

**Sustainable Tourism in the Indian Himalayan Region
- A Case Study of the Union Territory of Ladakh**

**A Dissertation submitted to the Punjab University, Chandigarh for the
award of Master of Philosophy in Social Sciences, in Partial Fulfillment of
the requirement for the Advanced Professional Programme in Public
Administration (APPPA)**

By

SANJOG KAPOOR

(Roll No. 4610)

Under the guidance of

DR. GADADHARA MOHAPATRA



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CERTIFICATE

I have the pleasure to certify that Shri Sanjog Kapoor has pursued his research work and prepared the present dissertation titled "Sustainable Tourism in the Indian Himalayan Region- A Case Study of the Union Territory of Ladakh" under my guidance and supervision. The dissertation is the result of his own research and to the best of my knowledge, no part of it has earlier comprised any other monograph, dissertation or book. This is being submitted to the Punjab University, Chandigarh, for the purpose of Master of Philosophy in Social Sciences in Partial fulfilment of the requirement for the Advanced Professional Programme in Public Administration of Indian Institute of Public Administration (IIPA), New Delhi.

I recommended that the dissertation of Shri Sanjog Kapoor is worthy of consideration for the award of M.Phil degree of Punjab University, Chandigarh.

G. Mohapatra
(Dr. Gadadhara Mohapatra)

Indian Institute of Public Administration
I.P. Estate, Ring Road,
New Delhi-110002

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Executive Summary

Foreign Tourist Arrivals (FTAs) in India have consistently grown from 1.28 million in 1981 to 1.68 million in 1991, 2.54 million in 2001, to reach 10.93 million in 2019. Number of domestic tourist visits in India during 2019 was as 2,323 million registering an annual growth of 25.3 %. From an economic point of view, Indian tourism sector is a significant source of foreign exchange and employment. Last few decades have seen rapid growth of modern mass tourism in the Indian Himalayan region. The total number of tourist arrivals in IHR was 84 million in 2011, growing to 136 million in 2015, and to increase to an estimated 240 million in 2025. Though modern mass tourism stimulates the economy, drives infrastructure development and generates employment, it has enormous impact on the fragile mountain ecology and ecosystem of the Himalayas, on the local social structures. It has been observed that in the Indian Himalayan region, except for Sikkim and Himachal Pradesh, the environmental index of the rest of Himalayan States is very low.

The hilly geographical area of Ladakh, in the northernmost area of the western Indian Himalayas, comprising of 2 districts, Leh & Kargil, is the newest Union territory, created in October, 2019, after being separated from the erstwhile State of Jammu & Kashmir upon abrogation of Article 370. Ladakh, located in the Trans-Himalayan region, a geological marvel with breathtaking natural beauty is also ecologically very fragile. It is a water deficit area and mostly dependent on snow/glacial melt and Indus River flow. Ladakhi people have been at the forefront for centuries when it comes to frugality and conscious use of resources and have been the torchbearers of sustainable living. But unregulated growth of tourism and influx of businesses could destroy the fine balance. The Objective of this Study is to explore the growth of tourism in the Ladakh region, it's impact on the environment, economy,

culture and society, to identify the various aspects of ‘sustainability’ in tourism development and to suggest approaches, framework and initiatives to check the negative impact of tourism and identify tourism promotion strategies towards inclusive growth of the region in an eco-friendly manner and sustainable manner.

The region of Ladakh was opened for tourism in 1974 and has recently witnessed very rapid growth. 527 tourists arrived in 1974, increasing gradually to 1.42 lakh in 2011 and in 2018, a total of 3.27 lakh tourists, including 49,477 foreigners, visited the region. The many tourist activities are Leisure, Adventure, Heritage, Spiritual tourism, Trekking, Medicinal plants etc. Rapid development of Ladakh, mostly on account of tourism, has impacted Ladakh’s natural and socio-cultural environment. The impact on physical environment has led to the degrading of ecosystems, has been in areas of shortage of water and agricultural labour, water & air pollution, soil erosion, inadequate sewage & solid waste disposal, encroachment of scarce agricultural land, degradation of vegetation cover in the rangelands and wetlands, unplanned and rapid construction activity in Leh town etc. Tourism, which now contributes more than 50 % to the GDP of the region, has led to substantial amount of employment generation. However, benefits of tourism are concentrated in a few places like town areas of Leh and Kargil. Lack of sustained economic opportunities for the poor and marginal groups and women in the current tourism model has led to skewed income distribution and migration of youth to urban areas. Ladakh’s rich cultural identity is highly dependent on its institution of Buddhist monasteries known as gompas. Increasing urbanization and civic development to accommodate tourism is causing irreparable damage to these institutions and often traditional architecture has been destroyed and rebuilt or added using modern materials. Many Monasteries have become commercialized due to their exposure to modernization. Development of tourism and general opening up of the region has resulted in disruption of community bonds, degradation of social values, modification in the traditional

lifestyle and consumption patterns, commercialization of culture and religion, increased consumerist and materialistic values among the locals.

The negative impacts of growth of tourism on the environment, ecology, society and culture need to be minimized to ensure the wellbeing of the region and its populace and ensure sustainable tourism development. Removal of Article 370, and bifurcation of the erstwhile State of J&K to create a new Union Territory of Ladakh is expected to lead to direct flow of central assistance and funds to the region. There is an opportunity thereby for this region to frame its own independent policies and action plans, guidelines, institutions and regulations, the requisite infrastructure towards sustainable tourism development. The Global Sustainable Tourism Council's Criteria serve as the global baseline standards for sustainability in travel and tourism. These are arranged in four pillars: Sustainable management, Socio-economic impacts, Cultural impacts, Environmental impacts. The Best Practices in the area of sustainable tourism development also serve as a guide. Broad recommendations towards achieving sustainable tourism development goals in the region are as follows:

- Formulating appropriate Policy and regulations : The 'Tourism Policy' should appreciate the role of various stake holders like local indigenous people, private sector and NGOs, involved in tourism related activities, with the Government acting as a facilitator and needs to essentially incorporate following aspects : Vision; Mission; Goals; Roadmap for strengthening tourism infrastructure; Creating suitable investment environment; Tourism promotion roadmap, including building the 'Ladakh Tourism' brand; Support for initiatives from community-based organizations and small/medium enterprises; Policy for tourism projects, including land policy, accommodation, transport, eco-tourism, adventure tourism, wellness tourism, ropeways, home-stays, fiscal incentives; Biodiversity conservation.

- Initiatives / Measures/ Framework required from Government / Public sector : Enhance infrastructure facilities for tourism in this region, especially with regard to quality accommodation, sewage system & garbage disposal, transport, telecommunications, public lavatories, emergency services; Conduct feasibility studies to identify the project structures best suited to local needs & identify funding mechanisms; Encourage and Incentivize Private Sector Participation in Tourism infrastructure and amenities; Enhance Ease of Doing Business (EODB); Encourage Public Private Partnerships (PPP); Create Repository of Land Banks; Establish a Sustainable Tourism Authority (STA) to implement policy instruments; Promote projects with smart and frugal infrastructure; Impose entry tax and earmark it for developing infrastructure and diversification of tourist facilities from Leh.

- **Environment protection and resource conservation** : Regular impact assessment studies need to be carried out in association with technical experts; Comprehensive survey of carrying capacity needs to be undertaken; Develop water conservation mechanisms, including strict regulation of borewells, adopt techniques like rainwater harvesting & innovative systems such as ice stupas and artificial glaciers; adopt efficient and exhaustive solid waste management measures, waste to energy technologies; Adopt clean energy technologies like Smart Grid & Smart Metering, Micro Grids, Solar power, low-emission vehicle technologies, provide clean transport subsidy; provide waste management facilities at Campsites; Create Tourist Awareness regarding ecological sensitivity of the region and the significance of conservation of the region's culture and environment.

- **Branding and Promotion** : The unique, breathtaking landscape and biodiversity along with the unique cultural and spiritual can be the Unique Selling Proposition (USP) for tourism for the Ladakh region which needs to be harnessed through appropriate Branding, Promotion, Policies, Framework and Infrastructure. Niche tourism products need to be

developed to ensure adequate opportunities for the local people, like tourism based on nomadic lifestyle in Changthang, new trekking routes, eco- tours, bird and snow peak watching, animal and plant research, including medicinal plants, cultural and historical tours; establish and Promote ‘Ladakh Organic Brand’.

- Preserving Cultural heritage: A consolidated Heritage policy, regulations and framework incorporating archaeological, historical, aesthetic, artistic, religious and functional values of the heritage will lead to sustainability in conservation efforts and continuity of the traditional practices and culture. Other measures include establishing a Cultural Heritage Conservation Fund, increasing number of monuments and structures under protection of Archaeological Survey of India, regular and institutional interaction between the stakeholders, research in preservation/conservation of the cultural heritage, educational and awareness programs, structured training programs for guides and other stakeholders, cultural performances for tourists, hubs for production and sale of locally made handicrafts, showcase nationally and internationally the festivals, music, folk songs and dances of Ladakh etc.

- **Community and women Participation:** Need to integrate and coordinate the efforts of the local government, NGOs and religious groups towards community participation in development of tourism. Identify opportunities for local communities, particularly herders, the marginal communities and women in adventure tourism, rural tourism, mountaineering, trekking, camping, sports tourism, cultural tourism and wildlife tourism, and facilitate investments and create infrastructure in these areas. Government support is required for creating infrastructure and promote Home-stays that promote Ladakhi hospitality and tradition. Production and use of local fresh and processed produce can be focused on to help the local community. Appropriate infrastructure (such as home stays, roads etc) need to be made available in Ladakh’s rural areas to decentralise tourism from the towns of Leh and

Kargil to the villages of Ladakh. Need to frame guidelines and incentives for agencies and organisations to train and employ women to develop capabilities as a tourism workforce .

- Digital Transformation Tools: Stakeholders in tourism development in the region need to adopt the new digital transformation tools, including integrating knowledge from traditional and non-traditional data sources, enhancing available data with geo-referenced data (location intelligence); using technology for protection of cultural heritage and biodiversity. A web-based central information system should contain locally relevant data about Ladakh. Digital Infrastructure needs to be upgraded in order to harness the potential of ‘digital transformation’ tools towards achieving the sustainable tourism goals.

- Capacity building : Need for increased public and private investment, including creating appropriate institutions, in skills development, including business management, financial management, marketing and promotion skills, particularly among youth and women, in order to support the employability of workers and to meet the needs of a qualified workforce for the tourism sector. Need to create awareness regarding various aspects of sustainable tourism like protection of environment, biodiversity, traditional knowledge and culture, sustainable utilization of resources etc. among people, including indigenous population, involved in tourism and its sub-sectors. Need to enhance teachers’ capacity to provide school children with environmental and cultural education.

Chapter-1

Introduction

“Harnessing tourism’s benefits will be critical in achieving the sustainable development goals and implementing the post-2015 development agenda”

- UN Secretary-General, Ban Ki-moon on World Tourism Day, 2014

‘Tourism’ is defined as movement of people temporarily to outside of places where they normally live and work during the stay. It has emerged as one of the largest and fastest-growing economic sectors and key drivers of economic growth in the world, an employment generator, a significant source of foreign exchange earnings. As per UN World Tourism Organization (UNWTO), international tourist arrivals numbered 1.5 billion in 2019, an annual growth of 4 % and a growth of 64 % since 2009. According to 2019 data, Tourism generated 7 per cent of global trade, employed one in every ten people globally and – through a complex value chain of interconnected industries – provided livelihoods to millions of people in developed and developing countries. Tourism, if developed on sustainability principles, can generate business and employment opportunities for local communities, address challenges of poverty alleviation and impact from climate change and simultaneously preserve local, natural and cultural heritage. Tourism growth and development should provide opportunities for local communities and act as a source of income for the poor in the region, while ensuring the conservation of nature. It is especially critical in the Indian Himalayan region that hosts several fragile ecosystems and faces the constant challenge of preserving the economy, ecology and society.

I. A Brief on Growth of Tourism in India and the Indian Himalayan Region

The Foreign Tourist Arrivals (FTAs) in India continued to grow from 1.28 million in 1981 to 1.68 million in 1991, 2.54 million in 2001, to reach 10.93 million in 2019. The number of Foreign Tourist Arrivals (FTAs) in India during 2019 increased to 10,93 million as compared to 10.56 million in 2018, an annual growth of 3.5 % . . The Compound Annual Growth Rate (CAGR) in FTAs in India during 2001 to 2018 was 8.75%. FTAs in India have been increasing from all regions. The growth during the period 2016-18 was maximum from Africa (10.4%) followed by Central and South America (9.8%), East Asia (9.2%), South East Asia (7.6%), Australasia (6.9%), North America (5.6%), South Asia (5.2%) and Western Europe (5.2%). The percentage share in FTAs in India during 2018 was the highest for South Asia (29.40%) followed by Western Europe (21.25%) North America (17.12%), South East Asia (8.40%), East Asia (6.86%), Eastern Europe (4.41%), West Asia (4.26%), Australasia (3.91%), Africa (3.33%) Central and South America (0.96%). India accounted for 5 % of international tourist arrivals in Asia Pacific Region in 2018, a rank of 7th Share of India in International Tourist Arrivals was 1.23 % in 2019, a rank of 23rd in World Tourism arrivals. Number of domestic tourist visits in India during 2019 was as 2323 million as compared to 1854 million in 2018, a growth rate of 25.3 %. Tourism continues to play an important role as a foreign exchange earner for the country. In 2019, foreign exchange earnings (FEE) from tourism were US\$ 30.05 billion as compared to US\$ 28.59 billion in 2018, registering a growth of 5.1 %. From an economic point of view, Indian tourism sector is a significant source of foreign exchange and jobs. (Source : Ministry of Tourism, Government of India)

Table 1.1 : Inbound Tourism: Foreign Tourist Arrivals (FTAs), 1981-2019

| Year | Foreign Tourist Arrivals (FTAs) in India (in million) | Percentage change over previous year |
|------|---|--------------------------------------|
| 1981 | 1.28 | 2.0 |
| 1991 | 1.68 | -1.7 |
| 2001 | 2.54 | -4.2 |
| 2002 | 2.38 | -6.0 |
| 2003 | 2.73 | 14.3 |
| 2004 | 3.46 | 26.8 |
| 2005 | 3.92 | 13.3 |
| 2006 | 4.45 | 13.5 |
| 2007 | 5.08 | 14.3 |
| 2008 | 5.28 | 4.0 |
| 2009 | 5.17 | -2.2 |
| 2010 | 5.78 | 11.8 |
| 2011 | 6.31 | 9.2 |
| 2012 | 6.58 | 4.3 |
| 2013 | 6.97 | 5.9 |
| 2014 | 7.68 | 10.2 |
| 2015 | 8.03 | 4.5 |
| 2016 | 8.80 | 9.7 |
| 2017 | 10.04 | 14.0 |
| 2018 | 10.56 | 5.2 |
| 2019 | 10.93 | 3.5 |

(Source: Bureau of Immigration, Govt. of India)

The growth in FTAs in India during the eighties & nineties did not follow any consistent pattern. While the years, viz. 2003 to 2007, 2010, 2014 and 2017 saw double-digit positive growth, there was negative growth in the years 1991, 2001, 2002 and 2009.

