	Y	Y	N	N	
5.	Impact of tourism on irrigation/other water availability for local people	Y	N	N	N	

S No.	Factors	Gangotri	Govind	Darma	Byas	Notes
6.	Enhanced awareness of conservation values amongst local people	Y	Y	Y	Y	
7.	Improvement of infrastructure	Y	Y	Y	Y	
8.	Change in cultural norms (e.g. use of alcohol, eating habits)	Y	Y	Y	Y	
9.	Improvement of medical facilities for local people	Y	Y	Y	Y	
10.	Functioning of local governance institutions	Y	Y	Y	Y	
11.	Preservation of local art and culture	Y	Y	Y	Y	
VIII)	**Minimising resource utilisation**					
1.	Encouraging zero waste, use of alternatives to plastic	Y	Y	Y	Y	
2.	Recycling of water	Y	Y	Y	Y	
3.	Recycling of waste	Y	Y	Y	Y	
4.	Use of LPG, kerosene in place of fuelwood	Y	Y	Y	Y	
5.	Usage of local produce (vegetables, meat)	Y	Y	Y	Y	

S No.	Factors	Gangotri	Govind	Darma	Byas	Notes
IX)	**Economic issues**					
1.	Proportion of livelihoods derived from tourism	Y	Y	Y	Y	
2.	Types of tourism preferred by tourists (e.g. trekking, birding, cultural, food, etc.)	Y	Y	Y	Y	
3.	Changes in cost of living for residents due to tourism	Y	Y	Y	Y	
4.	Proportion of high value tourists (e.g. low impact, high paying)	Y	Y	Y	Y	
5.	Proportion of revenues flowing to local communities vs outsiders	Y	Y	Y	Y	
6.	Degree of Involvement of local people versus outside tour agencies/companies	Y	Y	Y	Y	
7.	Months that areas are open for tourism	Y	Y	Y	Y	
8.	Availability of jobs for local people	Y	Y	Y	Y	
9.	Impact of tourism on migration levels	Y	Y	Y	Y	

S No.	Factors	Gangotri	Govind	Darma	Byas	Notes
X)	**Visitor Management Experience**					
1.	Affordability of homestays and/or other accommodation for tourists)	Y	Y	Y	Y	
2.	Courtesy/friendliness displayed towards visitors by residents	Y	Y	Y	Y	
3.	Hospitality standards	Y	Y	Y	Y	
4.	Overcrowding, littering of landscape due to tourism	Y	Y	Y	Y	
5.	Dust, smoke and noise generation due to vehicular traffic in the area	Y	N	N	N	
6.	Loss of aesthetic value of the area	Y	N	N	N	
7.	Tourism facilities/ amenities has enhanced due to tourism in the area	Y	Y	Y	Y	
8.	Desire to visit area again	Y	Y	Y	Y	
9.	Extent to which tourism rules are followed	Y	Y	Y	Y	
10.	Visitor feedback assessment done?	Y	Y	Y	Y	
11.	Hours/months for which area is open	Y	Y	Y	Y	

S No.	Factors	Gangotri	Govind	Darma	Byas	Notes
XI)	**Potential for promotion of nature and adventure based tourism to area**					
1	Number of specialised visitors to area for bird watching	Y	Y	Y	Y	
2	Number of specialised visitors to area for butterfly watching	Y	Y	Y	Y	
3	Number of specialised visitors to area for wildlife watching	Y	Y	Y	Y	
4	Potential to enhance adventure activities	Y	Y	Y	Y	

Carrying capacity of SECURE Himalaya Project landscapes

1. Gangotri-Govind

Gangotri landscape

As mentioned in earlier sections, Gangotri tourist circuit is world famous for its natural, cultural, and heritage destinations. Though the forest department has decided to limit the entrance to Gangotri National Park (Gaumukh and Tapovan) to 150 tourists per day and Nelong valley to 24 tourists per day, there is an increasing pressure of tourists on the landscape especially during the pilgrimage season from April to June and September to October. In the months of May and June, which is the peak tourist season– mainly pilgrimage tourism, road jam is common because of increasing number of vehicles, insufficient parking and narrow roads. As stated by Sati, 2018 on an average around 900 vehicles travel from Uttarkashi to Gangotri each day, of which 80% travel to the Gangotri temple, where a maximum of 250 vehicles can be parked in and around the temple area. Moreover, Sati also estimated that the Gangotri Nagar Panchayat has a capacity to provide accommodation to around 5,900 pilgrims/tourists however the tourist flow is much higher than the prevailing carrying capacity. Also as estimated by him, that private-sector company provides 94.5% of the total beds available for tourists whereas tourism department provides only 4.5% beds. Thus Sati concludes by stating that the major number of tourists visiting the Gangotri landscape are pilgrims that create huge pressure on local resources. Around 8349 pilgrims can visit Gangotri temple per day during the peak season; however, accommodation facility is available for only 3222 persons, and therefore about 59% pilgrims return back to Uttarkashi on the same day. Other tourist spots like Harshil, Dharali, Gangnani, Barsu and Raithal have sufficient beds but relatively less tourists.

Govind landscape

As mentioned in earlier sections, more than 90% tourists visit Har-ki-doon and Kedarkanta trekking routes due to their popularity. As the number of tourists in the landscape has increased by 20% in last four years it has created pressure on existing resources in specific areas enroute to Har-ki-doon and Kedarkanta trekking areas. Also a number of hotels & small shops have come up at Sankri which is the midpoint of Har-ki-doon as well as Kedarkanta treks. Also, because the motorable metaled road from Purola ends at Sankri, it has become a major pit stop for the trekkers and tourists. Currently there is a capacity of approximately 500 beds in Sankri alone with homestays in the nearby Sor village that can accommodate upto 75-100 tourists. Homestays that can accommodate another 130-150 tourists approximately are operational in Dhatmir- Gangar-Pawani & Osla. But even though homestays are available, most of the trekkers and trekking groups put up tents at Seema and Kalkatiyadhar near Osla village which is a cheaper option compared to homestays. Hence there is an urgent need to form a local federation/union of villages and homestays involved in tourism to make it compulsory for the tourists to use homestays over tents. Currently there is only one study available by Goyal and Brahma, 2001 who looked at carrying capacity of 10 major trekking routes inside Govind PA and concluded that two roads-Dhaula to Changshil and Motor-Kedarkantha had exceeded the threshold of its real carrying capacity which is defined as the maximum permissible number of visitors to the site. Though there are no immediate visible challenges due to tourism in this landscape, dedicated studies are required to estimate the carrying capacity especially of the Har-ki-doon & Kedarkanta treks as well as Sankri.

Photo 15: Camping site in Seema and Kalkatiyadhar near Osla village

2. Darma-Byas

There are no studies available on carrying capacity estimation of the Darma-Byas landscape because of its remoteness. At present, there are approximately 500-600 beds in Dharchula town. Similarly in Darma valley there is provision for 120 beds in the homestays and 30 beds in KMVN while in Byas valley there is provision for 40 beds in homestays and around 50-60 beds in KMVN. Since the number of tourists visiting the landscape are very less and continuously decreasing over the years (37,246 in 2016 to 14,378 in 2018), there are no immediate threats to the landscape due to tourism. However, dedicated studies can be carried out to estimate the carrying capacity of the landscape especially tourist areas gaining popularity like Duktu & Dantu villages near *Panchachuli* peaks in Darma valley and Nabi, Gunji and Kuti villages enroute *Adi Kailash* or *Chotta Kailash*, *Om Parvat* and *Parvati* lake and *Kailash Mansarovar Yatra* in Byas valley. Carrying capacity of fast expanding Dharchula town also needs to be estimated.

Legal and policy framework of tourism in Uttarakhand

This section discusses the legal and policy instruments that are directly and indirectly relevant for promoting sustainable tourism in the State of Uttarakhand. 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 intro the following: (i) Tourism 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 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, Uttaranchal, 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

Uttarakhand Tourism Policy, 2018

Uttarakhand Tourism Policy was revised in 2018 with a vision to create Uttarakhand as a safe and sustainable tourist destination. The Policy, inter alia, aims at promoting winter and alpine tourism in the State; promote community participation and benefit sharing through inclusive tourism, making disaster resilient tourist infrastructure, and resolving the carrying capacity issues in tourist sites.