Table 1.2 : Purpose wise Foreign Tourist Arrivals (FTAs) during 2019

| Purpose | FTAs | Percentage Share |
|--------------------------------|----------|------------------|
| Leisure Holiday and Recreation | 6236398 | 57.1 |
| Business and Professional | 1605737 | 14.7 |
| Indian Diaspora | 1384636 | 12.7 |
| Others | 1006131 | 9.2 |
| Medical | 697453 | 6.4 |
| Total | 10930355 | 100.0 |

(Note: purpose of Arrivals derived by clubbing various visa type categories in which foreign tourist travel to India.)

(Source : Bureau of Immigration, Government of India)

Table 1.3 : Top 10 Source Countries for Foreign Tourist Arrivals (FTAs) in India in 2019

| Rank | Source Country' | FTAs (in Million) | Percentage Share |
|----------------------|--------------------|-------------------|------------------|
| 1 | BANGLADESH | 2577727 | 23.58 |
| 2 | UNITED STATES | 1512032 | 13.83 |
| 3 | UNITED KINGDOM | 1000292 | 9.15 |
| 4 | AUSTRALIA | 367241 | 3.36 |
| 5 | CANADA | 351859 | 3.22 |
| 6 | China(MAIN) | 339442 | 3.11 |
| 7 | MALAYSIA | 334579 | 3.06 |
| 8 | SRI LANKA | 330861 | 3.03 |
| 9 | GERMANY | 264973 | 2.42 |
| 10 | RUSSIAN FEDERATION | 251319 | 2.3 |
| Total top 10 Country | | 7330325 | 67.06 |
| Others | | 3600030 | 32.94 |
| G.Total | | 10930355 | 100.00 |

(Source: Bureau of Immigration, Govt. of India)

The Himalayan region has emerged as one of the most popular destinations for tourism in India, offering wide range of experiences including religious, recreational, adventure and nature based tourism. The Himalayas offer the modern tourist a widespread range of possibilities: sightseeing among beautiful landscapes, visiting the unique cultural attractions, religious and spiritual tourism, hiking, skiing, adventure sports like river rafting, rock climbing, mountain biking, bungee jumping, paragliding etc. Last few decades have seen rapid growth of modern mass tourism in the Himalayan region. Data for the last five years on tourist arrivals shows vary rapid growth of tourism in the Indian Himalayan region (IHR). The total number of tourist arrivals from 2011-2015 were 494 million which is 8.42% of the total national arrival of 5,870 million. The total number of tourist arrivals in IHR was 84 million in 2011, growing to 136 million in 2015. On an average approx. 100 million domestic tourists visit IHR, whereas the population of IHR is approximately 60 million. It is expected that by 2025, tourist footfall in Indian Himalayas will increase to an estimated 240 million. Tourism has become a key driver of socioeconomic development of the Indian Himalayan region. For local mountain people, tourism provides valuable economic and business opportunities and jobs, and for state governments and private entrepreneurs, it brings revenues and profits. Though modern mass tourism stimulates the economy, drives infrastructure development and generates employment, it has an enormous impact on the fragile mountain ecology and ecosystem of the Himalayas, on the local social structures and huge demands on the water and natural resources of this region. The high degree of seasonality, causing human pressures to concentrate in a relatively short period, puts enormous strain on local resources. Some of the debilitating instances of impact of mass tourism in the Himalayas are deforestation, soil degradation, land degradation, air & water pollution, generation of large amount of solid waste & inadequate solid waste management, degradation of watersheds and water sources, water insecurity due to drying of natural springs, loss of natural resources, biodiversity and ecosystem, inappropriate,

unsightly and dangerous construction replacing traditional eco-friendly and aesthetic architecture, negative influence on local culture, socio demographic changes (out-migration), human wildlife conflicts etc. (Report of Working Group II, Sustainable Tourism in the Indian Himalayan Region, released by the NITI Aayog, 2018)

Though Tourism can be the engine that drives future development, this will only be possible if it is developed and implemented following principles of sustainability. According to the United Nations (UN), issues such as climate change, effective resource management, poverty reduction and inclusive growth need to be at the centre of tourism development. As per UN World Tourism Organization (WTO), Sustainability principles refer to the environmental, economic and sociocultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability. According to Report of Working Group II, Sustainable Tourism in the Indian Himalayan Region, released by the NITI Aayog in August, 2019, except for Sikkim and Himachal Pradesh, the environmental index of the rest of Himalayan States is very low. In states like Uttarakhand, West Bengal, Tripura, Assam, and Meghalaya, the tourism sector has been contributing more than 10 per cent to the GDP, but as far as investment in the sector is concerned, these states have invested less than 1 per cent of the total state expenditure in tourism sector, with the exception of Sikkim, with investment in tourism sector at 1.9 per cent of the total state expenditure. Uttarakhand, which stands second in tourist arrivals, invests only 0.15 per cent of the state's expenditure in this sector. The report states that the growth in the Indian Himalayan Region must be managed so that it focuses on marginalised areas and groups, ensures jobs, promotes local culture and also contributes to achieving the Sustainable Development Goals (SDGs), particularly Goal 8 ('Decent work and economic growth') and Goal 12 ('Responsible consumption and production').

II. The Region of Ladakh, in brief

The hilly geographical area of Ladakh, in the northernmost area of the western Indian Himalayas, comprising of 2 districts, Leh & Kargil, is the newest Union territory, created w.e.f. 31st October, 2019, after being separated from the erstwhile State of Jammu & Kashmir, after abrogation of Article 370 in August, 2019.



Source : Press Information Bureau (PIB), Government of India

Ladakh is not only a strategically important region, but also has rich cultural heritage, home to many endangered species and biological reserves, and exotic natural beauty for travellers.

Ladakh is unique in many more respects including the Lamaistic Buddhist culture, highly fragile wildlife and environment.

The Union Territory of Ladakh, with a population of 2.74 lakh, is the second least populous union territory of India. Scheduled Tribes population numbers 2.18 lakhs, viz. 79 % of the total population. The largest town in Ladakh is Leh, followed by Kargil, each of which headquarters a district. Apart from Leh, the capital city with a population of 30,000, settlements are small and mainly scattered around the banks of major rivers and streams. Leh district has 112 inhabited villages and one uninhabited village, and Kargil district has 129 villages. Ladakh region is an arid, high altitude, ecologically fragile, strategically located, culturally rich but sensitive area known for its unique Tibetan Buddhist culture.

MAP OF UT OF JAMMU & KASHMIR AND UT OF LADAKH



Source : Press Information Bureau (PIB), Government of India

Leh and Kargil districts are administered by autonomous district councils, the Ladakh Autonomous Hill Development Councils (LAHDCs) of Leh and Kargil. In 1995 the Ladakh

Autonomous Hill Development Council (LAHDC) Leh was enacted as an elected, semi-autonomous government body at district level. Kargil had refrained from the creation of a hill council until 2003. In the 30-member LAHDC, 26 members are elected while four are nominated, with no voting rights. The councils enjoy executive power over subjects like health, agriculture and education in their respective districts, and work with village panchayats to take decisions on economic development, healthcare, education, land use, taxation, and local governance.

Separated from the Indian subcontinent by the Great Himalayan Range and edged by the Karakorum Range to the north, Ladakh is characterised by a rugged topography at an average altitude of over 5,000 m. Ladakh is cut diagonally by Indus river forming a huge basin. The upper half of the basin constitute Leh district, the western portion of Skardu district the southern half the Kargil district. On the west of it Gilgit is located. Major mountain systems commence from north west are Kunlun, Aghil, Karakorum, Kailash, Ladakh, Zaskar and Great Himalayan range. The ranges show distinct parallelism aligned in north west, south west direction. In between these mountain chains there are three great longitudinal valleys viz., Zaskar, Indus, Shyok and number of side valleys like Nubra, Drass, Pangong, Suru etc. The western and central parts of the region are dominated by mountain ranges exceeding 5,500 m and carved valleys, whereas eastern Ladakh is characterised by the high altitude plateau of Changthang. The peripheral region is only accessible by road from the Indian lowland via Srinagar or Manali, crossing some of the highest motorable passes in the world, which remain closed for almost six months of the year during which access is only possible by air. Among other natural resources, rivers are one of the life line of Ladakh. The Indus river and Shyok river and Hanle are the major source of irrigation. Shyok and Hanle are tributaries of Indus. Apart from rivers there are number of lakes, out of which Pangong Tso, Tso-Rul, Tso-Moriri, Tso-kar, are important

lakes of Ladakh district which attracts tourists from across the world. Due to its location in the rain shadow of the Himalayan Range, the Ladakh region has an arid climate with an average annual precipitation of approximately 250 mm in Zaskar and less than 100 mm in the upper Indus valley (Marcus Nüsser, 2008).

From an ecological perspective, Ladakh belongs to the Trans-Himalayan ecosystem, is a high-altitude cold desert, where flora and fauna are characterised by low distribution density, as well as high adaptation to elevation and aridity. The region has a complex hydrological system of rivers, lakes and enclosed basins that allowed the development of important wetlands. These ecosystems function as oases of productivity in an otherwise arid environment. They host varied plant communities, including most of the bushes and trees found in the region, as well as a diverse wildlife, including an abundant migratory bird fauna. There are several protected areas in the region, namely, Hemis National Park, Changthang High-altitude Wetland Reserve, Karakoram Wildlife Sanctuary etc..(Davide Geneletti, Dorje Dawa 2009).

The vegetation of this trans- Himalayan region is dominated by desert steppes which are interspersed with riverine wetlands in the main valleys and with the high altitude wetlands of Changthang. Owing to the climatic conditions, forests and trees are virtually absent except for rare patches of juniper and birch as well as poplar trees along rivers and irrigation channels. Due to the aridity, human settlements and agricultural land use are found in oases along the watercourses. Among a total of 0.5 % of arable land, the majority of cultivated land depends on glacier and snow fed irrigation, while river-based irrigation is only possible on the alluvial plains of the Indus River and its main tributaries. Local land use systems rely on community-based institutions for water management, for an equitable, rotational distribution of water to the terraced fields during the short agricultural season between May

and September. As double cropping is only possible below an altitude of 3,000 m, single cropping is dominant (Marcus Nüsser, 2008).

Economically, most people in Ladakh region rely on subsistence agriculture and tourism. The main crops are wheat, barley, pulses, potatoes peas and mustard, with animal husbandry activities (especially dairy products) and horticulture also developing rapidly in recent years, main productions being apricot and apple, and almond and grape in western Ladakh. The region has inherent physical constraints like prolonged and harsh winter, scanty rainfall, rugged mountain terrain, and limited availability of fertile land and water. Therefore, agriculture is mainly confined to the river valleys. Nevertheless, agriculture and pastoralism are the main livelihoods in the region, although these traditional sectors have been adversely affected by the development of tourism and government services. There are vast stretches of desert available for irrigation facilities, but land reclamation projects for agriculture and afforestation were largely unsuccessful and economically unfeasible. (Davide Geneletti, Dorje Dawa 2009).

During the summer months horticultural products, such as cabbage, turnip, potatoes, spinach, or tomatoes, diversify food consumption patterns. There is also cultivation of fruits (primarily apricots, apples) and Fruits and vegetables are dried for storage during the winter months. During the summer months, high pastures are used as grazing grounds for yaks, goats and sheep. Recent land use changes include the introduction of fertilizers, mechanisation, and local agrarian production. Although a decline in subsistence-oriented land use has been experienced over the last years, agro-pastoral activities persist among local livelihoods. Apart from nomadic groups in eastern Ladakh, the population lives in dispersed settlements subsisting to a great extent on combined mountain agriculture. Political conflict and sealing of the Indo-Tibetan borders in 1960s ended the traditional

trading economy and led to a significant military presence accompanied by infrastructure extension and new employment opportunities.

The total geographical area of Leh district, which is one of the two districts in Ladakh is approximately 45,000 sq.km. in area, making it one of the largest district in India. It is also one of the remotest district in India. It has got land route connectivity only during summer whereas during winter because of heavy snow fall in Zojila Pass and Rohtang pass, it remain cutoff from rest of the world with only aerial route available as connectivity. The climate of Leh district is also very harsh with prolonged winter and short summer which means very short working season. Leh , at an altitude of 3,506 metres above sea level, records long- term average annual precipitation of 92.7 mm. Temperatures show a high seasonal variation, with mean monthly values between 17.1 °C and 25.7 °C in July and August opposed to -15.6 °C and -5.5 °C monthly average in January and February.

Table 1.4 : Year- Wise/Sex-wise Population of Leh District

| Year | Rural | | | Urban | | | Total | | | Decadal Growth of Population (%) |
|------|-------|--------|-------|------------------------|------------------------|--------------------------|-------|--------|--------|----------------------------------|
| | Male | Female | Total | Male | Female | Total | Male | Female | Total | |
| 1991 | NA | NA | NA | NA | NA | NA | 47547 | 42353 | 90200 | 31.91 |
| 2001 | 46534 | 42059 | 88593 | 17772 | 10867 | 28639 | 64306 | 52926 | 117232 | 29.97 |
| 2011 | 48411 | 39405 | 87816 | 21669 (Ur) 8891(CT) | 9201 (Ur) 5910 (CT) | 30870 (Ur) 14801 (CT) | 78971 | 54516 | 133487 | 13.86 |

Note:- 1991 total population figures are based on Estimation no 1981 growth and no census was conducted in the state of J&K in the year 1991.

Ur:- Urban ; CT:- Certified Town

Source: Census Department

Administratively, Leh district has been divided into eight Tehsils, six Sub Divisions, sixteen blocks namely and 112 inhabited and one un-inhabited villages.. The District is sparsely

populated: villages and settlements devoted to agricultural practices are typically located on the banks and terraces (3000-3900 m) of the two major rivers, Indus and Shyok and lateral valleys, where gravel terraces flank minor streams and tributaries build alluvial fans out into major valleys. The nomadic herder communities live with their yaks and pashmina goats on the Tibetan plateau up to altitudes of 4,500 m in the south-eastern part, called Changthang, with its large salty lakes: Pangong (6.4 km long and 3.2 to 6.4 km wide), Tso-moriri and Tso-Khar. In the past, nomads collected salt from these lakes and bartered it throughout Ladakh. Despite the harsh climate, agricultural villages are lush oases in the mountain desert during the short (spring-summer) growing season. With an average of 225 sunny days, summer weather is mild, whereas autumn, winter and spring are very cold. Rainfall is scanty and negligible (< 100 mm annual precipitation, mostly as snow) and relative humidity is low (20-40%).