Ecotourism and wildlife tourism is an important theme in the Policy. Key features for ecotourism in the Policy are as follows:

- Ecotourism activities are to be developed with forest department
- Uttarakhand Tourism Development Board, Ecotourism Board of Forest department will work in close coordination for providing amenities for tourists in protected areas
- A tripartite arrangement (department of tourism, department of forests and communities) to be explored
- Local communities must be engaged to ensure benefit sharing and socioeconomic upliftment of local population
- Training and accreditation of ecotourism guides and naturalists by forest department.

Besides the above-mentioned policies, Tourism Master Plans for a number of regions and areas in Uttarakhand exist. Master Plan for Trekking Routes in Uttarakhand of 2003 makes a distinction between ecotourism or nature tourism and adventure tourism and focuses on identifying planned trekking routes across Uttarakhand. A master plan for ecotourism exists for Hemkund Belt Valley of Flowers. The Plan includes provision of shelters, other amenities and environmental improvements. (Uttarakhand Tourism Development Master Plan, 2008)

As seen above, Uttarakhand does not have a dedicated ecotourism policy like several other Himalayan States. However, Uttarakhand's Tourism Policy internalizes sustainability, both environmental and social, in its vision and mandate. Promoting nature tourism and addressing carrying capacity issues are clearly stated objectives of the Policy. According to NITI Aayog, Uttarakhand policies contain provisions favorable for tourism enterprise development governance to a 'large extent'. (NITI Aayog, 2018) However, these policy objectives are not always given effect on ground.

Regulation of tourism trade and other activities

Accommodation and tourist trade

Uttarakhand Tourism Development Board was constituted under the Uttarakhand Tourism Development Board Act, 2001 as a statutory body to formulate plans, policies, strategies, standards and norms for development and promotion of tourism in the State. The Board also serves as a regulatory and licensing authority. A number of Rules pertaining to different aspects of tourism have been promulgated under this Act.

Uttarakhand Tourism and Travel Trade Registration Rules 2014 govern registration and recognition of individuals, entities and organizations involved in various tourism related

activities. An application for registration can be refused on grounds of insolvency, corruption, or conviction for offences such as hoarding, smuggling or profiteering or adulteration of food or drug, or if the prescribed standards (as per the geographical conditions) and building standards, byelaws etc are not adhered to. (Rule 8) Every operator is enjoined with certain duties, such as reporting, maintenance of proper records, and keeping necessary equipment. As a social measure, every operator must comply with State rules that may be made from time to time in order to provide employment to local population. Besides giving information about size of room and facilities, every operator has to give information about creation of employment opportunities for local communities at the time of making an application for registration. Thus, some level of social sustainability is included in the Rules by ensuring employment for local population. However, no such requirements exist in the registration process with respect to introducing environmental criteria in tourism and travel trade.

Homestays

Homestays have emerged as an important component of tourism in recent times, both in business as well as policy. As against mainstream tourist accommodation, homestays offer a closer interaction with the regions' cultural and natural heritage. Bed and breakfast was earlier treated as an accommodation unit under the Tourism and Travel Trade Registration Rules 2014. However, the 2016 amendment removed bed and breakfast and homestays out of the definition of tourist accommodation unit.[6] Now homestays are governed by separate Homestay Rules, 2015, amended upto 2017, which categorise homestays into gold silver and bronze categories. Homestays that reflect and promote culture and tradition of the State are given priority in registration. (Rule 3.3) A number of mandatory conditions are also prescribed for homestays, such as nature of property, rooms, bathrooms etc. *A recent study on the relationship between ecotourism and homestays in Uttarakhand has shown a positive relationship between homestays and ecotourism directed behavior's, including willingness to support ecotourism activities. (Bhalla et al, 2016)[7]*

The Uttarakhand Homestay Rules contain no requirements with respect to eco-tourism or environment in general except the condition to keep the homestay clean and hygienic and to manage waste properly. (Rule 5) There seems to exist no obvious incentive for the homestay owners to adopt or participate in ecotourism activities. Neither is there a deterrent for homestays to check practices that are unsustainable in nature. Therefore, despite the potential, th*e linkages between homestays and ecotourism have not been utilized optimally*.

In Uttarakhand, Deen Dayal Upadhyaya Griha Awaas Vikas Yojana has been created to attract tourists to far-flung tourist destinations along with the popular ones, enhance accommodation facilities at local level, generate employment for local people and provide an additional source of income to house owners.
The main objective behind starting the scheme is to provide clean and affordable home stay facilities to national and international tourists. The facility will also offer travelers a unique

---

[6] Department of Tourism, Government of Uttarakhand Notification no. 160/VI/ 2016 -01 (7)/2013, dated 16 February 2016

[7] Priya Bhalla, Alexandra Coghlan & Prodyut Bhattacharya (2016) 'Homestays' contribution to community-based ecotourism in the Himalayan region of India', *Tourism Recreation Research*,41:2, 213-228

opportunity to explore Uttarakhand's culture and savour the delightful delicacies of the state's cuisine. This Yojana can be used to help develop ecotourism in the SECURE Himalaya landscapes.

Under this scheme, for hill areas government provides capital subsidy of 33% or 10 lakh, whichever is minimum and for first five years of loan payment, interest subsidy is 50% of the interest or 1.50 lakh per year, whichever is minimum. For plain areas, capital subsidy is 25% or 7.50 lakh , whichever minimum and interest subsidy for first 5 years of loan payment is 50% of interest or 1 lakh per year, whichever is minimum .

Adventure tourism

Adventure Tourism, according to Uttarakhand Trekking Master Plan, is different from nature based or ecotourism. However, adventure tourism is extremely relevant for ecotourism as most of activities such as trekking, mountaineering, rafting, camping, etc are undertaken in pristine natural habitat. If not carried out responsibly, they can pose a serious threat to the environment and ecology of the region. *Adventure tourism operators have to get themselves registered with the government under the Uttarakhand Tourism and Travel Trade Registration Rules* 2014. Under the Rules, all adventure tourism operators have to give a declaration that they possess all the requisite technical equipment needed for safety and rescue operations before obtaining registration. (Rule 7.2)

Uttarakhand River Rafting/ Kayaking Rules 2014, amended upto 2018 is the main regulation for river sports and tourism in Uttarakhand. Any river rafting or kayaking, whether for commercial or non-commercial purposes, is allowed in the State only after obtaining a valid permit under the Act from the Tourism Department and paying the prescribed kayaking/ rafting fee and environmental fee. (Chap II) The environmental fee is paid to the forest department.

Towards social sustainability, all commercial permit holders have to provide employment to locals as per directions from department of industries. (Rule 10). A number of safety measures have to be taken by rafting or kayaking operators. Every permit holder has to report about employees, visitors, accidents, untoward incident etc.

The Rules clarify that permit shall be granted on a river-wise basis depending on the carrying capacity of each river. (7(4)) The Technical Committee, which is responsible for examining applications for registration, is also responsible for identification of rivers and their suitability for rafting and assessment of carrying capacity of each river for 5 years. (Rule 12) However, licences have been granted to rafting and kayaking operations in large numbers, without undertaking a proper carrying capacity assessment. The National Green Tribunal has in the past observed on record that 'State Government has been allotting the camping sites over the years on demand from the concerned campers, without bothering to check the feasibility of the sites and the overall carrying capacity of the river segment in question'.[8]

Uttarakhand Foot Launch Aero sport (Paragliding) Rules 2018 regulates various aspects of paragliding, such as licensing, accreditation, fees and measures for safety. Every commercial and non-commercial aero sport activity has to be undertaken after obtaining a permit and paying a fee under the Rules. As in the case of rafting, the Technical Committee, which is responsible for examining applications for registration, is also responsible for identification of new sites for aero-sports and assessment of carrying capacity of each flying site for 5

---

[8] NGT Judgment dated 10 December 2015, Original Application No. 87 OF 2015

years. The Rules have a very strong focus on taking safety measures and having trained personnel, equipment and infrastructure.

The Rafting and Aero sports Rules of Uttarakhand are an exception to most tourism related rules as they contain a separate and a detailed section on environmental safety. Under both the Rules, every operator and permit holder has the following responsibilities:

- To conserve the ecosystem and wildlife of region
- To ensure disposal of garbage in a designated pit, and not into a river
- To not consume plastic or polythene
- To collect all non-biodegradable waste and put in municipality bin
- To not contaminate rivers, streams etc with detergent
- To not cause noise pollution with electronic devices
- To not take away any plant, seed or root from the sites.

The Government of Uttarakhand has also issued guidelines for tourists who come for rafting, aero sports, mountaineering. These guidelines cover a range of do's and don'ts with respect to fire safety in adjoining fires, waste disposal and management, preventing pollution of water bodies, least interference with fauna etc. [9]

Guidelines for Mountaineering Expeditions in Uttarakhand have been issued with the objective of promoting mountaineering in the region 'in a regulated manner with adequate environment safeguards'. The government does not allow scaling of peaks inside the Nanda Devi National Park. For other mountaineering expeditions, a permit has to be obtained from the State government. State Forest Department is responsible for monitoring and regulating mountaineering in conformity with existing laws on forest conservation, environment protection and wildlife protection.

To address the issue of waste disposal in mountains, expedition teams have to declare all the biodegradable and non-biodegradable material before and after the expedition. A security deposit is also made to this effect before going on an expedition. All the waste deposited at the expedition check post is to be transported to recycling centers by the forest department.

An expedition fee, comprising Peak Fee, Camping Site Fee and Trail Management Fee, and Environmental Levy is charged. The fee collected is used for long term environmental safety of the region and includes expenditure for following purposes:

- Recycling non-biodegradable waste
- Promotional activities
- Monitoring of environmental and socio-economic impacts
- Capacity building of stakeholder departments
- Capacity building and benefit sharing with local communities
- General safety measures

These guidelines and duties on operators have had little impact in terms of increasing awareness of tourists. Uttarakhand Tourism Development Master Plan 2007 – 2022 has

---

[9] https://uttarakhandtourism.gov.in/document/type/adventure-sports-trekking-and-camping-guidelines/

identified *low awareness as a challenge across stakeholder groups - domestic tourists, resort owners and developers, other operators and Government agencies.* Interestingly, a review of awareness and orientation of different categories of tourists (leisure, adventure and pilgrim) in Jammu and Kashmir and Uttarakhand concluded that *environmental orientation of religious and adventure tourists was higher than leisure tourists. (Bagri et al, 2009)[10]*

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.[11]

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 penalizing 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.[12] 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.[13]

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 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.

---

[10] Satish Bagri, Bharti Gupta and Babu George (2009) 'Environmental orientation and ecotourism awareness among pilgrims, adventure tourists, and leisure tourists', *Tourism*, Vol. 57 No 1/ 2009/ 55-68

[11] https://www.gdrc.org/uem/eco-tour/envi/one.html

[12] Section 24
[13] Section 25

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.

Waste Management

Globally, tourism industry generates 4.8 million tonnes of waste annually[14] making waste management in tourist areas critical. Some estimates from tourist areas in India suggest that waste generation in Himalayan tourist spots are almost equal to waste generated in metropolitan areas. (Kuniyal, et al 2003)[15]

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 harbors, 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 emphasize on waste reduction, reuse, recycling, recovery and optimum utilisation of various components of solid waste. The Rules, despite

---

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

[15] http://europepmc.org/abstract/med/14583243

its somewhat centralised approach to solid waste management, has positive elements and paves way for an integrated waste management approach.

Uttarakhand Urban Municipal Solid Waste Management Action Plan, 2017

In accordance with SWM Rules of 2016, the Urban Development Directorate of Government of Uttarakhand prepared a State level Action Plan for the management, handling and disposal of municipal solid waste.

The Action Plan proposes several strategies for integrated waste management and aims at making the State a zero waste State by 2040. It has a separate strategy for high tourist inflow in festive/tourist season. The Action Plan suggests levying a charge for collection and management of waste from tourists in areas with high tourist inflow and potential. The strategy also talks about recycling system, decentralized waste management and in situ composting. Recent news reports suggested that Uttarakhand will impose a green levy on tourists. While no official notification is available in this regard, it is likely to be an extension of this component of the Action Plan.[16] According to the strategy, urban local bodies should develop a collection system and making waste collectors partners in revenue stream. The Plan also envisages Hotels and restaurants to be made responsible for waste segregation and its management in partnership with Local Bodies.

Besides hotels, restaurants, etc, municipal solid waste is also generated at camping sites. The responsibility of collecting all waste, including municipal solid waste, from camping sites and transporting it to designated dumping sites is that of the entity who has been granted permission to set up a camp. In the absence of a clear and sound waste management framework and processes, locals have to deal with waste management, which they are not equipped to handle on their own. (Bhalla et al 2018)

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 channeling 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

---

[16] http://www.indialegallive.com/environment/uttarakhands-tax-seeing-red-over-green-tax-68583

have a responsibility to not sell items in plastic bags that are not labeled 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'*.[17] 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, as discussed later, some States have prohibited and restricted use of plastic in certain areas. *This can be done for the Uttarakhand PAs falling within the SECURE Himalaya as well.*

Ban on plastic and other non-biodegradable items in Uttarakhand

In response to Supreme Court order in Lalit Miglani vs State of Uttarakhand[18] directing the State government to ban sale, use and storage of plastic bags in the Uttarakhand, the State Government imposed a complete ban on use, sale and storage of bags, cutlery, crockery made out of plastic and thermocol in January 2017. The notification also banned bringing these prohibited material into the State through any mode of transport. A fine of Rupees 5000 is imposed on violation of this ban. The notification also highlights the need for sensitization of certain institutions, including hotels, restaurants, *dhabas*, guesthouses and *dharamshalas*.[19]   NGT has further banned any plastic, including plastic bags, plastic glass, plastic spoons, plastic bottles package and such other disposable items from Kaudilya to Rishikesh.[20]

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 forest land for non-forest purpose.[21] 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.[22] 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

---

[17] http://pib.nic.in/newsite/PrintRelease.aspx?relid=181229

[18] Write Petittion (C) 140/2015

[19] Department of Forest and Environment, Government of Uttarakhand Notification no. 88/ x-3 – 17 – 13 (11)/ 2001 dated 25 January 2017

[20] *Jaswinder Kaur vs Union of India*, OA No. 382 OF 2015, NGT Judgment dated 10 December 2015

[21] 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;

[22] Section 2, Forest Conservation Act

protection and conservation of forest, as a matter of policy, such proposals would be rarely entertained.'

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.[23] 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.[24]

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.[25]

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'.[26] 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.[27]

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.[28] 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.

---

[23] Section 18 WLPA

[24] Section 28, WLPA

[25] Section 33, WLPA

[26] Section 38 O

[27] Section 38 X

[28] 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 X V/a X RF Where, A = available area for public use V/a = one visitor / M2 Rf = rotation factor (number of visits per day)

The 2012 Guidelines also proposed a 'conservation fee' to address local livelihood development, human-wildlife conflict management and conservation through eco-development. The fund comprising this fee is to be administered by Tiger Conservation Foundations with tourism industry having a say in purposes of utilization.

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.

Uttarakhand Forest Policy, 2001

One of the primary objectives of State Forests Policy of Uttarakhand is to provide livelihood opportunities to local population through forestry programs and ecotourism. However, there are not much details about how to achieve this or promote ecotourism. The State Forest Department also has a separate wing to deal with ecotourism activities but the benefits of such activities are reportedly not shared adequately with the local communities. The local communities have been at the receiving end of environmental regulation of tourism activities. (Pande and Sharma, 2018)[29]

Recently, the state forest department has identified five ecotourism circles (Yamuna Tons Valley, Tankapur-Champawat-Devidhura (Pithoragarh)-Nainital, Dehradun-Rishikesh-Tehri, and Ramnagar-Almora-Nainital) and three ecotourism destinations (Ramnagar, Ranikhet, and Dhanaulti) to promote tourism. The forest department has clarified that this will be done as per carrying capacity of the destination and the focus will be on responsible tourism.[30]

Disaster Management and Climate Change

UK State Disaster Management Plan

The Plan aims to build disaster resilience in the State and localize and minimize the impact of disasters by standardizing pre - and post - disaster practices and protocols.

The Plan takes a multipronged approach of Hazard, Vulnerability and Risk assessment; building early warning systems, strategies for preparedness, prevention and mitigation; Developing a response mechanism, evacuation plan and media strategy for different stages of disaster. While the State Disaster Management Plan recognizes tourist potential and inflow in the State, it does not contain any specific strategy or measure for tourism sector in particular.