Kargil, the other district of Ladakh region is also the second largest town of Ladakh, is situated roughly at equal distance (approx.. 200 kms) from Srinagar, Leh , Padum Zaskar and Skardo Baltistan.

Table 1.5 : Year- Wise/Sex-wise Population of Kargil District

| Year | Rural | | | Urban | | | Total | | | Decadal Growth of Population (Percentage) |
|------|-------|--------|--------|-------|--------|-------|-------|--------|--------|---|
| | Male | Female | Total | Male | Female | Total | Male | Female | Total | |
| 1991 | NA | NA | NA | NA | NA | NA | 43730 | 37337 | 81067 | 32.89 |
| 2001 | 58120 | 50530 | 108650 | 6835 | 3822 | 10657 | 64955 | 54352 | 119307 | 33.6 |
| 2011 | 67703 | 56761 | 124464 | 10082 | 6256 | 16338 | 77785 | 63017 | 140802 | 18.02 |

Note:- 1991 total population figures are based on Estimation. No census was conducted in the state of J&K in the year 1991.

Source: Census Department

Kargil, with an area of 4,036 Sq. Km. is divided into four high level natural Valleys namely the Suru Valley, the Drass Valley, the Indus Valley and the Upper Sindh Valley of Kanji Nallah Valley. Zojila and Fotulla passes situated at the height of 3567 and 4192 meters above the sea level are called gateways for Kashmir Valley. High peaks of Namikala and Penzila are called the sky pillars of the District. The whole District is of high rocky mountains, desert arid, snow bound and devoid of natural vegetation. It occupies unique position because of its high altitude area in the country which ranges from 8,000 to 23,000 ft. above the sea level.



Kargil town, Ladakh; Source : <https://www.britannica.com/place/Kargil>

The topography of the region is mountainous with little or no vegetation. The mountains are of sedimentary rocks and are in the process of disintegration due to weathering. The terrain being hilly, available land for agriculture is meagre. The summer being short, only one crop of local grim or wheat is grown. The main features of the climate are wide diurnal and seasonal fuctuations in temperature with -48°C in Winter and $+35^{\circ}\text{C}$ in Summer. The

winter season of the District experiences severe cold and temperature often goes down redundantly but summer season remains dry and little hot. Precipitation is very low mainly in the form of snow. The average rain fall at Kargil is 26 cms only. The district combines the condition of both arctic and desert climate. Soil is thin, sandy and porous and the entire area is partly or devoid of any natural vegetation. Fertility of the soil varies from place to place and growing season is very short. Irrigation is mainly through channels from the glacier-melted snow. The summer being short, only one crop of local grim or wheat is grown The district has some deposits of chromed at Drass and around it. Copper is also found in Lungnak valley, Zanskar and Tai-Suru. Besides, deposits like lime stone, marble and building material are also existing. However, these mineral resources are yet to be exploited.

Kargil has been an important trade centre in the past. Traders from China, Central Asia and different parts of India used to trade in Tea, Wool, Carpets, Silk and precious stones in olden days and Kargil was known as a historical meeting point. Kargil regained its importance when the area was thrown open for Tourists in the year 1974 with other parts of Ladakh and considerable number of tourists, trekkers and mountaineers started visiting Kargil. The District again came in lime light during the Indo- Pak conflict in 1999 as it remained in the headlines of National and International media and some sites such as Tiger Hill, Tololing, Mushku valley and Batalik have become very popular since then. Besides historical importance, unique landscape and number of Heritage sites, Budha Statues, Forts Palaces, ancient Rock carvings (Petroglyphs), Mosques, Monasteries, Pilgrim places, war memorials are found all over the District. Suru Valley, an awe-inspiring destination in Kargill district stretches from the town of Kargil up to the Penzi La Glacier, is dotted with scenic villages and known for its charming landscape, sightseeing opportunities, photography and spectacular views. . Nestled in the foothills of the Himalayas, the Valley is

situated at a height of 3000 meters above sea level. Trekkers, hikers and adventure seekers flock to the valley between the months of July to September.

The region of Ladakh was opened for tourism in 1974 and has recently witnessed very rapid growth. 527 tourists arrived in 1974, 27 of them Indian, increasing gradually to 1.42 lakh in 2011 and in 2018, a total of 327,366 tourists, including 49,477 foreigners, visited the region, about 50,000 more than in the previous year. The many tourist activities are Leisure, Pilgrimage, Heritage, spiritual tourism, trekking, camping, medicinal plants, adventure activities etc. The main tourist season is however limited to the period from mid-May to mid-October, when the area's high mountain passes are open to traffic and the weather is warmest. The expanding Tourism sector also attracts labour migrants, and most employment opportunities are of seasonal nature, as tourist arrivals are concentrated during the summer. Ladakh has now developed into an important destination for both foreign and domestic tourists because of its unique culture, breath-taking landscape, Tibetan Buddhism, and adventure activities.

III. Review of Literature

➤ *NITI Aayog (2018), Report of Working Group II Sustainable Tourism in the Indian Himalayan Region :*

The NITI Aayog Report considers that while there is great potential for tourism growth in the Indian Himalayan Region (IHR), 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, however, the sustainable aspects of tourism

development in the IHR do not find enough resonance in planning long-term investments. A desk-analysis was conducted to develop a “Framework for Analysis and Actions” for sustainable tourism, in order to review current tourism and key cross-cutting policies, tourism plans and best practices in the Indian Himalayan region, existing assessments on socio-economic status and environmental threats, and to build a basic understanding of enabling and disabling trends due to tourism in this region.

The Report estimates that the Indian Himalayan Region will receive 240 million tourists by 2025, and that the dire need of implementing sustainable tourism must also emerge from the fact the Indian Himalaya now has a population of 60 million. The Report states that considering the general concept of sustainability, we need to embrace two, integrated, elements of the sustainability of tourism:

- i. The ability of tourism to continue as a key development activity in the region, ensuring that the enabling conditions to unfold its employment, revenue and GDSP potential are right; and;
- ii. The ability of IHR communities and the environment to absorb and equitably benefit from the impacts of tourism in a sustainable way.

The report enumerates the following sustainability criteria :

- i. Economic connect, comprising of Economic Viability, Resource Efficiency; Employment Quality and Social equity;
- ii. Social inclusiveness, comprising of Local Prosperity; community wellbeing; Cultural richness, integration and mutual understanding;

- iii. Environmental sustainability, comprising of Physical Integrity; Mountain Biological Diversity; Environmental Purity;
- iv. Visitor Fulfilment;
- v. Monitoring and Evaluation.

As per the Report, discussions on different state policies and plans reveal that there is potential to contribute key actions, and these actions are proposed with the intention that the potential of tourism in the IHR can be done by promoting investments in green infrastructure and matching the available potential with updated skill and entrepreneurship Development; to ensure that tourism in IHR maintains its significance, it is important that markets are continually harnessed through branding that follows standards and safeguards integrating sustainability criteria; there are differences in the development status of IHR states; some of the more advance states are already implementing policies and selected actions, but mainstreaming is yet to be achieved, hence, even better-off states (Himachal Pradesh, Sikkim) are faced with challenges that are universal to all states.

The Report recommends key action agenda points for the States in the following areas: Institutions and processes; Capacity building; Research/science and technology; Finance and market; Planning, implementation and monitoring; Policy and regulations. The Report suggests that the existing institutional and governance landscape in IHR needs to be updated and oriented to the possibilities for developing IHR in the long term; there are key best practices in each state and especially in some leading mountain states such as Himachal Pradesh, Sikkim, J&K and Uttarakhand; there are ongoing public and private initiatives and schemes that have lots of potential for being upscaled and outscaled, however, in real terms, things on the ground are of great concern;

Though the Niti Aayog Study examines Sustainable Tourism issues and gives a broad framework and action agenda for the entire Indian Himalayan region, it has not studied in much detail the specific regions, such as Ladakh, which have unique sustainable tourism development challenges and require customized policies and action plans.

➤ *Sajad Nabi Dar, Shamim Ahmad Shah, Ayesha Khatun, Nusrat Batoool, (2019) Role of Tourism In Poverty Alleviation And Socio-Economic Development: A Study Of Leh (Ladakh). History Research Journal, Vol. 5, Issue 5, September- October, 2019 :*

After analyzing the data related to poverty and tourism development, this Study found that poverty has reduced in the areas in Ladakh region where tourism activities have increased, and concludes that tourism has been significantly contributing towards the socio-economic development and alleviation of poverty in Leh. This Research Article suggested that there is a need for the recognition of the tourist sites which are not still in the map of the Tourism Department, there is a need for the development of tourist infrastructure and that the tourist circuits should be developed in such a way that the tourists can spend a good amount of time in the countryside so the people of these areas can also be benefited from this growing industry. The Study focuses only on the Tourism sector's contribution and potential towards poverty reduction and socio-development of Leh District. However, the sustainability aspects of the growth of Tourism have not been examined in this Article.

➤ *Davide Geneletti, Dorje Dawa (2009), Environmental impact assessment of mountain tourism in developing regions: A study in Ladakh, Indian Himalaya, Environmental Impact Assessment Review 29 (2009) 229–242:*

This paper assesses the adverse environmental impacts of tourism, and in particular of trekking-related activities, in Ladakh, Indian Himalaya. The approach was based on the use of Geographical Information System (GIS) modelling and remote sensing imageries. The study concluded that the most affected watersheds are located in the central and south eastern part of Ladakh, along some of the most visited trails and within the Hemis and the Tsokar Tsomoriri National parks. Though the Study identifies the patterns of tourism-induced environmental degradation in the Ladakh region, it has primarily concentrated on one activity, namely trekking, and also does not suggest the measures required to prevent environmental degradation and achieving sustainable tourism development in the region.

- *Marcus Nüsser, Julian Dame (2008), Development Perspectives in Ladakh, India, Geographische Rundschau International, Edition Vol. 4, No. 4/2008*

This Article discusses the effects on local livelihoods on account of the substantial political and socio-economic transformation in last few decades. The Article states that although a decline in subsistence-oriented land use has been experienced over the last years, agropastoral activities persist as the central pillar of local livelihoods, apart from nomadic groups in eastern Ladakh, the population lives in dispersed settlements subsisting to a great extent on combined mountain agriculture, the tourism business is concentrated in a relatively short period between June and September and as income opportunities from this sector are available during the summer months, women and wage labourers take over jobs in the agricultural sector thus replacing the workforce of men who are earning additional income, e.g. as porters or horse men in the trekking business yet the benefits are distributed unevenly among villages with a concentration on Leh. It is argued that debates on sustainable development in the 1990s, activists, such as *Norberg-Hodge*, have argued for a special way of development for Ladakh. She has proposed a "counter-development" path for the region

based on economic decentralisation, including a strengthening or even revival of a presumably self-reliant agriculture, however, such an approach bears the danger of ignoring or undervaluing complex realities and local voices and that the movement towards autonomy aims at an administrative solution for Ladakh which creates a space for ideas from the regional level and allows for development paths with a Ladakhi perspective on how to cope with issues and challenges, and now the policies at district, state and national level as well as initiatives from non-governmental Organisations decide development programmes and strategies. The Article concludes that over the last decades, Ladakh has faced significant transformations in the political, economic and social sphere which have affected local livelihoods and raised debates on sustainable development, and among the multitude of impact factors, border disputes and military presence, Governmental programmes and subsidies, and off-farm income sources especially in the tourism sector are most prominent, and such influences have created opportunities for a region which had been noted for its economic backwardness on the one hand and its self-reliant economy on the other.

➤ *Rigzin Sandup (2020), Occupational Changes in Union Territory of Ladakh: A Study of Leh District, Journal of Humanities and Social Sciences Studies (JHSSS), Volume 3, Issue 3, March, 2020*

This paper looks at occupational changes in Leh district over the last three decades. The paper is completely based on secondary data, which is Census of India. The Paper presents a detailed demographic picture Leh district and comes up with the following findings : the successive Census reports indicate a shift from the traditional sector i.e. agriculture to non-traditional sector i.e. service sector; according to Census of India 2011, only 20.6 percent of main workers of Leh district were engaged in agriculture sector, correspondingly, there was a sharp increase in non-agriculture sector; due to the industrialization bottlenecks in Ladakh, the main workers engaged in household industry more or less remain constant during 1981-

2011, however, there was a sharp increase in main workers engaged as other workers during the same period, this increase in other workers mostly consists of workforce in tourism, government servants, retail businessperson, military and para-military personnel etc. The analysis in this paper is at a macro level is indicative of a transformatory process of urbanization and thereby, signifies that there is a trend indicating a shift from the traditional sector occupations and workforce participation to that of the non-traditional sector, which in itself speaks for the occupational mobility and also of the percolation of the knowledge empowerment. A broad conclusion made from the analysis of occupation pattern is that the workforce has gradually shifted from the traditional to the non-traditional occupations.

- *Malvika Poonia, Anamika Poonia (2015), Sustainability of Tourism in Ladakh region, Journal of Global Resources Volume 1 (No.1), July 2015, Page 99-107*

This Paper tries to find out if there is participation in Ecotourism so as to support sustainable tourism, by assessing the local perception about positive and negative impacts of tourism since its start. Primary survey is base of analysis in this paper, which covers more than 400 households, spreading to different parts of Ladakh, each of them situated near a major tourist destination, i.e. Mulbekh, Chushot, Choglamsar, Hunder, Spangmik and Hanu Yokma. Sustainability has been assessed by taking into account the nature and extent of socio-environmental impact of tourism as perceived through general observations and local perceptions, to come out with some real time solutions for sustainability of tourism activity in the region. The Paper concludes that sustainable tourism activities have not yet bloomed to their fullest, local community is still deprived of the benefits of tourism activity in their region, although local communities have established guest houses in their houses but depending on satisfactory need of tourists, they have switched towards unsustainable practices, like using flush in toilets which are supposed to be arid toilets depending on the

lack of water and that to practice ecotourism in the region, need is to continue with local practices and to avoid acculturation, the activities of tourism are not at all in tune with the concept of eco-tourism and there is need of, tourists' as well as local community's sensitization about Eco-tourism activities.