Climate Change Action Plan

The State Action Plan on Climate Change adopts a sectoral implementation approach guided by a common implementation framework. SAPCC identifies key climate related challenges in the Tourism sector, such as pollution/ waste management, urban design/ congestion, lack of conservation management, lack of efficient public transport and inadequate awareness and understanding amongst tourists and the operators. SAPCC lists a

---

[29] Neha Pande and A K (2018) 'Uttarakhand's Ecotourism Development is Being Mismanaged' *Economic and Political Weekly,* Vol. 53, Issue No. 49, 15 Dec, 2018

[30] https://timesofindia.indiatimes.com/travel/destinations/uttarakhand-moves-toward-responsible-tourism-by-developing-ecotourism-spots/as69523186.cms

few strategies that could help in promoting this sector while keeping it eco-friendly. A detailed impact assessment, coordination between climate cell and Vikas Nigams of Garhwal and Kumaon, tourism management master plan incorporating climate concerns are some of these. The Action Plan also proposes insurance, some market based instruments and levies, and PPP for improved RE uptake, cleaner fuels, energy efficiency and public transport.

Other Schemes of possible relevance

Veer Chandra Singh Garhwali Tourism Self Employment Scheme

Veer Chandra Singh Garhwali scheme aims to provide self-employment to the natives of the state, especially the youth. Scheme will be helpful in development of infrastructure and transport facilities development. Permanent resident of the state can apply under this scheme.
For vehicle, government provides subsidy of 25%, maximum of 10 lakh. Same benefits are for Infrastructure facilities development in plain areas. For Hill areas, government provides subsidy of 33%, maximum of 15 lakh.

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 housekeeping, 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 ecotourism 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.[31] Several of these circuits, especially wildlife circuit, Himalayan circuit, eco circuit, northeast circuit, are crucial for sustainable tourism in Himalayan region.

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 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. These include Badrinath, Kedarnath, Gangotri and Yamunotri in Uttarakhand.[32]

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.

---

[31] http://swadeshdarshan.gov.in/index.php?Theme
[32] Ministry of Tourism, Rajya Sabha, Unstarred Question No-1081, Answered on-12.02.2019

However, in guidelines for infrastructure development, it does call for procuring ecofriendly modes of transport and lighting.

6.1.5 Apni Darohar, Apni Pehchan'

Ministry of Tourism, Ministry of Culture and Archaeological Survey of India have launched a scheme called 'Apni Darohar, Apni Pehchan' in 2017. Under it, the government invites entities, including public sector companies, private sector firms as well as individuals, to develop selected monuments and heritage and tourist sites across India. Under this initiative, Ministry of Tourism, the Adventure Tour Operators Association of India and the Uttarakhand government have signed a Memorandum of Undertaking (MoU) for adopting 'Gaumukh'.

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. 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.[33]

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 buffer areas.[34] The ban was subsequently lifted after the NTCA notified guidelines in October 2012.

SC has also 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.[35]

For Uttarakhand, the National Green Tribunal (NGT) has passed some important orders in a case pertaining to illegal construction along the flood plains and riverbed of Ganga in Rishikesh and other upto Devprayag. The respondent, a hotel operator, pleaded that he had not breached any environmental law and obtained all the permissions to operate his hotel, which had a 'positive impact on the local environment, society and economy through ecotourism'. The NGT bench discussed the concept of ecotourism in much detail and concluded that the impugned hotel was not an ecotourism activity, but a commercial activity that carried out construction despite previous existing restrictions imposed by Uttarakhand HC.[36]

---

[33] (1997)1 SCC 388

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

[35] 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*

[36] *Rajiv Savara vs Darrameks hotels*, NGT Judgment dated 21st March, 2016

NGT has opined that rafting by itself does not affect the environment adversely but camping activities along the river and in forest areas has negative impacts. It noted that the latter is a commercial activity that can be permitted if a strict regulatory regime is enforced without default, onus of which is on the State. Consequently, the NGT suspended all camping activities from Kaudiyala to Rishikesh, but allowed rafting activities. It further imposed a ban on raising any temporary or permanent structure, especially cemented platforms or bricked walls in the area. The NGT Bench also constituted a Committee to prepare a regulatory regime for ecotourism which addresses all the gaps and in particular makes recommendations for carrying capacity - visitor per day and other environmental loads of the activity.[37]

In 2013, the High Court of Uttarakhand passed an order directing State government to not allow any construction of permanent nature within 200 meters from any riverbank.[38] Recently, the Uttarakhand High Court gave a ruling for conservation and protection of alpine meadows/ bugyals while hearing a writ petition sought a number of reliefs, including stopping of overnight stay of tourists in meadows.[39] The HC ordered removal of all permanent structures from the alpine meadows/ sub-alpine meadows/ Bugyals in the State and banned any overnight stay in the meadows. It directed the district administration was directed to clear the meadows of plastic water bottles and such waste. Importantly, the court directed the State Government to restrict the number of tourists to 200 in the meadows.

Summary

Neither the country, nor Uttarakhand has a dedicated law or policy for ecotourism. Tourism Policies of State as well as the Centre contain provisions on sustainability. Uttarakhand tourism policy has certain clear and implementable provisions with respect to ecotourism, such as training and accreditation of guides and naturalists, improved engagement with local communities and coordination amongst tourism and forest departments. However, these are policy prescriptions and leave 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 Uttarakhand Tourism Development Board Act, 2001. 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.

The overall focus of Rules pertaining to adventure sports is on safety, and not much on environment even though most of these activities are conducted in ecologically fragile regions. However, unlike the situation in several other States, these Rules do list certain environmental safety related duties of permit holders. These range from proper waste management to preventing pollution of rivers, streams and noise pollution. Guidelines for

---

[37] *Jaswinder Kaur vs Union of India*, OA No. 382 OF 2015, NGT Judgment dated 10 December 2015

[38] *Sanjay Vyas Vs State of Uttarakhand & Others*, Uttarakhand HC Order dated 26th August, 2013 in Writ Petition (PIL) No. 25 of 2013

[39] *Aali-Bedini-Bagzi Bugyal Sanrakshan Samiti vs State of UK*, Order of High Court of Uttarakhand at Nainital, dated 21 August 2018 in Writ Petition (PIL) No.123 of 2014

mountaineering lay emphasis on environmental safeguards. General guidelines, do's and don'ts for tourists and other stakeholders for rafting, aerosports, mountaineering also exist.

An environmental levy is charged for most of the activities, which is meant to be used for environmental safety of the region, and be spent on specified activities for promotion, capacity building, waste recycling and monitoring of environmental impacts.

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. The Uttarakhand government in its state level action plan of 2017 has suggested levying a charge for collection and management of waste from tourists in areas with high tourist inflow and potential. Plastic waste is another menace, which is being regulated by both central and state level rules. Uttarakhand has already banned sale, use and manufacture of plastic and thermocol items.

All States have been asked by MOEFCC to declare PAs as plastic free zones. NTCA has notified guidelines called Normative Standards for Tourism activities in buffer and core area of tiger reserves in 2012. Although in the nature of guidelines, these have to be complied with as per Supreme Court orders of 2012.

Uttarakhand Action Plans on climate change and disaster management recognise the importance of tourism sector and need for intervention therein. The SAPCC recommends a detailed impact assessment, tourism management master plan and some specific measures such as insurance, some market based instruments and levies, and PPP for improved RE uptake, cleaner fuels, energy efficiency and public transport.

Key observations

- Most of ecotourism provisions are found in policies and guidelines. These are not included in enforceable regulations.

- Environmental management in tourist areas are governed by central and state regulations on water pollution, air pollution and waste management, ecosensitive zones, forest conservation etc., where tourist activities, including hotels etc, are subject to consents, permissions, licences etc as any other activities.

- While plastic and other non-biodegradable items are banned, they still find way in the State, especially in tourist areas. 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.

- Supreme Court and high court of Uttarakhand 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.

- Registration of tourist trade and activities are covered by enforceable regulations. Every tourism operation has to obtain a permit mandatorily under the State Acts and Rules. However, the potential of these rules in making tourism more sustainable is not utilized to its optimum. The conditions for registration do not take into account environment and ecology adequately. There could 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.

- 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.

Developing sustainable tourism in the project landscapes

Introduction

The interdependence between tourism and the environment is recognized worldwide. In the State of Uttarakhand, t the resource most essential for the growth of tourism is the environment. Tourism is an environmentally sensitive industry whose growth is dependent upon the quality of the environment. Tourism growth will cease when negative environmental effects diminish the tourism experience. Some of the impacts of the current models of tourism include replacement of traditional eco-friendly and aesthetic architecture with inappropriate, unsightly, and dangerous construction; poorly designed roads and associated infrastructure; inadequate solid waste management; air pollution; degradation of watersheds and water sources; and loss of natural resources, biodiversity, and ecosystem services. Tourism that sustains the physical and social environment has come to be known as "ecotourism". The precise definition of this term remains ambiguous even within the tourism industry itself. However, ecotourism can be differentiated from traditional tourism in that ecotourism not only attempts to minimize the environmental impact of tourism, but also has as a goal that local communities and the physical environment will actually benefit from tourism. Ecotourism is now defined as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education (TIES, 2015).