IV. Significance of Sustainable Tourism in Ladakh region

Sustainable Development Goals (SDGs), which were adopted by 193 member countries of the United Nations at the historic Summit held in New York on 25 September 2015, are now recognized as a universal 17-goal plan of action for people. The SDGs are a call for action by all countries to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and address a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection. By the end of 2030, India targets that every citizen of the country, male or female, including persons with disabilities, should have decent work contributing towards the GDP of the country. Apart from several other SDGs, '*mountain specific tourism*' is directly included as a target in Goals 8 and 12. Goal 8 on the promotion of "sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all" includes as a *Target 8.9* "*By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products*". Goal 12 aims to "ensure sustainable consumption and production patterns" includes as Target to "*Develop and implement tools to monitor sustainable development impacts for sustainable tourism which creates jobs, promotes local culture and products*". The localisation of SDGs has been ascribed utmost importance, as the States and Union Territories (UTs) are the actual implementers of the country's ambitious development agenda. The various mountain States have developed

tourism/eco-tourism policies and master plans but not all of them address these challenges and harness opportunities, and further may not necessarily be synergised with other cross-sectoral and eco-tourism policies. In the above context, it is imperative that the newly created Union Territory of Ladakh also achieves the various socio-economic objectives envisioned in the SDGs through appropriate sustainable tourism policies and initiatives.

Tourism has been contributing more than 10% to the GDP in many Indian Himalayan States such as Uttarakhand, West Bengal, Tripura, Assam, and Meghalaya, and 6.4 % in the State of Jammu & Kashmir. The contribution of Tourism to Ladakh's GDP is around 50 %. Tourism has emerged as the most important sector in Ladakh in view of its potential for creation of employment opportunities and generation of income. This industry has a direct bearing on the socio-economic scene of the region. Tourism industry provides employment to a large number of people engaged in the related sectors like transport, Hotels and catering service, cottage industry and even promotes economic activities in the remote areas. While tourism contributes positively to the economy and enhancing income of the local population, there is an increasing realization that the tourism development needs to take place on sustainable development principles. The negative impacts of growth of tourism on the environment, ecology, society and culture need to be minimized in order to keep it sustainable and to ensure the wellbeing of the region and its populace.

Despite tourism being integral to the economy in the Indian Himalayan region, rapid and unsustainable tourism practices in many areas of the region, along with the adverse effects of climate change in recent times threaten the landscape and ecosystems that tourism is centred around. The problem is further compounded by the over exploitation of limited natural resources. The increase in demand for tourism in the Himalayas has led to overexploitation of natural resources and pollution is threatening the ecological integrity of

the fragile ecosystems in the region. The Indian Himalayan rangelands that support unique biodiversity are threatened from overgrazing, and exploitation of limited resources in the region. In fact experiences suggest that when a destination receives mass tourism interests, economic opportunities may cause stakeholders to overlook environmental and socio-cultural impacts.

Ladakh, located in the Trans-Himalayan region is a geological marvel, has breathtaking natural beauty, but it is also ecologically very fragile. Being at the boundary between the Palearctic and Oriental bio-geographical realms, it has unique flora and fauna. Over 90% of the Trans-Himalayan bio-geographical zone within India is located in Ladakh, and harbours a high diversity of rare Pleistocene mammals like the wild yak and the snow leopard. We might lose many of these species, and other crucial elements of biodiversity, if the landscape is not protected. Fortunately, Ladakhi people have been at the forefront for centuries when it comes to frugality and conscious use of resources, and they have been the torchbearers of sustainable living. But unregulated growth of tourism and influx of businesses could destroy the fine balance Ladakhis have achieved. Tourism, especially if unplanned, exerts immense pressure on the local resources, like energy, food, water and other resources and raw materials that are already scarce in this region.

Tourism has now become the most important sector for the Ladakh region, contributing almost 50% to the region's GDP and generating maximum employment in non-agricultural sector. In view of the maximum contribution of Tourism to the local economy, reliance on this sector for employment generation for the local inhabitants and in absence of large presence of industry and services sectors due to the region lacking in economic resources including raw material for any substantial industrial activity and the remoteness of the region, limited scope of commercialization of agricultural and allied activities etc.,

development of Tourism in this region, with minimum adverse impact on the natural environment as well as on the social and cultural environment, assumes utmost significance. Cultural and natural heritage is among the priceless and irreplaceable assets, and its loss is an impoverishment of heritage of humanity. Preservation and conservation of the unique cultural heritage of Ladakh, which has developed over centuries assumes critical importance. It is also essential to protect and conserve the rich biodiversity and fragile ecology of the mountains in this region. These mountains also possess the vital ecosystem connectivity with the lowland areas.

To conclude the introductory chapter, it would be worthy to quote the words of Erik Solheim, Executive Director of United Nations Environment (UNEP), which he wrote in the piece *'Let's make all tourism green and clean'*, that he co-authored :

“You can use your holiday to make more than memories. With sustainable choices, you can help make our world cleaner and greener. And you can be a global ambassador for respect – respect for our planet, our culture and the communities that welcome us with open hearts.”

Chapter II

Objectives and Research Methodology

Tourism has been contributing more than 10% to the GDP in many Indian Himalayan States such as Uttarakhand, West Bengal, Tripura, Assam, and Meghalaya, and 6.4 % in the erstwhile State of Jammu & Kashmir. The contribution of Tourism to Ladakh's GDP is around 50 %.

Tourism has emerged as the most important economic sector in Ladakh in view of its potential for creation of employment opportunities, generation of income and development of the region as a whole. This industry has a direct bearing on the socio-economic scene of the region. Tourism industry provides employment to a large number of people engaged in the related sectors like transport, hotels and catering service, cottage industry and even promotes economic activities in the remote areas. While tourism contributes positively to the economy and enhancing income of the local population, there is an increasing realization that the tourism development needs to take place on sustainable development principles. The negative impacts of growth of tourism on the environment, ecology, society and culture need to be minimized in order to keep it sustainable and to ensure the wellbeing of the region and its populace.

The Global Sustainable Tourism Council's (GSTC) Criteria serve as the global baseline standards for sustainability in travel and tourism. They are arranged in four pillars: Sustainable management, Socio-economic impacts, Cultural impacts, Environmental impacts (including consumption of resources, reducing pollution, and conserving biodiversity and landscapes). The Criteria are the minimum, not the maximum, which businesses, governments, and destinations should achieve to approach social, environmental, cultural, and economic sustainability. Since tourism destinations each have their own culture, environment, customs,

and laws, these Criteria need to be adapted to local conditions and supplemented by additional criteria for the specific location and activity. Ensuring that economic benefits are secured at the place where costs are incurred is an important principle of sustainable development. Enabling conditions need to be created for the business sector to invest in conservation and in inclusive tourism business with local stakeholders as key partners.

Though Tourism has become the primary activity in the Ladakh region to support its economy, there is immense potential for further growth, considering the unique landscape of Ladakh, the adventure activities, the unique Cultural and heritage sites, and improvement in connectivity, but it needs to be ensured that the growth in Tourism happens in an eco-friendly and sustainable manner. Further, the tourism activities should bring economic benefits to the local population, including tribals and womenfolk, as well as help in promotion and conservation of their cultural heritage.

Removal of article 370, and bifurcation of the erstwhile State of J&K to create a new Union Territory of Ladakh is expected to lead to direct flow of central assistance to the region, and also make the Ladakh region not dependent any more on the erstwhile Government of the State of Jammu & Kashmir for funds, resources, institutional support and plans for realizing socio-economic development of the region, especially related to the Tourism sector. There is an opportunity thereby for this region to frame its own independent policies and action plans, create adequate infrastructure, establish requisite institutional and human resources framework towards sustainable tourism development and promotion of the Ladakh region. New initiatives for Community involvement and preservation of the unique cultural heritage while ensuring sustainable tourism development are also a possibility in the new dispensation.

I. Statement of the Problem:

- Development of tourism has impacted Ladakh's natural and socio-cultural environment. The impact on physical environment or tourism-induced environmental degradation has been in areas of water and air pollution, soil erosion, shortage of water and agricultural labour, solid waste disposal, informal solid waste dumping sites along trekking trails and campsites etc. Due to pressure of large number of tourists, there has been a spurt of usage of groundwater by hotels, guest houses etc. and environmental activists have warned of the problems this overexploitation may cause as the increasing number of bore wells digging into the aquifers directly affect the springs, on which the population depends for drinking water and agriculture use. The growth of tourism has further resulted in disruption of local community bonds, widening disparities in income, modification in the traditional lifestyle and in consumption pattern of the local population, commercialization of culture and religion, decline of cultural heritage as the people increasingly become influenced by other cultures etc. Unplanned tourism development, without adequate focus on sustainability issues, as well as the lack of adequate infrastructure, policies and planning, poses a threat to the conservation of Ladakh's physical and social environment due to the fragility of its ecosystems as well its unique heritage and culture.
- Though Tourism has become the most important economic activity in the Ladakh region and has contributed towards poverty alleviation, employment generation and enhancing the income of the citizens and consequently their standard of living, the growth of tourist infrastructure has not kept pace and happened in an unorganized and haphazard manner and further the economic benefits have not reached the remote and rural regions. Challenges include inadequate infrastructure, low service standards and a

short tourism season due to harsh winters. Tourism, if unmanaged, may also result in ecological and cultural impacts and provide few local benefits.

- Ladakh remained dependent on the erstwhile State of Jammu & Kashmir for seven decades, for most of the socio-economic development. Since 1949, the people from Ladakh had been demanding a separate Union territory for their region based on geographical, cultural, linguistic, political and economic considerations. The Tourism infrastructure development in the Ladakh region lagged behind the development in Kashmir and Jammu regions by a wide margin, in spite of the rapid growth of tourism in this region. The policies, initiatives and infrastructure development related to Tourism were undertaken by the erstwhile State of Jammu & Kashmir considering the State as a whole, and most of these activities and the budget spends were concentrated with regard to Tourism in the Kashmir valley and Jammu regions and there were no initiatives and state machinery focussing on the Ladakh region for ensuring sustainable and eco-friendly development of tourism or for preserving and promoting the unique cultural heritage of the region.
- In the year 2005, LAHDC developed the “Ladakh Vision—2025” with extensive community consultation, to build Ladakh into an economically and environmentally resilient, self-contained and sustainable region. Regarding Tourism, the Vision was *“To connect tourism to the unique topographical advantage and cultural heritage of Ladakh without endangering its fragile eco-system, while at the same time cautiously scaling up tourism to contribute to the economic and social wellbeing of the people of this region.”* The proposed Strategies included improving infrastructure, build local capacity, encourage community based tourism, expand the tourism package, preserve Ladakh’s pristine beauty. However, due to lack of adequate and effective support as well as lack

of political will of the erstwhile Government of the State of Jammu & Kashmir, no real progress could be made towards achieving the various goals envisioned in Vision 2025.

II. Objectives:

In view of the above, the objectives of this dissertation are as following:

- To study the growth of tourism in the Ladakh region, it's impact on the environment, economy, culture and society.
- To identify the various aspects of 'sustainability' in tourism development.
- To study the best practices towards sustainable tourism development and eco-tourism.
- To suggest approaches, framework and initiatives to further sustainable tourism development and conservation of the unique cultural heritage of the Ladakh region and check the negative impact of tourism on local environment, society and cultural heritage.
- To identify tourism promotion strategies, projects that engage local communities directly and measures to attract public & private investments, which would help in tapping the tourism potential of the region towards its socio-economic development and inclusive growth viz. income and employment generation among women and youth and, in an eco-friendly manner and sustainable manner.

III. Research Methodology:

This study is exploratory, analytical and descriptive in nature, based on Desktop research and literature review of secondary data viz. national and international research journals, reports, books, policy documents and databases.

The idea is to find answers of following broad research questions :

- What has been the pattern of growth of tourism in Ladakh region in particular and how it has impacted the environment and society?
- What are the different aspects of sustainability of tourism development?
- What are the best practices and policies adopted nationally and internationally towards sustainable and eco-friendly tourism?
- What policies, regulations, measures, initiatives and action plans can be helpful in realizing sustainable development of tourism in Ladakh, along with attracting public and private investments, creating employment opportunities and for improving the quality of life of its citizens ?

Research Strategy : Quantitative

Research Tools and Data Sources:

- a) Methods and Tools (largely desk-based research based on secondary sources) :

- i. Exploratory and Descriptive Research
- ii. Analytical approach

b) Data Sources (Both National and International):

Secondary data sourced from –

Documents / reports/ statistics of the Ministry of Tourism, Government of India, Ladakh Autonomous Hill Development Councils (LAHDCS) of Leh and Kargil districts, Jammu and Kashmir Tourism Development Corporation and Directorate of Tourism (Jammu & Kashmir), United Nations World Tourism Organisation (UNWTO), World Travel and Tourism Council etc.; National and international Research journals, books on areas related to the research topic; Relevant articles published in leading newspapers; Reports put out by NGOs, Civil Society groups, community groups.

Chapter III

Tourism in Ladakh region and its impact on the environment and society

The region of Ladakh belonged to the erstwhile State of Jammu and Kashmir before becoming a separate Union Territory in October, 2020. It is divided into two districts: the the Leh district and Kargil district. The region borders with Pakistan occupied Kashmir, Chinese occupied Aksai Chin, Tibet, and Lahul Spiti (Himachal Pradesh, India). Elevation ranges from 2900 to 7600 m above sea level. Ladakh hosts three mighty parallel mountainous ranges of the Himalayas: the Zaskar, the Ladakh and the Karakoram Ranges. Between these, the rivers Shyok, Indus and Zaskar flow. Isolated from the rest of the world for much of its existence before, the Ladakh region was thrown open to mass tourism in the mid-1970s.