Given the intensity of adventure sports and tourist activity in the Gangotri- Govind and Darma-Byas landscapes, the need to promote ecologically sustainable tourism has been felt by both the Government and Non-Governmental Organisations. Sustainable tourism is one of the fastest growing tourism markets that generate higher economic benefits per visitor with a lower ecological footprint. However, the major challenges and gaps in promoting sustainable nature based tourism and adventure tourism in the project landscapes are 1) Lack of proper and planned sustainable infrastructure to cater to tourists, 2) Capacity building of the local communities to implement and promote sustainable tourism and 3) Lack of communication material highlighting the biodiversity and allied evolved culture around it. The impediments to promoting tourism in each of the landscapes are provided in Table 4.

Table 4: Impediments to promoting tourism in each of the landscapes

Landscapes	Lack of proper and planned sustainable infrastructure				Capacity building programmes	Lack of relevant communication material
	Accommodation	Road	Essential Services (Bank, ATM, Fuel, Hospital etc)	Network Connectivity		
Gangotri	1. Locals are replacing traditional eco-friendly and aesthetic architecture with inappropriate, unsightly, and dangerous constructions to cater to tourists especially pilgrims visiting Gangotri temple. 2. The existing homestays are cement concrete buildings and very few homestays abide by the definition (up to 6 rooms) as set by the tourism dept. 3. Lack of proper toilets and sanitation in homestays/villages and their proper maintenance.	1. There is a two lane metaled road in good condition leading all the way to Gangotri. However, during *Yatra* season there are frequent traffic jams especially near Gangnani and Sukki villages. 2. Construction of four lane Char Dham road is also leading to jams, pollution and impacts for the fragile ecology of the region.	1. Essential services like bank, ATM, fuel, hospital etc are available in Uttarkashi which is 100 Km from Gangotri landscape. In addition, there are banks in Bhatwari and Harshil.	1. There is no network connection beyond Bhatwari. However BNSL works in few pockets of the landscape.	1. Lack of capacity building programmes on nature interpretation catering to the demand of growing market of wildlife photography including bird tourism, butterfly tourism etc 2. Lack of training and hand-holding on developing market linkages for communities 3. Lack of sensitization programmes on biodiversity conservation for tourism service sector and tourists 4. Lack of capacity building programmes on state policies and programmes. Eg. Homestay policy 5. Lack of capacity building programmes on	1. Lack of collaterals including pamphlets and handouts, short films, banners and signage's focusing on products and avenues related to nature based tourism and adventure tourism. 2. Lack of hoardings showcasing the rich biodiversity inside the PA

Landscapes	Lack of proper and planned sustainable infrastructure				Capacity building programmes	Lack of relevant communication
				hospitality, first-aid etc		

Other Challenges and Gaps: 1. Upper cluster villages migrate to lower altitudes for six months from November to April. Hence there is no tourism around that time.

| Govind | 1. Currently locals from Sankri, Sor and Osla dominate the tourism activities. Hence there is limited scope for other villages to take benefits from tourism.

2. Though traditional homestays made from wood are used, many unplanned constructions are coming up in Sankri | 1. There is a two lane metaled road in good condition leading all the way to Sankri but from Sankri to Taluka, the road is un-metaled and in very bad condition. Hence only local vehicles and 8 plus seater vehicles ply on this road | 1. Essential services like bank, ATM, fuel, PHC etc are available in Purola which is 85 Km from Govind landscape.

In addition, there are banks in Mori and Netwar. | 1. There is no network connection beyond Purola. However BNSL works in few pockets of the landscape. | Same as above | Same as above |

Other Challenges and Gaps: 1. There is no federation/ union/association of local tour operators. Hence there are no standard rates or rules amongst the tour operators.

2. Locals engaged by the tour operators do not get fair wages/salaries

3. Since almost 90% tourism is focused on Har ki doon and Kedarkanta treks, other villages in the landscape are not benefiting from tourism. Hence there is discordance amongst local communities due to inequitable distribution of tourism benefits

| Darma | 1. Though the homestays are made of traditional eco-friendly material they lack proper toilets and sanitation and their proper maintenance

2. There is no electricity in the entire valley hence solar lights are a viable | 1. There is a metaled road till Tawaghat and from an unmetaled road there onwards till Tedang. | 1. Essential services like bank, ATM, fuel, hospital etc are available in Dharchula which is 85 km from Darma | 1. There is no network connection beyond Dharchula. However BNSL works in few pockets of the landscape. | Same as above | Same as above |

Landscapes	Lack of proper and planned sustainable infrastructure				Capacity building programmes	Lack of relevant communication
	option					
Byas	1. Though the homestays are made of traditional eco-friendly material they lack proper toilets and sanitation and their proper maintenance 2. There is no electricity in the entire valley hence solar lights are a viable option	1. There is a metaled road till Tawaghat and no road there onwards	1. Essential services like bank, ATM, fuel, hospital etc are available in Dharchula which is 85 km from Byas	1. There is no network connection beyond Dharchula. However BNSL works in few pockets of the landscape.	Same as above	Same as above

Other Challenges and Gaps: 1. Tourists stay for a very short duration (only 1 night) in homestays in various villages. Hence it does not result in sufficient income for the communities. It is also very cumbersome and expensive to source groceries to cater to tourists from Dharchula.

2. Maintenance of homestays is an issue since communities occupy them only for 4-5 months.

Recommendations

Tourism is a multidimensional industry that interfaces with several sub-sectors of the economy. Undoubtedly, it has an important role in sustaining the livelihood of the communities in the Gangotri- Govind and Darma-Byas lanscapes. However with the increasing trends in arrival of tourists, it is imperative to plan and implement sustainable tourism through integrated approach. Hence the specific strategies geared towards managing existing tourism activities and promoting nature based tourism and adventure tourism for each of the project landscape should be based on broad categories encompassing a) Institutions and processes, b) Capacity building, c) Research/science and technology, d) Finance and marketing. e) Planning, implementation and monitoring and f) Policy and regulations

1. Gangotri-Govind

a) In Gangotri, since the current tourism is concentrated around Gangotri-Gaumukh-Tapovan area, there is an urgent need to decongest Gangotri by developing nearby alternative sites for tourism like Bhairoghati and Lanka that is famous for its natural beauty and local culture.

b) It is imperative to sensitize pilgrims on the biodiversity of the Gangotri landscape, waste management issues, health and hygiene using various hoardings at strategic locations during the *yatra* season. Moreover, streetplays, theatre workshops during peak tourism using examples from mythology can be used to illustrate and convey these critical messages. Mythology can also be used to drive home the message on notice boards.

c) Also, since the tourism in Gangotri is concentrated only during six months from May to October, a more diversified, year-round product offer is needed – a mix of winter and summer products, including bird and butterfly watching, skiing, hiking, mountain biking, other outdoor pursuits, spiritual and cultural experiences.

d) The weakest link with respect to tourism in the Gangotri- Govind landscape at the moment is lack of network connectivity (mobile and internet) that is a major impediment for marketing and promotion. Hence presence of network connectivity is very crucial in order to promote sustainable tourism.

e) Some of the new tourist attractions could be marketing a new trekking route between Bagori in Uttarakhand to Chitkul in Himachal via Kyarkoti, Chowrangi to Hari Maharaj and Harunta Bugyal and day hikes to Gira waterfall and Mathena for rock climbing near Barsu village. There is also a huge scope to develop bird and butterfly tourism in and around Salang, Tihar, Hurri and Bhangeli as these villages are not connected by motorable road and hence have intact biodiversity that in turn has potential for nature based tourism.

f) Other potential areas for bird watching include Doditaal, Burmitaal, Gangnani and the trail between Bhukki to Kheda Taal.

g) Communities can earn more by serving local produce and traditional food including *Kuttu ke atte ki roti, Mandwa ke ate ki roti, Bhangjira Chutney, Lingda (Phadai Bhindi), (Kyedi) Bicchu Ghaas, Lamasai (red rice), Gucchi (Mushrooms) and Kholei (a type of vegetable)* etc. Hence there is a need to promote local and traditional food in the SECURE landscapes.