In the last 45 years, tourist inflow pattern in Ladakh can be divided into three phases: Phase I (1974– 1989), Phase II (1989–2002), and Phase III (2002–present). Phase I presented a slow and steady growth in tourist inflow, from a tourist figure of 574 in 1974 that peaked in 1989 with about 25,000 visitors. Phase II showed high fluctuation: from less than 8,000 to slightly over 20,000 visitors per year. Finally, Phase III is characterised by steep growth, which has increased to 50,000 visitors in 2006, 1,42,000 in 2011 to 2,35,482 in 2016 to 327,366 tourists including 49,477 foreigners, in 2018, about 50,000 more than in the previous year.

i. **Leh District**

Table No. 3.1 : Tourist Arrivals in Leh District (in Nos)

| Year | Indians | Foreigners | Total |
|-------------|----------------|-------------------|--------------|
| 1 | 2 | 3 | 4 |
| 2002 | 2959 | 5109 | 5065 |
| 2003 | 13031 | 15362 | 28393 |
| 2004 | 13483 | 21608 | 35091 |
| 2005 | 13444 | 24536 | 37980 |
| 2006 | 17707 | 26114 | 43821 |
| 2007 | 22007 | 28178 | 50185 |
| 2008 | 39023 | 35311 | 74334 |
| 2009 | 48517 | 30570 | 79087 |
| 2010 | 55685 | 22115 | 77800 |
| 2011 | 142829 | 36662 | 179491 |
| 2012 | 140460 | 38510 | 178970 |
| 2013 | 107412 | 31883 | 139295 |
| 2014 | 121996 | 59305 | 181301 |
| 2015 | 116887 | 29614 | 146501 |
| 2016 | 197693 | 38005 | 235698 |
| 2017 | 230662 | 46593 | 277255 |
| 2018 | 277889 | 49477 | 327366 |

Source : Statistical Handbook, District Statistics & Evaluation office, Leh

Table No. 3.2 : Nationality-wise Tourist Arrivals in Leh District, Year- wise

| S. No. | Nationality | 2012 | 2013 | 2014 | 2015 | 2017 | 2018 |
|--------|-----------------|--------|--------|--------|---------|--------|--------|
| 1 | Canadian | 785 | 586 | 1120 | 564 | 883 | 846 |
| 2 | American | 1909 | 2770 | 4798 | 1994 | 3070 | 2820 |
| 3 | French | 3677 | 4913 | 8110 | 3842 | 4825 | 5067 |
| 4 | German | 1872 | 2950 | 4429 | 2185 | 2810 | Z891 |
| 5 | Swiss | 867 | 1340 | 2860 | 1165 | 1115 | 942 |
| 6 | Australian | 818 | 963 | 1886 | 948 | 1261 | fi317 |
| 7 | English/British | 2605 | 2639 | 4301 | 2419 | 2351 | 2784 |
| 8 | Italian | 1980 | 1599 | 3240 | 1245 | 2235 | Z0Z5 |
| 9 | Others | 23997 | 14123 | 25561 | 15252 | 25043 | 30785 |
| 10 | Indian | 140460 | 107412 | 121996 | 11 6857 | 230662 | 277889 |
| | Total | 180993 | 139295 | 181301 | 146501 | 277255 | 327366 |

Source : Statistical Handbook, District Statistics & Evaluation office, Leh

ii. **Kargil District :**

Table No. 3.3 : Tourist Arrivals in Kargil District (in Nos)

| Year | Indians | Foreigners | Total |
|----------------|----------------|-------------------|--------------|
| 1 | 2 | 3 | 4 |
| 2013-14 | 46614 | 2641 | 49255 |
| 2014-15 | 47174 | 2204 | 49378 |
| 2015-16 | 59790 | 2393 | 62183 |
| 2016-17 | 62168 | 839 | 63007 |
| 2017-18 | 96886 | 4612 | 101498 |
| 2018-19 | 103442 | 6116 | 109558 |

Source : Statistical Handbook of Kargil, District Statistics & Evaluation Office, Kargil

Table No. 3.4 : Nationality-wise Tourist Arrivals in Kargil District, Year- wise

| S.No | Nationality | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|
| 1 | Canadian | 40 | 31 | 65 | 12 | 62 | 159 |
| 2 | American | 115 | 61 | 83 | 56 | 269 | 245 |
| 3 | French | 1121 | 236 | 249 | 45 | 231 | 271 |
| 4 | German | 112 | 170 | 233 | 65 | 215 | 337 |
| 5 | Swiss | 46 | 39 | 48 | 17 | 71 | 88 |
| 6 | Australian | 33 | 167 | 153 | 21 | 97 | 201 |
| 7 | English | 97 | 196 | 204 | 54 | 198 | 277 |
| 8 | Italian | 73 | 185 | 136 | 47 | 197 | 219 |
| 9 | Others | 1004 | 1119 | 1222 | 522 | 3272 | 4319 |
| 10 | Indian | 46614 | 47174 | 59790 | 62168 | 96886 | 103442 |
| | Total | 49255 | 49378 | 62183 | 63007 | 101498 | 109558 |

Source : Statistical Handbook of Kargil, District Statistics & Evaluation Office, Kargil

The increase in tourism numbers in the Ladakh region were primarily driven by Indian domestic tourist policies and improvement in connectivity, especially through air. Early domestic tourists used to travel to certain select hill stations (e.g. Kashmir, Shimla and Darjeeling), but now Indians like to travel to new destinations instead of returning to the

same places, and more and more Indians are attracted to Ladakh. Ladakh has developed into an important destination for both foreign and domestic tourists because of its unique culture, breath-taking landscape, Tibetan Buddhism, and adventure activities. The many tourist activities are Leisure, Pilgrimage, Heritage, spiritual tourism, trekking, camping, medicinal plants, adventure activities etc. In addition to visiting places like Khardung La Pass (one of the world's highest motorable roads), Nubra valley, Pangong Lake and Magnetic Point, non-Indian tourists (mostly from Europe and USA) prefer mountain activities (such as trekking, rafting, mountaineering), discovering local culture, visiting historical Buddhist sites (Hemis, Diksit, Alchi, Lamayuru, Shey and Thiksay are some of the most popular monasteries), and enjoying the spectacular landscape with its picturesque villages nestled in valleys.



Thiksey Monastery, Leh District, Ladakh

Source : <https://matadornetwork.com/read/monasteries-ladakh-india/>

The main tourist season in the Ladakh region is limited to the period from mid-May to mid-October, when the area's high mountain passes are open to traffic and the weather is warmest. Starting June, Ladakh sees a peak of tourist inflow in July and August (the summer tourist season extends from May till September, post which there are relatively very few winter tourists). Apart from the regular tourists, Ladakh attracts people for its religious tourism, adventure sports and wildlife tourism. In a short span of about four decades, the self-sufficient agricultural economy of Ladakh following the barter system of trade has been converted to a cash economy, with a high dependence on the tourist industry for revenue and employment generation. The expanding Tourism sector attracts also labour migrants, and most employment opportunities are of seasonal nature, as tourist arrivals are concentrated during the summer.

In the initial stage, there were hardly any accommodation facilities, and tourists were accommodated within the local families. In the year 1993, the total number of the hotels was 35, which reached 144 in 2011. Later, as the tourist inflow became more regular, the State Government provided up to 50 percent subsidies for the construction of hotels in order to promote the development of tourism. This led to a significant jump in the number of hotels and guesthouses in the region, which supplemented by the introduction of scheduled air services in 1979, led to the rapid development of tourism. The tourist Infrastructure and amenities also increased manifold with an increase in the number of hotels, guest houses, travel agencies, and tourist vehicles. After a periodic slump in arrivals in the year 2002, owing to international socio-political instability, the numbers rapidly picked up in 2003 and continued to increase at a much higher rate than ever before, and Leh started getting more promotion as a travel destination and the unique natural environment and cultural heritage was more specifically marketed as its strength. This period also saw a more rapid change in the region's infrastructure such as roads

connecting the remotest villages. After 2002, there was a significant increase in the tourist flow, in terms of both foreign as well as domestic tourists. The even steeper increase after 2006 is attributed to the large increases in the inflow of domestic tourists. This sudden increase in the number of Indian visitors could be attributed to a lot of factors, like increase in the number and frequency of flights to Leh, the introduction of cheaper tour packages by online travel businesses and also due to the increasing number of Indian films being shot at different tourist locations in Ladakh. During the field survey, it was found that the more than two-fold increase in tourist flow from a total of 77,800 tourists in 2010 to 179,491 tourists in 2011 was credited to the extremely successful 2009 Bollywood film *3 Idiots*, parts of which were shot in Ladakh. In the year 2011, the number of tourists exceeded the district's permanent local population for the first time. In 1993, the number of travel agencies was 17, which increased to 309 in 2011 showing a growth rate of 1817%. The majority of the population is presently associated directly or indirectly with tourism.

The tourism sector in Ladakh has largely developed on a 'reactive' basis. The massive influx of tourists has resulted in major changes in the economic and environmental aspects of the region. In most cases, the local community has had to react consistently to accommodate a steadily increasing inflow of tourists. In addition, income distribution, resource utilisation and other tangible benefits to the local community are increasingly becoming a matter of concern.

A 2013 WWF study on 'Value Chain Mapping of Tourism in Ladakh' finds that the existing tourism model of Ladakh comprises of highly diversified tourism products, provided across the value chain to cater to a wide variety of users. Religious, nature-based and adventure tourism have their own select niches within existing tourism, and in

general, the tourism value chain is influenced by both the state, through tourism policies, and non-state actors, supported by associations that represented specific interests of relevant stakeholders. In Ladakh the key state agencies that influence tourism include, the Department of Tourism of both state and central government, Jammu & Kashmir Wildlife Protection Department, Indian Army, and Ladakh Autonomous Hill Development Council (LAHDC); and the non-state actors included the All Ladakh Tour Operators Association (ALTOA), All Ladakh Hotel and Guest House Owner's Association (ALHGOA), Ladakh Taxi Operators Co-operative Ltd, the Women's Alliance of Ladakh (WAL), Students Educational and Cultural Movement of Ladakh (SECMOL) and Ladakh Ecological and Development Group (LEDeG), Snow Leopard Conservancy (SLC), WWF-India, and so forth.

I. Impact of growth of tourism in Ladakh :

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i. Physical impact:

The rapid development of Ladakh, mostly on account of tourism as well as climate change has led to the degrading of ecosystems. Expanding infrastructure to accommodate rapidly growing 'modern' tourism consumes more resources than can be supported by local ecosystems. This has led to over exploitation and degradation. The land use pattern is changing from agriculture to the profitable construction of hotels or guesthouses, however, land development plan is missing, and approvals are usually given without enough diligence. An ecologically sensitive area, Ladakh is witnessing a burst of growth that its fragile eco-system is unable to handle. Studies by the International Centre for Integrated Mountain Development (*ICIMOD*) suggest that glaciers in Ladakh region are shrinking at a rapid rate, and predicts about 35% of them will disappear within two

decades. Use of diesel in transport and other energy requirements is also linked to increased melting of glaciers and ice in and around Leh. The impact of unregulated tourism is taking its toll on natural resources, especially leading to severe water scarcity in the region. At more than 11,000 feet altitude, Ladakh lies in the rain shadow region of the Himalayas. Annual precipitation averages just 10 centimetres, mainly in the form of snow, but it's enough to sustain the region's population of 274,289 people. Each settlement has its own stream, called a *tokpo* in the Ladakhi language. The people of Leh have traditionally depended on the Leh tokpo, fed by the Phuche and Khardung glaciers. But tourism activities have increased the demand for water. Each day, roughly three million litres of water is supplied to Leh from three sources: direct extraction from the Indus river bed in the heart of the town, digging borewells in Leh town and upper Leh areas, and through springs and diversion channels. Ladakh is a water deficit area and mostly dependent on snow/glacial melt and Indus River flow. The traditional Ladakhi systems of water management and sanitation were in greater harmony with nature. For excretory purposes, a compost pit — a structure involving no deployment of water and, thereby, nullifying the need for sewers or drains — was used. And water from streams — fed by glaciers — was used for drinking purposes. But "development" and influx of tourists has brought with it a more westernised lifestyle and many problems. With most hotels using flush toilets, water consumption has increased manifold. Also, due to a lack of drainage system, sewage water is being let into once pristine streams, thereby polluting the source of drinking water for local inhabitants. Lack of a proper sewage disposal system in Ladakh is also leading to sewage overflow and pollution of local drinking water sources.

Leh town, like other places in Ladakh, is highly dependent on spring water for domestic use. As of December 2016, almost 50% of the Leh town received piped water supply for

two hours a day. The town has seen a steep rise in concrete buildings as hotels and guest houses – each of which has a modern toilet and most also have showers. As per Ladakh tourism department's record, in the year 2016, there were 650-plus hotels of all categories and more than 400 guest houses that offered 6,008 double rooms and 458 single rooms. This means as many modern toilets and bathrooms. In comparison, majority of Leh's approximately 4,300 households (as per 2011 Census) still use the traditional dry toilet, which needs zero water. Studies have also observed that the tourists use much more water than locals, for instance, a study by the Ladakh Ecological Development Group (LEDEG) found that the average citizen of Ladakh uses 21 litres of water per day, while a tourist needs as much as 75 litres per day. According to Director of LEDEG, the tourists take a bath every day and use flush toilets, which consume about 15 litres of water with every use. To overcome the water crisis, hoteliers have resorted to indiscriminate digging of borewells, and there is no effective legislation or regulatory system in place to tackle the menace. As a result, groundwater table is declining rapidly. Almost every family in Ladakh has its own small farm where the family cultivates vegetables. That has taken a beating with several farms being rendered useless due to shortage of water.

Expansion of tourist facilities has resulted in serious adverse effects in and around Leh town, especially due to unplanned and rapid construction activity, including increased use of iron and cement instead of local material which is better suited to the environment; increased transportation network and growth of vehicles leading to air pollution, constrained energy resources, water supply, sewage, and garbage disposal. These lead to environmental problems such as water and air pollution, soil erosion, flash floods and change in climatic conditions. Other adverse effects include shortage of irrigation water and agricultural labour, abandoning of agricultural land eventually leading to soil erosion.



City of Leh , *Source : [www. dnaindia.com](http://www.dnaindia.com)*

The urban development within and around the town of Leh is largely driven by tourism. Both legal and illegal buildings are mushrooming, often occupying poorly suitable locations, such as riversides and low hills. Hotels and other tourist infrastructures are encroaching the agricultural land in middle and upper Leh. Houses, or the mere walls, are built in the outskirts of the city and on the surrounding hills to occupy vacant land while awaiting for its value to increase (Davide Geneletti, Dorje Dawa , 2009). The town of Leh has undergone unprecedented growth in cars and hotels, with the latter encroaching on irrigated agricultural land. Another fallout of expanding tourism in Ladakh is air pollution, which has increased due to a large number of motorized vehicles that tourists demand. This has impacted air quality in the urban centers, which is dangerous for a microclimate like Ladakh. Every year, traffic jams are increasing. The air gets very polluted and the entire town gets clogged. Most tourists, especially domestic tourists, spend most of their time in Leh and seldom explore lesser known parts of the region. There has also been lack of adequate Government support, primarily due to paucity of

funds and lack of a focussed policy and institutional framework focussing on the region for implementing sustainable tourism development programmes.

In Ladakh, a remote region located in Indian Himalayas, trekking related tourism has been steeply increasing. Typical physical impacts caused by trekking are trail widening and incision, multiple treads, muddiness, soil erosion and compaction. Biological impacts include vegetation trampling and degradation (e.g., root exposure), forest thinning (e.g., use of firewood by campers), decrease in biodiversity (e.g., loss of fragile species), wildlife disturbance, habitat fragmentation, and introduction of exotic species. Waste dumping in campsite areas or along the trail has resulted in surface and groundwater pollution. Pack animals, besides contributing to the above-mentioned impacts on soil and vegetation, may cause overgrazing in favorable located grasslands, with subsequent loss of productivity and biodiversity. Additionally, trekking activities determine a number of indirect impacts, such as increase in traffic, and therefore air and noise pollution, off-road driving, land occupation, soil loss and deforestation due to the construction of campsites, accommodations, and tourism infrastructures in general (Davide Geneletti, Dorje Dawa 2009).