h) There is a huge scope to develop cultural tourism that gives insights into the life of local communities, their rich cultural traditions and reverence for nature especially in the villages of Bagori and Raithal. This is because the two villages have still retained their old traditions that are highly visible in their local architecture, homes and clothes.

i) There is an urgent need to build capacity of the communities in community-based ecotourism, Home stay development and hospitality including customer service, housekeeping service and food and beverage, safety and security, hygiene and first-aid. Vocational training programmes geared to the hospitality industry are a must for local youth.

j) There is an urgent need to build capacity of the communities on developing market linkages including low cost marketing, maximizing sales and accounting and managing money.

k) Capacity building programmes need to be initiated for youth and other community members on nature interpretation which includes modules focusing on techniques on identifying flora, techniques on identifying medicinal and aromatic plants, techniques on identifying fauna including birds and butterflies.

l) These capacity building initiatives promoting sustainable tourism and its packages (homestays, rural tourism, nature-based tourism, heritage management) must be incorporated within the curriculum and delivery/ design of training/education institutions (e.g. vocational centres, universities, schools and the Nehru Institute of Mountaineering). This should be accompanied with periodic "follow-up" assessments and ToTs (Training of Trainers).

m) Hotels and business sector in Uttarkashi must actively support initiatives for local infrastructure (e.g. signage, hoardings) and community development.

n) Identifying and supporting veterans from the Indian army and ITBP to establish adventure tourism based entrepreneurships is crucial as they have specialized skills that can help to promote safe adventure sports tourism.

o) Making an assessment of all the relevant public schemes and business investments in the landscape and how these could be leveraged for sustainable tourism and maintenance of best practices (MGNREGA, CAMPA etc).

p) In order to encourage entrepreneurship amongst communities, facilitation of access to credit and low interest is essential.

q) Bugyals, wetlands and other biodiverse areas in the landscape may be opened up for limited number of tourists with low impact and high income with environmental standards strictly followed (e.g. waste, decibel levels, number of tourists). For these sensitive areas, the Bhutan model may need to be followed.

r) There is an urgent need to establish a Sustainable Tourism Development Unit (STDU)/Cell at State tourism Development Board office in Uttarkashi to address all sustainable tourism development issues and serve as a nodal point for framing and implementation of sustainable tourism development policy and measures.

s) In Govind landscape, since a number of foreign trekkers visit each year, a basic crash course for the community member's on learning English along with other trainings on Hospitality needs to be planned.

t) In Govind landscape, a large number of foreig trekkers visiting include women who travel solo or in small groups of 3-4 members. Hence   more female community members must be trained. They can then accompany these female foreigtourists as competent guides. Uttarakhand can learn from Ladakh in this regard which has a Ladakhi Women Travel Company comprised exclusively of women and catering to women tourists.

u) There is also a need to develop federation of local tour operators, guides and homestay owners in Govind landscape in order to reduce discordances amongst local communities due to inequitable distribution of tourism profits.

v) Since almost 90% tourism is focused on Har ki doon and Kedarkanta treks it is only benefitting villages that are a part of these two circuits. Hence in order to enhance livelihood of communities from Doni, Satta, Pujeli and Khaniyasni, cultural tourism needs to be developed and promoted.

2. Darma- Byas

a) The current footfall of tourists in the landscape is very low and decreasing each year due to its remoteness and lack of comprehensive marketing strategies. In order to promote sustainable tourism in the landscape, design and deliver a landscape-specific awareness and sensitization package for different stakeholdersand sectors. This includes all key service providers and producers and this information must be spred through a proactive media campaign and existing travel-related websites and tourism information centres.

b) Creating landscape specific information including pamphlets and handouts, short films, banners and signage focusing on products and avenues related to nature-based tourism and adventure tourism as well as hoardings showcasing the rich biodiversity of the landscapes. Again these should be made locally and culturally specific through clever design and marketing that appeals to local sentiments.

c) Along with the capacity building programmes on various aspects related to sustainable tourism, exposure visits must be organised for the community members focusing on customer service, housekeeping service and food and beverage service, low-cost marketing, maximizing sales and managing money. One potential place for exposure visits is Sarmoli village in Munsiyari.

d) Provide training and help villages set up their own instagram channels as Sarmoli has done.

e) There is a need to promote incentives, awards, recognition for private tourism service providers as well as community groups adopting best environment-friendly practices with a focus on biodiversity conservation, sustainable use and local livelihoods through the project.

f) It is imperative to sensitize tour operators and religious tourists visiting *Adi Kailash* and *Om Parvat, Panchachuli* peaks etc on biodiversity of Darma-Byas landscape, waste management issues, health and hygiene using various hoardings at strategic locations.

g) Also, since the tourism in Darma-Byas in concentrated only during five months from May to September, a more diversified, year-round product offer is needed – a mix of winter and summer products, including bird and butterfly watching, skiing, hiking, mountain biking, other outdoor pursuits, spiritual and cultural experiences.

h) There is huge scope to develop cultural tourism in the landscape with developing special tours around the time of local *melas* (fairs). *Jauljibi mela, Gulaj mela, Pandali mela* are already famous

i) Along with frequently visited places by tourists like *Adi Kailash* and *Om Parvat, Panchachuli,* local communities have also identified new tourist attractions. *E.g* Ruins of fort- Charha ahya (ahya menaing king) and Nolpa Bugyal near Dantu village; Nagling Bugyal, Baxi Bugyal and Baling Bugyal.

j) In addition to trekking, there is scope to develop skiing in Bon, Baling and backside of Nagling Bugyal.

k) Communities can earn more by serving local produce and traditional food including *Kuttu ke atte ki roti, Mandwa ke ate ki roti, Makki ki roti, Rajmah Potato and Carrot parathas, local ghee/dahi/buttermilk* etc. Hence there is a need to promote local and traditional food in the SECURE landscapes.

l) The weakest link with respect to tourism in the Darma-Byas landscape at the moment is lack of network connectivity (mobile and internet) beyond Dharchula that is a major impediment for marketing and promotion. Hence presence of network connectivity is very crucial in order to promote sustainable tourism.

Conclusion

Neither the country, nor the State of Uttarakhand has a dedicated law or policy for ecotourism. However, Uttarakhand's Tourism Policy internalizes sustainability, both environmental and social, in its vision and mandate. It promotes ecotourism and ensures that it is not at the cost of environmental health of the region. Nevertheless these are policy prescriptions and leave it for the government and its officials to adopt them. Thus, ecotourism provisions are found in various policies, plans and guidelines. These are not included in enforceable regulations. Besides tourism policy, overall Tourism policies of State as well as the Centre contain provisions on sustainability. Other than the above-mentioned policies, Uttarakhand Homestay Rules, Tourism Master Plans for a number of regions and areas in Uttarakhand exist. Master Plan for Trekking Routes in Uttarakhand of 2003 and Uttarakhand Tourism Development Master Plan, 2008 makes a distinction between ecotourism or nature tourism and adventure tourism and focuses on identifying planned trekking routes across Uttarakhand.

Registration of tourist trade and activities are covered under Uttarakhand Tourism and Travel Trade Registration Rules 2014 by enforceable regulations . Every tourism operation has to obtain a permit mandatorily under the State Acts and Rules. However, these conditions do not take into account environmental aspects or even sustainability in general, especially for units providing accommodation to tourists. The focus of most adventure sports related rules is on ensuring safety of tourists, and not on protection of environment. The potential of these rules in making tourism more sustainable is not utilized to its optimum. There could 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.

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. While plastic and other non-biodegradable items are banned, they still find way in the State,

especially in tourist areas. 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.

Besides littering, dumping of solid waste, construction waste and waste water is a major cause of air and water pollution in the State. The regulatory agencies have not been successful in controlling the increasing pollution and waste problems. A number of committees for monitoring, and technical advice have been constituted in the recent past, mostly at the behest of courts and NGT. As seen in this chapter, most of the cases relate to non-implementation of central and state level acts and policies to control environmental impacts of economic activities, and tourism in particular. Often, the courts have weighed in favour of environment over tourism or socio-economic benefits of tourism in the region.

Courts have taken up the issue of environmental degradation in tourist operations, largely due to failure of the administrative machinery to implement rules and monitor their compliance.

Literature Cited

1. Aayog, N.I.T.I., 2019. Sustainable Tourism in the Indian Himalayan Region.

2. Ministry of Tourism. 2017-18. Annual Report. Government of India.

3. WTO (1993) Indicators for the Sustainable Management of Tourism. Report of the International Working Group on Indicators of Sustainable Tourism to the Environment Committee, International Institute for Sustainable Development, Winnipeg, Canada.

4. Luc, H.,(1998). Tourism and Environment. Free University of Brussels, Belgium.

5. UNWTO (1981), Saturation of Tourist Destinations: Report of the Secretary General, World Tourism Organisation, Madrid.

6. Department of Planning (2018): Human Development Report of the State of Uttarakhand. Government of Uttarakhand.

7. Moscardo, G. ed., 2008. Building community capacity for tourism development. Cabi.

8. Pathak, D., Tiwari, I., Tiwari, S., (2017). Tourism in Uttarakhand: An Introspection in proceedings of the conference on recent development in engineering science, humanities and management.

9. Ning, Wu; Rawat, GS; Joshi, S; Ismail, M; Sharma, E (2013) High-altitude rangelands and their interfaces in the Hindu Kush Himalayas. Kathmandu: ICIMOD

Appendix 1: List of Stakeholders consulted in project landscapes

Stakeholder	Govind	Gangotri	Darma-Byas
District Administration	" "	1. Dr. Ashish Chauhan, DM, Uttarkashi 2. Mr Prashant Arya, CDO, Uttarkashi	1. Ms Vandana, CDO, Pithoragarh
Forest Dept.	1. Mr Bachuwan, DD, Govind National Park 2. Mr SL Shailani, Range Officer, Sankri	1. Mr Sandeep Kumar, DFO, Uttarkashi 2. Mr NV Sharma, DD, Gangotri National Park	1. Mr Bonal, ADG MoEFCC (retd.) 2. Mr Sunil Kumar, Ranger, Dharchula
Tourism Dept.	"	1. Mr. Prakash Khatri, District Tourism Development Officer	1. Mr Amit Lohani, District Tourism Development Officer
GMVN/KMVN	Manager, GMVN, Barsu	-	1. Divan Singh Bisht, Manager, TRC Dharchula
Hotel/ Resort Owners	1. Bhagat Singh Rawat, Owner, Swarg Rohini, Sankri	1. Gaurav Rawat, Manager, Himalayan Nature Resorts, Harshil 2. Ravi Rawat, Owner of Bugyal Sarai resort, Barsu	1. Manager, Dev Hotel, Dharchula
Homestay Owners	1. Naresh, Homestay Owner, Gangar 2. Balbir Singh Rawat, Homestay Owner, Sor	1. Deepender Panwar, Owner of Monal Homestay, Uttarkashi 2. Bhavan Singh Rana, Village head, Bagori	1. Ganesh Singh Dugtal, Dugtu 2. Jayanti Dudtal, Dantu 3. Mahesh Dudtal, Dantu
Transporters	-	1. Deenanath Nautiyal, Taxi Drivers Union	1. Kalam Dugtal, Dharchula
Porters	-	1. Sanjeev Rawat, Porter, Barsu	-

Stakeholder	Govind	Gangotri	Darma-Byas
Tour Operators	1. Chain Singh Rawat, Himalayan Hikers	1. Jayendra Singh Rana, President of Garhwal Himalayan trekking and mountaineering association 2. Bhagwat Semwal, Snow Spider	1. Ashok Bhandari, Adventure Lover Association 2. Shanker Singh, Secretary, Paragliding Association, UK
Local Guides	1. Rajat Rawat, Guide, Sankri 2. Arvind Rawat, Guide, Satta	1. Ajay Palawat , Guide, Barsu	1. Ganesh Singh Dugtal, Dugtu
Other Institutes/ NGOs	1. Chain Singh Rawat, Har-ki -dun Protection and Mountaineering Association	1. Vishal Bisht, Registrar, Nehru Institute of Mountaineering 2. Mukesh Gupta, HARC	1. Puran Singh Selao, Chairperson, Diling Darma Sewa Samiti 2. Krishna Garbyal, President, Rung Kalyan Sanstha

Appendix 2: Photos

Focused Group Discussions with the communities during field visits to project landscapes


Key informant interview with stakeholders in Darma-Byas landscape (Upper left- Forest Dept., Upper right- Tourism Dept., Lower left- Tour Operator and Lower right- Handicraft association)

Key informant interview with stakeholders in Gangotri- Govind landscape (Upper left- Taxi association, Upper right- Resort Owner, Lower left- Handicraft creator and Lower right- Forest Dept.)

Appendix 3: Tourist Map of Uttarkashi District showing Government resthouses in the landscape (Source: Tourism Department)
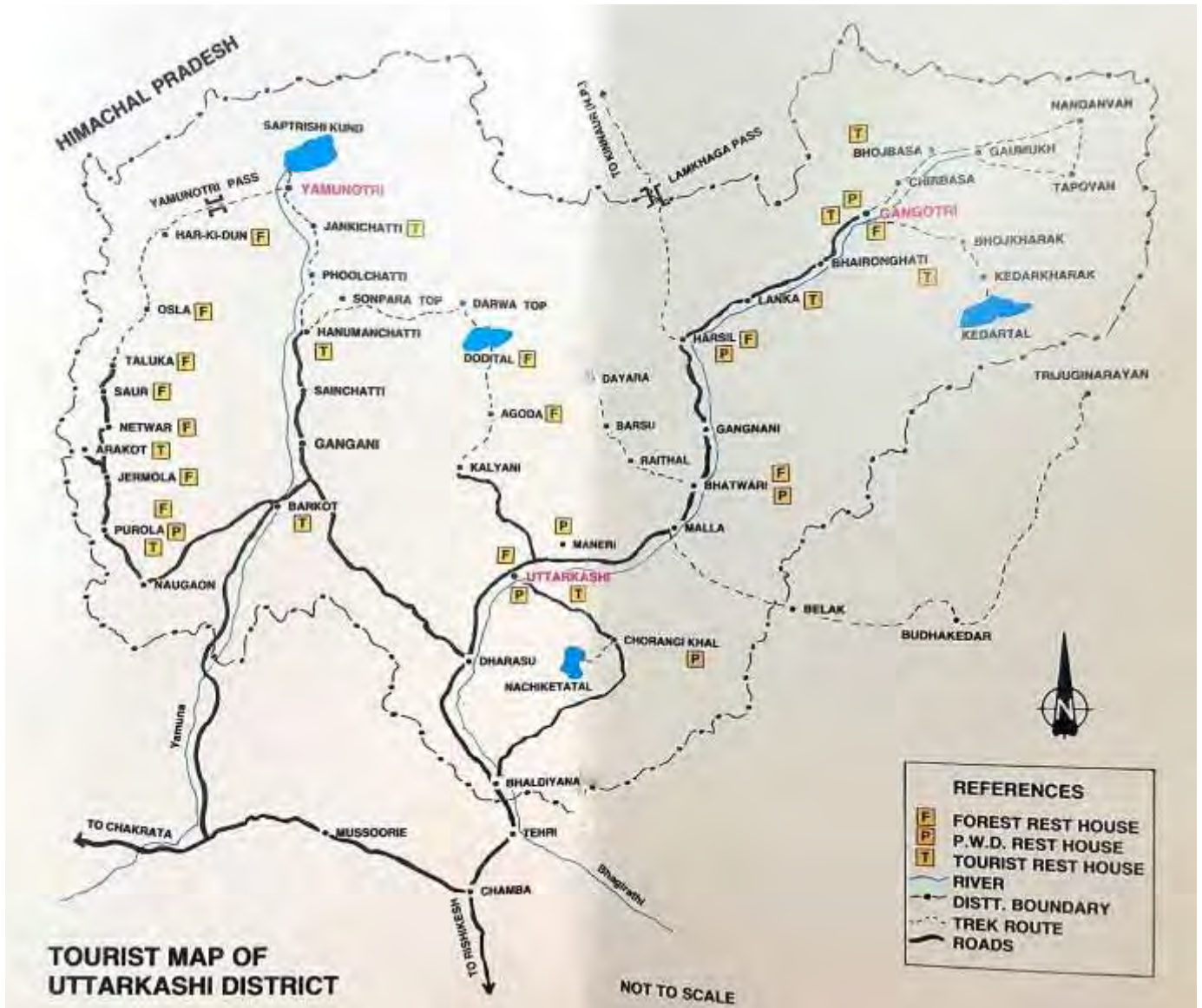
Appendix 4: Map showing project villages in Darma- Byas landscape (Source: Wildlife Institute of India)
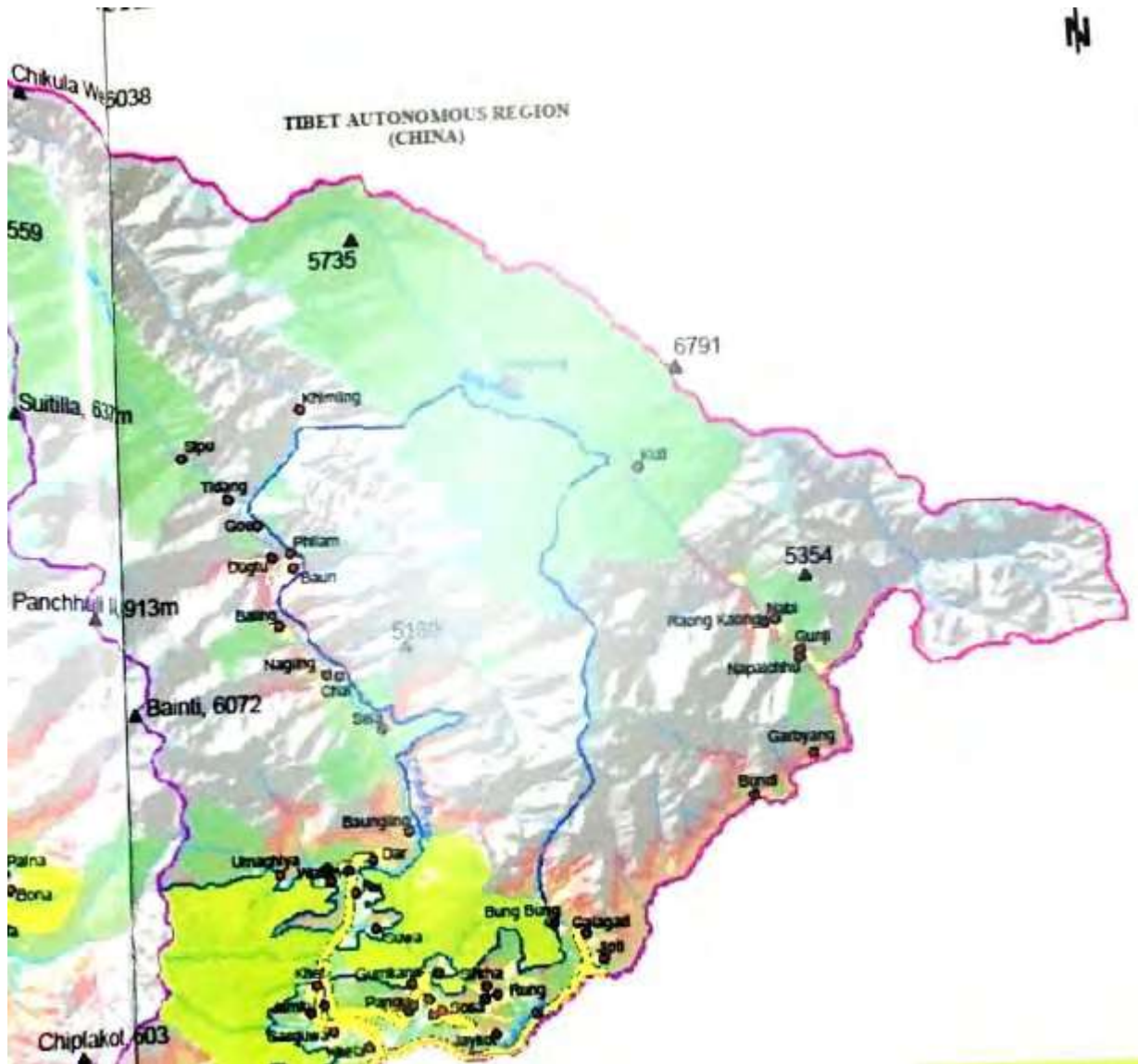
Appendix 5: List of Government rest houses available for tourists from Gangotri- Govind landscape