Due to poor or non-existent infrastructure in the remote places, other than the towns of Leh and Kargil, the visitors are mainly accommodated on camping grounds. Though tents are pitched within defined areas, waste management is neglected. Very few visitors to Ladakh are aware of the ecological sensitivity of the area they are travelling through, the disturbance to flora and fauna and the problems of garbage disposal. Each year, huge amount of trash is generated across many popular spots.

The high altitude Tibetan plateau and its surrounding trans-Himalayan region, which includes Ladakh, are home to the Himalayan rangelands that include a grassland ecosystem, which occupy more than 60% of the Hindu Kush-Himalayan region. These grasslands are subject to harsh climatic and geographical constraints such as short growing season, frigid temperatures and arid soil, which do not support agriculture. The extremities have created ecologically unique structures and compositions, and support an array of mountainous vegetation and wildlife. For instance, Pfister (2004) identifies 20 species of wild herbivores, 13 species of carnivores and over 275 species of birds in the trans-Himalayan region. This multitude of natural resources is critical to the survival of communities inhabiting the region. These rangelands resources provide an array of natural resources that are critical to the local population, particularly the herding and pastoral communities inhabiting the highlands. However, in recent years this limited pool of resources is under immense pressure from the increasing demand from the local economy and the tourism sector. Rapid increase in livestock population in the region is imposing severe pressure on the sparse grasslands and limited resource holdings. Increasing visitor flows have exacerbated waste problems and impacted on bird nesting areas, thus threatening the biodiversity of the birdlife present. The rise in the popularity of high-altitude mountain trekking induced a steep increase in trekkers over the last decade in Ladakh, as in many other Himalayan states and regions. As a consequence, mountain tourism has become an important source of income, providing a significant contribution to the economic development of the region. However, tourism development is posing a threat to the conservation of Ladakh environment, due to the fragility of its ecosystems, as well as the lack of adequate infrastructures, policies and planning tools (Davide Geneletti, Dorje Dawa, 2009).

Open to outsiders since 1974, the number of tourists visiting Ladakh has rapidly increased over the last two decades. Earlier the visitors were allowed to access only the Indus Valley west of Leh, Hemis National Park and Zaskar area, but by securing a seven-day 'special permit' from the local administration in Leh, new regions -- such as Tsomoriri, Tso-Kar, eastern Nubra valley and western Pagong-Tso -- have been made accessible since 1993.).



Tso Moriri Lake , Tso Moriri Wetland Conservation Reserve in Changthang region, Ladakh; Source : <https://www.tourmyindia.com/states/ladakh/tso-moriri-lake.html>

Tsomoriri Wetland Conservation Reserve, also known as Tsomoriri Lake, is located in the Changthang area in Ladakh. This is a High Altitude Lake (HAL) with an altitude of 4,595 m (15,080 ft) in Ladakh, and is the largest of the High Altitude Lakes in the Trans-Himalayan biogeographic region. The melted snow of the surrounding snow covered mountains is the source of water that flow into the Changthang basin. According to the classification of the Himalayan Lakes done on the basis of their origin, there are four

groups, namely Glacial lakes, Structural lakes, Remnant lakes and Natural Dammed lakes. The Glacial lakes are formed in and around glaciers whereas Structural lakes are formed by folds or faults due to movements in earth's crust. Remnant lakes were originally geomorphologic but represent the remnants of vast lakes and the Natural dammed lakes result from the deposition of rocks along the river courses. The basin of the lake is a closed drainage basin that holds water and does not allow any outflow to other bodies of water like rivers or oceans. Tsomoriri falls under the third group of "Remnant Lakes". Tsomoriri Wetland Conservation Reserve is the house of some avifauna and flora like the Tibetan Ass, thirty-four species of birds included 14 species of water birds, and this lake serves as a breeding land for these animals and plants. (https://indianetzone.com/42/tsomoriri_wetland_conservation_reserve.htm). Located at altitudes of 4,000-5,000 metres, the wetlands in the Changthang area of eastern Ladakh attract a large variety of wildlife as well as humans with their livestock. With total rainfall hardly exceeding 100 millimetres annually, the environment is semi-desert like with large dry steppes in open valleys, sporadically dotted with marshes and lakes. They are fed by small mountain rivers mainly during early summer, when the snow from the surrounding peaks melts. Towards autumn, many rivers cease to flow and wetlands dry out or water levels in the lakes decrease. It is vital to conserve the slow-growing vegetation in the high altitude wetlands. But increased human interference is taking a toll on the fragile environment. In the 1950s and 1960s, moderate nomadic movement was observed in the region and pastures were lush and abundant. But over the last few decades, the vegetation cover has degraded mainly due to increased domestic livestock pressure. New settlements are being built, new suitable lands being converted into agricultural fields and brooks being diverted to irrigate these areas. The Changthang and Rupchu areas accommodate 41 villages and hamlets with a total population of 8,000-odd settled and nomadic (indigenous) residents and 1,500 Tibetan refugees. The area also

holds a substantial number of domestic animals, 90 per cent comprising of sheep and goat and the remaining 10 per cent yak, zo (crossbreed between yak and cow) and ponies. The continuous growth of the domestic livestock increases not only pressure on herbivorous wildlife, but also leads to heavily overgrazed pastureland, resulting in wind erosion and accelerated devastation. The ecosystems are also under pressure from the influx of tourists. The tourists are generally driven in locally hired off-road vehicles to these high altitude plateaus. Due to poor or non-existent infrastructure in the visited places, the visitors are mainly accommodated on camping grounds. Though tents are pitched within defined areas, waste management is totally neglected and all sorts of remains litter the sites. Further, most tourists are ignorant of the disturbance caused to wildlife by their appearance while trekking along the wetlands or driving in close proximity to them. Camping and waste dumping are critical trekking-related factors in the region because trails are not provided with waste bins and campsites are often informal and poorly planned, due to the rapid and recent tourism growth. In general, waste accumulation is high when the campsite is far from settlements, whereas it tends to be lower when there are villages thereby. Therefore, the problem is particularly serious in remote and poorly accessible areas. More specifically on the spatial distribution of impacts, a striking factor is that, despite the vastness of the region, tourist flows concentrate in very few trails. All remaining trails are virtually unknown to tourists (Davide Geneletti, Dorje Dawa 2009).

ii. Economic impact

Located between the Himalayan and the Karakoram mountain ranges, Ladakh is a high-altitude desert. Human settlements lie mainly along the Indus and its tributaries, the Shyok, Nubra and Zaskar. Its economy was historically based on subsistence agriculture and animal husbandry, and long-distance transit trade with Yarkand, Kashmir, Tibet and

the rest of the Indian subcontinent. Until the 1960s, most Ladakhis, including the elite, were mainly self-sufficient subsistence farmers, main activities being crop production, horticulture, animal husbandry, and forestry and their inter linkages as well as support systems which has shaped the culture and socio-economic life of the people. Agriculture always remained as primary source of livelihood for the people. The main crops grown are barley, buck-wheat, wheat, peas, pulses, vegetable, and oilseed and less fertile land is used for raising fodder crop of Alfalfa and fruits. Since rainfall is very low, the entire crops are grown with irrigation. Agriculture farming is mainly confined to the lower parts of Leh and Kargil districts, areas situated below 4500 meters above the mean sea level and along the river valleys. Livestock grazing and subsistence agriculture are primary economic activities for highland communities. Only 451.76 sq.km i.e.1.004 percent of total geographical area of Leh district is inhabited and within this, only 24.04 percent of land is under cultivation. Double cropping is practiced only in a few villages of Khaltsi-Dha belt in Khaltsi block and Bogdang-Turtuk belt in Nubra block. Agriculture is limited as only single-short duration crops can be supported above an altitude of 2,300 meters due to climatic constraints. Animal products like meat and milk form the main diet of people, while products like wool and pashmina (soft fibre of goats) are of major trade focus in the national and international market. Thus, livestock grazing and rearing is the predominant activity in rangeland pastures; it centres the economy of local herding communities and defines the major income source for these communities. The 1962 Indo-China war brought about a change in the attitude of the Indian state towards infrastructure development in the region as well as the promotion of more productive agriculture. As a result, Ladakh became better connected to mainland India and tourist traffic increased steadily. The surplus in agriculture began to provide for the needs of the army which by now had a significant presence in the region.

The region of Ladakh in the erstwhile state of Jammu & Kashmir officially opened for tourism in 1974. Ever since, tourism in the region has grown manifold. The tourism operations include a multitude of stakeholders from government agencies, the private sector, non-governmental organisations, local communities and others. Tourism, being a labour-intensive as a service industry has led to employment generation, especially for local communities level, in the form of direct employment in hotels, guesthouses, restaurants, travel agencies, indirect employment, in the supplying sectors such as agriculture, transport, handicrafts etc. In 2010 accommodation totalled around 8000 beds, divided among 122 hotels and 274 guest houses, mostly concentrated in the town of Leh (6400 beds in 250 hotels and guest houses); about 170 tourist agencies are registered as members of ALTOA (All Ladakh Tour Operators Association); the workforce directly employed in the tourism sector is estimated at about 5750 people: 1500 in hotels, 350 in guest houses, 650 in retail, shops, restaurants, tea stalls, entertainment and internet points, 600 in tourist agencies, 800 as guides, cooks and animal porters, 1600 as taxi drivers, 50 in the Tourism Department and 200 in rural villages (Nissar Hussain, Assistant Director, Tourism Department, Leh, May 2010). In the last few decades, tourism has become the largest driving force of economic growth in Ladakh, presently estimated at about half the region's GDP. Year after year, it has generated revenue and created opportunities and jobs in related sectors such as hotels, guest houses, restaurants, catering services, tourist agencies, tour operators, taxi transport, guides, mule porters, shops, retailers and handicrafts. Tourism has also increased the demand for locally produced goods, agricultural and livestock products, and handicraft items, leading to change in Ladakh's occupational structure. With advent of tourism industry as well as increased urbanization, the number of shops in Leh district is increasing at very high rate. Rise in the number of registered shops has led to occupational change in Leh District.

Table No. 3.5 : Ownership and employment in Shops

| Year | Number of Shops | | | |
|---------|-----------------|---------------|---------------|--------------|
| | | Run by owners | Run by others | Total |
| 2009-10 | i) Number | 5376 | 1505 | 6881 |
| | ii) Employees | 1400 | 763 | 2163 |
| 2010-11 | i) Number | 5709 | 2405 | 8114 |
| | ii) Employees | 1818 | 763 | 2581 |
| 2011-12 | i) Number | 6049 | 2405 | 8454 |
| | ii) Employees | 2378 | 763 | 3141 |
| 2012-13 | i) Number | 6279 | 2405 | 8684 |
| | ii) Employees | 2828 | 763 | 3591 |
| 2013-14 | i) Number | 6487 | 2405 | 8892 |
| | ii) Employees | 3477 | 763 | 4240 |
| 2014-15 | i) Number | 8100 | 932 | 9032 |
| | ii) Employees | 4607 | 389 | 4996 |
| 2015-16 | i) Number | 8641 | 982 | 9623 |
| | ii) Employees | 4792 | 704 | 5496 |
| 2016-17 | i) Number | 9141 | 1202 | 10343 |
| | ii) Employees | 5846 | 1204 | 7050 |
| 2017-18 | i) Number | 8060 | 3192 | 11252 |
| | ii) Employees | 9388 | 2304 | 11692 |
| 2018-19 | i) Number | 8666 | 3408 | 12074 |
| | ii) Employees | 10336 | 2693 | 13029 |

Source : Statistical Handbook, District Statistics & Evaluation office, Leh

Last few Census reports indicate a shift from the traditional sector i.e. agriculture to non-traditional sector i.e. service sector. In Leh district, the workforce engaged in agricultural and non-agricultural sector almost reversed trends in occupation structure during last three decades. During 1981-2001, the workforce engaged in agriculture sector declined from 65.84 percent to 26.43 percent and further decline to 20.60 percent in the year 2011. Similarly, the workforce engaged in non-agriculture sector increased from 34.16 percent to 73.57 percent during 1981-2001 and 79.40 percent in the year 2011. Following factors have primarily lead to change in occupational patterns in Ladakh ; i) Development of Tourism Industry, ii) Government Job Opportunities and iii) Growth in Retail Business, v) Recruitment in Army and Para-Military Forces.

Tourism has created employment opportunities in the area through multiplier effects and has increased the household income. A number of Below Poverty Line (BPL) population has benefitted from the growth of tourism in Ladakh and surveys indicate that the BPL households which are actively associated with tourism activities have been enjoying comparatively a better socio-economic status than the households which are associated with non-tourism activities like agriculture and other allied sectors. However, it has been found that the benefits of tourism are concentrated in a few places mainly in the town areas of Leh due to the availability of tourism infrastructure (Sajad Nabi Dar, Shamim Ahmad Shah, Ayesha Khatun, Nusrat Batool , 2019). Due to this, the gap between the core and periphery regions is rapidly increasing and developmental work is concentrated mostly in the regions where there is an influx of tourists. With rapid growth of tourism, people from the villages flock into Leh town in search of jobs, thus decreasing the number of population involved in farming. As more and more people are pulled off the land, the number of unemployed Ladakhi's competing with each other for already scarce jobs is growing. The result has been a growing insecurity and competitiveness, even leading to ethnic conflict. Preliminary analysis of existing tourism value chain for Ladakh suggests it is mainly aimed at promoting private investment, macro-economic growth and foreign exchange earnings, without taking into account the needs of poor and the marginal groups, and investors are either local elites or seasonal entrepreneurs from Kashmir, Punjab and Delhi, whose profits are repatriated to metropolitan centres.

Ladakh's rangeland communities are experiencing rapid and significant changes in their immediate natural and socio-economic environment, and tourism is now the main stay of the region's economy. However, it has led to diversion of limited natural resources to the rapidly expanding tourism sector, environmental degradation from pollution, change in land use, increase in livestock density, severe water and solid waste management

problems. Further, lack of sustained economic opportunities for the poor and marginal groups and women in the current tourism model has led to skewed income distribution, migration of youth to urban areas and communities unable to reap the benefits from the expanding tourism in the region. Women in the region who are mainly responsible for livestock rearing and limited agriculture activities such as milking and food processing, and conservation directly bear the hardships from the destruction of natural resources. Migration of young men to urban areas and lower altitudes in search of viable employment, further add to the pressure of managing rangeland economy on the women. In the last few decades, though the economic activities have diversified to non-agricultural sectors, like tourism, the importance of agriculture in the economy of Ladakh continues to be very critical. Agriculture not only provides food and raw materials, but is also a source of livelihood for large share of population. Rapid growth of tourism has spurred economic growth in a subsistence agricultural economy like Ladakh. However the impact on the economic well-being of the poor and marginal groups in the region has not been very substantial.

***iii.* Socio-cultural impact**

Ladakh lay in its seclusion for many decades until the road from Kashmir valley to Ladakh was built and opened in 1960s and tourism allowed in the 1970s. The geographical isolation of the region allowed it to preserve its culture. Historic trade not only developed the area's economy but also facilitated cultural and social interactions and influences. Any culture opened to the world, which remained in seclusion over a long period, faces challenges. Leh is one of two districts in Ladakh, the other being Kargil. Leh enjoys a certain cultural dominance, and has often inaccurately been equated with Ladakh. Much of the literature on Ladakh, with some exceptions, focuses on Leh. The

population of Leh district is overwhelmingly Buddhist (77%) and with its airport, has become the entry point into the tourism hub of Ladakh. The ancient inhabitants of Ladakh were Dards, an Indo- Aryan race. Immigrants of Tibet, Skardo and nearby parts like Purang, Guge settled in Ladakh, whose racial characters and cultures were in consonance with early settlers. Buddhism travelled from central India to Tibet via Ladakh leaving its imprint in Ladakh.. In the 10th century AD, Skit Lde Nemagon, the ruler of Tibet, invaded Ladakh when there was no central authority. The lands divided in small principalities were at war with each other. Nemagon defeated them one by one and established a strong kingdom at Shey, 15 kms from Leh, as its capital. Ladakh was an independent province since the middle of the 10th century. King Singgey Namgyal consolidated the Ladakh Empire into a strong kingdom. He built the historic 9-storied Leh palace and also promoted horse polo in Ladakh. It is said that the first emigrants to this land appear to have been the Brokpas from Dadarstan who inhabited the lower reaches of the Indus Valley popularly known as Sham. Another wave of emigrants who came from Karja (Kulu) were the Mons an Aryan type who first settled in Gya and spread to Rong, Shayok, Sakti Tangtse and Durbuk, the area extending from Martselang to Khaltsi. (Economic review, 2018-19, District Statistics and Evaluation office, Leh). Islamic missionaries also made a peaceful penetration of Islam in this region in the early 16th century.

The demographic and religious composition of Leh and Ladakh has a significant bearing on Ladakhi identity. Ladakh has a population of 2,74,000, of which 47.4% is Buddhist, 45.9% Muslim, 6.2% Hindu and 0.5% belonging to other communities. However, Leh district is overwhelmingly Buddhist with Muslims as the main minority, along with Christians and Hindus. Kargil is 80% Muslim. This complex religious distribution, one in which Buddhists are an overwhelming majority in Leh district and a dominant majority in

Ladakh, but a minority in Muslim-dominated Kargil and the erstwhile State of J&K had a significant influence on local politics, conversations and contestations over Ladakhi identity in recent decades. Different valleys and rivers in Ladakh create it in to smaller sub-regions each having its own exclusive identity. These sub- regions reflect the varied dialects and customs collectively knitted into a unique ethnic cluster.

Ladakh's rich cultural identity is highly dependent on its institution of Buddhist monasteries known as gompas. These monasteries are religious and spiritual centers of Buddhism and are repositories of a rich art and cultural heritage. Having been at the crossroad of trans-Asian trade for centuries, Ladakh's cultural heritage and indigenous traditions reflect upon the influence from the cross-cultural exchanges from ancient Buddhist regions of Central Asia and Tibet. The constant contact with the cultures of its neighboring regions for centuries has resulted in a high degree of influence on the indigenous cultures and traditions. There is a visible Tibetan contribution, which has manifested in its monasteries, monuments, art forms, oral cultural traditions, folklore, festivals, and language. The earliest Buddhist heritage of Ladakh comprises of petroglyphs, stūpas, ancient rock carvings, and inscriptions that are found scattered throughout the region. Monastic establishments, fortresses, thangka paintings, manuscripts, ritual objects, and decorative elements in architecture, particularly wall paintings and wood carvings, are all exemplars of the rich artistic heritage of the region and markers of a vibrant history. The exquisite wall paintings, thangka paintings (religious scroll paintings), manuscripts, and other ritual objects manifest Ladakh's unique cultural heritage. Buddhist monastic establishments of all sizes are spread across the region. Smaller monasteries are administratively set up under larger head monasteries of Buddhist sects.

The Buddhist monasteries in Ladakh have been in constant use by the community and are central to religious and cultural practices. These repositories of cultural heritage are facing numerous challenges and many of them have undergone irreparable damage in the recent past. The main stakeholders of this heritage, the monastic and village communities have limited awareness about the inherent historic, cultural, and civilizational value and importance of their own cultural heritage. This ignorance has led to lack of proper maintenance and care. Increasing urbanization and civic development to accommodate tourism pose serious threats to this cultural heritage. In several monasteries and other heritage monuments, traditional architecture has been destroyed and rebuilt or added using modern materials without considering their suitability and consequences in the local climate. Monasteries have become commercialized due to their exposure to modernization. Entering the sacred space now has a price and tourists are willing to buy tickets in order to visit these sites. To make it convenient for the tourists, most of the major monasteries are now well connected with drivable roads, as opposed to the former hermit nature of these sites that called for spiritual and meditative encounters. Construction of roads through hills leads to disturbances in the natural geological setup and also causes vibrations in these ancient structures, which gradually adds to their damage. In a strange unforeseen manner, tourism has also led to increasing numbers of thefts of religious artefacts from monasteries and other holy sites. Nearly unheard of in the traditional Ladakhi society, theft is now a common complaint (Satish C. Pandey, Joyoti Roy, and Noor Jahan, 2016).

Many youth in Ladakh have migrated to major Indian cities for education as their families had the financial and cultural resources to support them. These families are clustered, with few exceptions, in the town of Leh. With migration of elite youth becoming more prevalent in this close-knit society, anxieties about cultural loss are

heightened. Less affluent Ladakhis migrate in large numbers from villages or different regions of Ladakh to Leh and other towns. Most of the available jobs in the local economy are in the armed forces, the paramilitary units, tourism-related work, and government jobs requiring minimal education. Although education was always emphasised as the way for Ladakh to overcome its underdevelopment and as an avenue for social mobility, quality education in Ladakh was and is difficult to acquire. The situation has improved lately, however the avenues for science and technical education beyond the school level are very less. With the increase in the number of educated youth having higher levels of education, finding suitable employment in Ladakh is difficult. The only significant expansion in economic activity in Ladakh over the last decade has been in tourism.

The Ladakhi eco-system is a fragile one, and has been in balance for the past hundreds of years only because the original inhabitants of this region lived in perfect harmony with their surroundings and espoused a lifestyle based on contentment and sustainability. The root of the Ladakhi social system has been the tradition of cooperation, interdependence and mutual help. The development of tourism and general opening up of the region has resulted in disruption of community bonds and degradation of social values as well as widening disparities in income and increased consumerist and materialistic values among the locals. The worst affected areas have been Leh and Kargil towns. While the economy of Ladakh was previously self-sustaining, it now almost entirely depends on the influx of tourists. Interdependency between Ladakhis has plummeted and the traditional economy has migrated to a tourism-related model where all profits earned by transactions related to tourism are being diverted towards expansion activities within the tourism sector. Hence, only the actors of this tourism based economy and market get the benefits from this economy. This in turn expands as the dependency on the influx of tourism makes the

local population more and more dependent on an outside population (Satish C. Pandey, Joyoti Roy, and Noor Jahan, 2016).

Tourists and migrants have also affected the aspirations of the local population in terms of living standards, causing them to abandon their traditional practices and adopt foreign trends in eating, washing, dressing, mobility, etc. This has steered them away from care of their historic structures and cultural heritage, as they tend to deem them old-fashioned and unnecessary to invest in, both culturally and economically. Growth of mass tourism now affects the social behaviour, religious settlements and tradition as well as culture of the people, and broad socio-cultural impacts include degradation of moral values, crime rate increase, thefts, interference in religion, child labour increase, congestion of the town and effect on the traditional habits.

Chapter IV

Sustainability aspects of Tourism development

The concept of 'sustainability' first appeared in the public scene in the report put out by the World Commission on Environment and Development (Brundtland Commission) in 1987. The Commission report advances the idea of sustainable development by noting that economic growth and environmental conservation are not only compatible but they are necessary partners. Sustainable development has been defined in many ways, but the most frequently quoted is the following definition is from the Brundtland Report also known as 'Our Common Future':

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- *The concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and*
- *The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."*

Brundtland Commission indicated that sustainable development should, as a minimum, address the following elements:

- Maintenance of ecological integrity and diversity;
- Meet basic human needs;

- Keep options open for future generations;
- Reduce injustice; and
- Increase self-determination.

In year 2015, governments have adopted the 2030 Agenda for Sustainable Development, along with the Sustainable Development Goals (SDGs). The bold agenda sets out a global framework to end extreme poverty, fight inequality and injustice, and fix climate change until 2030. Building on the Millennium Development Goals (MDGs), the ambitious set of 17 Sustainable Development Goals and 169 associated targets is people-centred, transformative, universal and integrated. Tourism has the potential to contribute, directly or indirectly, to all of the goals. In particular, it has been included as targets in Goals 8, 12 and 14 on inclusive and sustainable economic growth, sustainable consumption and production (SCP) and the sustainable use of oceans and marine resources, respectively. In the 2030 Agenda for Sustainable Development SDG target 8.9, aims to “*by 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products*”. The importance of sustainable tourism is also highlighted in SDG target 12.b. which aims to “*develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products*”.

The Resolution adopted by the UN General Assembly on 21 December 2020 pertaining to ‘Promotion of sustainable tourism, including ecotourism, for poverty eradication and environment protection’ recognizes that that sustainable consumption and production in tourism is aimed at increasing net welfare gains from economic activities by improving resource use and reducing ecosystem degradation and pollution along the entire tourism value chain, and that a systemic approach and cooperation among actors operating along the value

chain, from tourism service providers, to adjacent communities, to tourists, can ensure the sustainability of the sector. The Resolution further acknowledges that tourism is among the economic sectors hardest hit by COVID-19, stressing that the challenges require comprehensive solutions and international collaboration which contribute to strengthening policies and financial support needed to sustain the livelihoods dependent on the sector, reduce inequalities, eradicate poverty and safeguard the benefits of tourism, including coastal tourism, in order to promote a more sustainable tourism model based on social inclusion and the conservation and protection of the environment while prioritizing safety and public health and addressing the impacts of COVID-19 in sustainable development. The Global Sustainable Tourism Council's (GSTC) Criteria serve as the global baseline standards for sustainability in travel and tourism. They are arranged in four pillars:

- Sustainable management,
- Socio-economic impacts,
- Cultural impacts,
- Environmental impacts (including consumption of resources, reducing pollution, and conserving biodiversity and landscapes).

These Criteria are the minimum, not the maximum, which businesses, governments, and destinations should achieve to approach social, environmental, cultural, and economic sustainability. Since tourism destinations have their own culture, environment, customs, and laws, these Criteria need to be adapted to local conditions and supplemented by additional criteria for the specific location and activity. Ensuring that economic benefits are secured at the place where costs are incurred is an important principle of sustainable development.

Recent natural calamities exacerbating the anticipated impacts of climate change and global warming, water scarcity and pollution have all brought the theme of sustainability to the

fore. Sustainability has emerged as an important issue for some of the fast growing tourism destinations around the world, especially in developing countries which already support large native populations. According to United Nations World Tourism Organization (UNWTO), tourism contributes to 5% of global carbon dioxide emissions and 4.6% of global warming by radioactive forcing. Transport accounts for 75% of the total Carbon Dioxide emissions by the sector, with aviation and road transport accounting for 40% and 32% respectively and the accommodation stands at 21% of the total tourism sector emissions. In Iceland in 2016, overnight international tourism arrivals outnumbered the resident population by a ratio of 5.1 to 1. The ratio is also particularly high in growing European hotspots like Croatia (3.3 to 1) and Montenegro (2.6 to 1). This ratio highlights destinations where continued strong growth may put a squeeze on infrastructure capacity and could lead to environmental and social pressures if not managed appropriately.

Environment is a key component of tourism. Tourism's relationship with the environment is however complex. It involves many activities that can have adverse environmental effects. Many of these impacts are linked with the construction of general infrastructure such as roads and airports, and of tourism facilities, including resorts, hotels, restaurants, shops, golf courses and marinas. While greenhouse gases emissions remain a global concern, energy and water consumption, food waste and overall waste management are some of the pertinent issues that the tourism sector needs to tackle. The negative impacts of tourism development can gradually degrade the environmental resources on which it depends, cause pollution, increase deforestation, put a heavy strain on scarce resources. Further, increased human interference in ecologically fragile areas can cause irreversible change in ecological processes and cause negative change in society. This is where the concept of 'Sustainable Tourism' has emerged to balance the diverse aspects of tourism development. Tourism has the potential to create beneficial effects on the environment by contributing to

environmental protection and conservation. It is a way to raise awareness of environmental values and it can serve as a tool to finance protection of natural areas and increase their economic importance. Tourism assets, which are important for the sustainable growth of tourism need to be safeguarded from encroachment and damage by inappropriate development. One of the most pressing needs for humanity is to revert to systems that prevent over exploitation of natural resources and conserve them for posterity. Sustainable tourism not only advocates prudent use of our natural capital, but also endeavours to suitably remunerate communities by helping to achieve this goal.

The United Nations World Tourism Organization (UNWTO) defines ‘Sustainable Tourism’ as *‘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’*. It involves managing all resources in such a way that economic, social, and aesthetic needs can be met, while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems”. Antonio Guterres, the United Nations Secretary General, in his message, on the occasion of the International Year for Sustainable Tourism for Development (2017), had said: *“Every day, more than three million tourists cross the international borders. Every year, almost 1.2 billion people travel abroad. Tourism has become a pillar of economies, a passport to prosperity, and a transformative force for improving millions of lives. The world can and must harness the power of tourism as we strive to carry out the 2030 Agenda for Sustainable Development.”* In the outcome document of the United Nations Conference on Sustainable Development - or Rio+20, which took place in Rio de Janeiro, Brazil in June 2012, at paragraph 130, Member States *“call for enhanced support for sustainable tourism activities and relevant capacity-building in developing countries in order to contribute to the achievement of sustainable development”*. In paragraph 131, Member States *“encourage the promotion of investment in*

sustainable tourism, including eco-tourism and cultural tourism, which may include creating small- and medium-sized enterprises and facilitating access to finance, including through microcredit initiatives for the poor, indigenous peoples and local communities in areas with high eco-tourism potential". In this regard, Members also *"underline the importance of establishing, where necessary, appropriate guidelines and regulations in accordance with national priorities and legislation for promoting and supporting sustainable tourism"*.