S. No.	Name of Rest House	Available No. of Beds
1	Tourist rest House Chinyalisour	04
2	Tourist rest House Uttarkashi	120
3	Tourist rest House Harsil	30
4	Tourist rest House Lanka	100
5	Tourist rest House Bhairoghati	32
6	Tourist rest House Gangotri	82
7	Tourist rest House Bhojbasa	20
8	Tourist rest House Sankri	20
9	Tourist rest House Taluka	20
10	Tourist rest House Osla	20
11	Tourist rest House Har-ki-doon	20

* Note: Tourist rest houses at Sankri, Taluka, Osla and Har-ki-doon are not operational now

Appendix 6: 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

	Yes	No	Details
Presence of protected area (NP or WLS) and permissions required			
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

6. 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	87				
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

7. What initiatives have been taken to promote eco-tourism?

8. What is the business model followed in these initiatives to ensure economic viability?

9. To what extent does fund flow directly reach communities versus others (e.g. percentage of total fund flow to local communities)

10. What are the key challenges you have faced while promoting eco-tourism?

11. How can these challenges be addressed? What solutions do you propose, especially to promote nature based and adventure tourism?

12. How many homestays have been created in the landscape, where?

13. What are the average earnings per homestay per year and in what seasons?

14. What initiatives can be taken to promote enterprise and skill development in the tourism sector? Additional business opportunities (e.g. handicrafts, food, souvenirs)

15. How can members of the local community be integrated into current and planned tourism activities in the area?

16. 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.			
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 7: 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 8: 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 9: Guiding questions 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

13. What is your understanding of the term ecotourism?

14. Do you involve the local community in any of these activities? If yes, what is the level of their involvement?

15. How many people from the local community are employed in your operations? In what capacity?

16. 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?

17. Do you provide any awareness training/information to local tourists on the conservation and cultural significance of the landscape?

18. 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?

19. Do you undertake any conservation/reduction measures for water, waste and energy?

20. If you offer tours – what size are your tour groups?

21. Are there any Government ecotourism policies in place? What is your level of understanding of the policies?

22. What are the positive effects of tourism in your landscape?

23. What are the negative effects of tourism in your landscape?

24. What practices do you follow to maintain your local area? What was the basis of creating the rules?

25. Would you say that tourists who visit are sensitive towards the local rules and needs?

26. Do you try to make tourists aware of the local sensibilities?

27. 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?

28. Do you feel the need to introduce checks on the number of tourists visiting the area in the interest of conservation?

29. How do you manage waste generated during activities?

30. Would you be interested in setting up best practices for activities and operations?

Appendix 10: 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

6. What is the average/approximate number of tourists you cater to annually?

7. What are the types of tourists you usually receive (business/leisure/trekkers/others)?

8. Comment on the change in number of tourists in the past 5 years.

9. Comment on the change in the types of tourists in the past 5 years.

10. Where do tourists prefer to stay in- in hotel or homestays?

11. Are you a part of a larger association of agencies?

12. Are your operations seasonal? If yes, then which seasons?

13. Do you have arrangements for off-season tourists?

14. Have you received training w.r.t hospitality?

15. 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)

16. What is your approximate annual income?

17. Comment on the change in annual income over the past 5 years.

Category C – Ecotourism

18. What is your understanding of the term ecotourism?

19. 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?

20. 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?

21. What training do you provide your local staff?

22. Do you provide any awareness training/information to local tourists on the conservation and cultural significance of the landscape?

23. 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?

24. Do you source your products locally? Do you use organic products?

25. What is the average group size of tourists?

26. Are there any Government hotel/ homestay policies in place? What is your level of understanding of the policies?

27. What are the positive effects of tourism in your landscape?

28. What are the negative effects of tourism in your landscape?

29. Initiatives undertaken for sustainable use of water or solid waste management?

30. Would you say that tourists who visit are sensitive towards the local rules and needs?

31. Do you try to make tourists aware of the local sensibilities?

32. How do you manage waste generated during activities?

33. Would you be interested in setting up best practices for activities

Appendix 11: 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?

<u>Homestay owners</u>

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 man 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.

<u>Youth</u>

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 12: 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 andscape 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):

5. What are the major impacts of tourism on the following: For the landscape?

Impact	Positive	Negative	Mixed	Not sure	Details
Employment					

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

6. Can you list any policies / regulations which govern tourism in the state?

7. Can you share some examples of local initiatives taken to promote community based eco-tourism/homestays?

8. What are the major challenges faced in promoting community-based eco-tourism/homestays?

9. How can the challenges you have listed above be addressed? How can community based eco-tourism be promoted in the state?

10. 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?

11. Are you aware of any studies on carrying capacity done in the selected landscape?

12. Are there any specific issues you recommend we focus on during the course of our study?