Two integrated elements of the sustainability of tourism include the ability of tourism to continue as a key development activity in the region, ensuring that the enabling conditions to unfold its employment, revenue and economic growth potential; and the ability of local communities and the environment to absorb and equitably the benefit from the impacts of tourism in a sustainable way. In recognizing 2017 as the International Year of Sustainable Tourism for Development, UNWTO has identified following five key pillars required to ensure sustainable tourism for development:-

- i. Inclusive and sustainable economic growth
- ii. Social inclusiveness, employment, and poverty reduction
- iii. Resource efficiency, environmental protection, and climate change adaptation and mitigation
- iv. Respect for cultural values, diversity, and heritage
- v. Mutual understanding, peace and security

If developed in a sustainable manner, tourism can create long term benefits for both urban and rural communities. It encourages development of new cultural and commercial facilities that can be used both by residents and tourists, and facilitates the collection of necessary

funds to preserve the natural and archaeological heritage, art and cultural traditions. It also contributes to improvement in environment quality. There has been a trend for tourism to be increasingly incorporated into broader urban approaches to economic development. Tourism can also intervene to uplift rural communities and improve social indices in the hinterland. Impact tourism is a community and tourist-cantered approach in which tourism is leveraged to help deliver sustainable community infrastructure and provide livelihood opportunities for rural communities. It gives tourists an authentic experience of local culture and traditions while helping the community. The problems of disguised unemployment in agriculture as well as migration to urban areas can be mitigated through community based tourism models mentored by the industry.

India is one of the least wasteful economies. It has frequently been acknowledged by stakeholders for its cooperation and efforts to promote climate change mitigation and environmental sustainability; this has been achieved through policy measures, dialogue facilitation between nations, and taking decisive steps (especially after India emerged as a key player in shaping the Paris Agreement), along with adopting energy-efficiency measures. When it comes to sustainable tourism, the Government of India has recognized the immense potential of this niche in becoming a source of sustainable livelihoods in a high population scenario, and has given a special focus on promoting 'Incredible India' brand to attract tourists, not only to major cities and heritage attractions, but also to rural India where through correctly aligned policy mechanisms.

A National Workshop on Sustainable Tourism Criteria for India was convened in July 2010. Based on the recommendations of this National Workshop on Sustainable Tourism Criteria for India, a sub-committee chaired by the Joint Secretary (Tourism), Government of India, and comprising expert stakeholders was constituted in 2010 for defining Sustainable

Tourism Criteria for India (STCI) and Indicators. (Ministry of Tourism, Government of India, 2016). In 2016, the Ministry of Tourism launched the Sustainable Tourism Criteria for India (STCI) in association with Ecotourism Society of India (ESOI), a non-profit organization formed in 2008 with the sole aim to promote and ensure environmentally responsible and sustainable practices in the tourism industry. The criteria were introduced for three major segments of tourism industry, viz. Tour Operators, Accommodation and Beaches, and Backwaters, Lakes and Rivers. Further, the Ministry has also formulated guidelines for approval of Hotel Projects at the implementation stage and guidelines for classification/re-classification of operational hotels under various categories. 99 Hotels at the project stage itself are required to incorporate various eco-friendly measures like Sewage Treatment Plant (STP), Rain Water Harvesting System, waste management system, pollution control, introduction of non-Chlorofluorocarbon (CFC) equipment for refrigeration and air conditioning, measures for energy and water conservation etc. Under the guidelines for project level & classification/re-classification of operational hotels, it has been prescribed that the architecture of the hotel buildings in hilly and ecologically fragile areas should be sustainable and energy efficient and as far as possible be in conformity with the local ethos and make use of local designs and material. Also, tour operators approved by Ministry of Tourism have to sign a pledge for commitment towards Safe & Honourable Tourism and Sustainable Tourism to fully implement Sustainable Tourism practices, consistent with the best environment and heritage protection standards. As several stakeholders in sustainable tourism such as airlines fall outside the ambit of Ministry of Tourism, Government of India, the Sustainable Tourism Criteria for India, at present include only tour operators and the accommodation sector that come directly within the Ministry's purview.

Adoption of sustainable tourism policies and practices into the mainstream has however presented some of the following challenges in India:

- i. **Change in Consumer Patterns:** While most of foreign tourists come from an evolved market that is better aligned towards sustainable tourism products, the domestic market is still in a nascent stage and highly dominated by mass tourism activities. Changing the mindset of the domestic tourist to be more amenable to sustainable tourism products represents one of the major challenges hindering growth of sustainable tourism in India.
- ii. **Low Adoption of Sustainable Practices and Certifications:** Many guidelines and certification mechanisms exist today that can guide the tourism industry towards adopting sustainable practices, especially when it comes to the use of resources like water, electricity and also waste management. The Ministry of Tourism has prepared an extensive Sustainable Tourism Criteria for India (STCI), adapting the tenets of Global Sustainable Tourism Criteria (GSTC) in the Indian context. However, adoption of these principles remains low, in some cases due to the high costs involved in acquiring certification.
- iii. **Price Barriers:** Many sustainable tourism products are positioned at a higher price point than their conventional counterparts owing to the higher input and localization costs involved. As a result, many tourists, especially domestic travellers, are compelled to settle for mass tourism based livelihoods even if they have an inclination to try out sustainable tourism products.
- iv. **Capacity Creation:** Motivating communities to take up tourism activities, especially in rural areas, requires building up skill sets (sometimes from the scratch) in areas pertaining to both hospitality as well as business operations. When a large part of the rural population

is having low literacy rates and limited access to basic amenities, motivating them to undertake new ventures is a challenge.

- v. **Informed Policy Frameworks:** In order to create a framework that can be easily adopted and implemented by the industry, policies need to be informed by evidence, making the collection of data collection, analysis and monitoring critical. Efforts are needed to ensure that data collection is sustained and participatory; makes use of existing statistical frameworks where relevant.

Mountains are recognized as cradles of biodiversity and for their important ecosystem services. Mountains also constitute the second most popular outdoor destination category at the global level after islands and beaches. However, in the current age of accelerating global environmental change, mountain systems face unprecedented change in their ecological characteristics, and consequent effects will extend to the millions who depend directly on ecosystem services from mountains. Mountains are very fragile environments subject to adverse and harsh climatic conditions (high solar radiation, excessive or scanty rainfall, and relatively low temperatures), natural disasters (avalanches, earthquakes, volcanic eruptions) and poor soils prone to erosion because of steep slopes. Their ecosystems are highly vulnerable to human and natural ecological imbalances, which are faster, larger and more difficult to correct than imbalances in plain regions, and most sensitive to all climatic changes in the atmosphere. Himalayan regions are experiencing unusual climatic phenomena, such as longer and relatively warmer winters. Abrupt and untimely rainfall or snowfalls in long-term patterns can have big livelihood repercussions, creating new vulnerabilities in the local as well as global environment. For instance, a cloudburst on 6th August 2010 in the Leh district flooded many villages, killing 233 persons and washing

away thousands of houses and hectares of irrigated land and dispersing livestock. The catastrophe was due to the longest winters ever witnessed in the region.

Mountain tourism in developing countries, especially the Indian Himalayan region, is becoming a growing environmental concern due to extreme seasonality, lack of suitable infrastructures and planning, and interference with fragile ecosystems and protected areas. Typical mountain recreation activities include trekking, climbing expeditions, cultural tours, river rafting, camping etc. Infrastructure development is hampered by difficult access and harsh climate. High-altitude ecosystems are inherently fragile and characterised by low resiliency, and therefore they are particularly susceptible to human interference, such as soil and vegetation trampling, disturbance to native wildlife, and waste dumping. The extreme seasonality nature of high altitude tourism is leading to concentration of human-induced disturbances on the environment in this period, which is also the peak season for several biological processes, such as mating, vegetation growth, migration, spawning etc. Studies related to recreational ecology showed that mountain tourism in developing regions had adverse effects on natural areas, protected areas, and wetlands. Growing tourism is putting fragile mountain ecosystems under increasing stress. Key issues related to sustainable mountain development are water resources, biological and cultural diversity, specific agro-pastoral economic systems, and also, due to its remoteness, heritage with recreational and spiritual significance, and adequate infrastructure for local people (e.g. access to health services and markets), who are often subject to economic constraints and poverty. The approaches to sustainable mountain development need equal attention to ecological, economic and social considerations, ensuring participation of local communities. It requires scientists, tourism scholars, and mountain area management stakeholders to come together in order to protect mountains as a global heritage.

Several parts of the Indian Himalayan region are beset by environmental and socioeconomic problems, vulnerability, and accelerating population growth. All these physical, social and economic vulnerabilities (growing population and demand for natural resources, food insecurity, water scarcity for agriculture and people, loss of biodiversity, hazards and natural disasters) threaten Himalayan ecosystems and impede the watershed programs for sustainable development. The economic development should not come at the cost of irreparable damage to the environment that will make the ecologically fragile region more vulnerable. An integrated strategic framework based on the region's natural resources viz. landscape, geographical characteristics, the ecological factors, forests, water, biodiversity, that takes into account the vulnerability of the region and the need for environment protection is required for ensuring sustainable growth of tourism in the Himalayan region, so that growth does not come at the cost of the environment.

The mountainous region of Ladakh has inherent physical constraints, like prolonged winter, scanty rainfall, rugged mountain terrain, and limited availability of fertile land. The region is sparsely populated; agrarian settlements are typically around the banks and terraces of major rivers and streams, while communities of nomadic breeders live on the plateau up to 4,500 m. Much of Ladakh is still uninhabited: only 57,716 ha, constituting 0.6 per cent of the total area, are inhabited. Due to its location, the region has rich biodiversity, though flora and fauna species are sparse due to desert conditions. The region hosts several protected areas, such as national parks and wildlife sanctuaries. Climate is very cold in winter (down to -40°C) in Suru valley, Kargil District, with a short sunny summer bringing pleasant weather to all valleys (up to +30°C). The area is not affected by the Indian monsoons because it lies in the rain-shadow of the mountain range, but it experiences heavy snowfalls and is virtually isolated from the rest of the country by road for several months of the year, when only air connections remain. The central and eastern portions of the province receive less than 100

mm of precipitation per annum. Most precipitation occurs in the high mountains in the form of snow in winter, and therefore cannot be used for agriculture. Thus local people have found a way to irrigate by channelling meltwater from glaciers or rivers. Ladakh region has a complex hydrological system of rivers, lakes and enclosed basins that allowed the development of important wetlands. These ecosystems function as oases of productivity in an otherwise arid environment. They host varied plant communities, including most of the bushes and trees found in the region, as well as a diverse wildlife, including an abundant migratory bird fauna. Economically, most people rely on subsistence agriculture. The main crops are wheat, barley, pulses and potatoes. In addition, horticulture has been developing rapidly in recent years. The main productions are apricot and apple, and in western Ladakh also almond and grape are grown. The fruit production is either marketed in Leh or supplied to the defence forces stationed in the region. Agriculture and pastoralism are the main livelihoods in the region, although these traditional sectors have been adversely affected by the development of tourism and government services.

Global climate change may also compromise the availability of fresh water for millions of people in the Indian plain due to the possible progressive melting of Himalayan glaciers. Although an increasing rate of retreat has been observed in the eastern Himalayas in recent decades, studies suggest that glaciers in the western Himalayas, comprising the Ladakh mountains, have more complex behaviour. There is uncertainty surrounding the vulnerability of Ladakh to long-term climate change. Changes to temperature and winter snowfall are fundamental to water availability; this may increase melt water runoff, while decreasing water supply in the long term. Annual climatic changes are extreme, with large temperature swings between summer and winter. Experts say that precipitation is reducing due to climate change. The influx of tourists has furthered burdened the scarce water resources. Ladakh, being on the leeward side of the trans-Himalayan range and a cold desert,

receives just about 100 mm of precipitation in a year. This makes water a precious commodity, with reliance on either melt water or springs. The combination of growth in urban areas and a consumer cash economy has increased the stress on limited environmental resources. This varies with region: soil erosion is high in the west, bordering Kargil, while groundwater vulnerability and trail fragmentation are problems in the south and Changthang.

The various sustainability goals of Tourism can be summarized as under :

i. Environmental sustainability goals

- Promotes environmental protection (impact assessment and environmental planning which increases the long-term viability of tourism, water supply, water conservation, air quality, waste and litter minimisation, energy minimisation - buildings, transport; increases public environmental consciousness, fosters healthy attitudes and behaviors towards nature etc.).
- Uses natural resources efficiently (conservation and sustainable use of resources - natural, social, cultural; marketing to provide tourists with full and responsible information which increases respect for the natural, social and cultural environments of destination areas and enhances customer satisfaction

ii. Economic sustainability goals

- Enables lasting economic development (Tourism that supports a wide range of local economic activities and which takes environmental costs and values into account, both protects these economies and avoids environmental damage;

Research and monitoring by the government and industry using effective data collection and analysis helps in solving problems and bring benefits to destinations, the industry and consumers)

- Creates jobs for local people,
- Drives the development of other related industries,
- Upgrades local infrastructure,
- Retains profits within local communities,
- Equitable distribution of economic benefits,
- Finances the establishment and maintenance of protected areas

iii. Socio-cultural sustainability goals

- Promotes active participation of local population (involvement of local communities in the tourism sector not only benefits them and the environment but also improves the quality of the tourism projects, Consultation between the tourism industry and local communities organizations and institutions is essential if they are to work alongside each other and resolve potential conflicts of interest)
- Promotes local ownership,
- Empowers local people,
- Encourages intercultural appreciation and communication between host communities and tourists,
- Trains local population, along with recruitment of personnel at all levels
- Maintains and promotes natural, social, and cultural heritage, which is essential for long-term sustainable tourism

Achieving the afore mentioned goals of Sustainable tourism in the region of Ladakh would lead to inclusive economic growth, social development, financial inclusion, employment generation, reduction of poverty, development of rural and remote areas and communities, environmental protection , including the conservation of biodiversity and natural resources and the promotion of investment and in ecotourism, development of medium and small enterprises, rural areas. The local communities would benefit in form of increased prosperity but without exploitation or damage to their quality of life.

Chapter V

Best practices in sustainable tourism development

On a global policy level, initiatives to promote sustainable tourism have been consistently introduced to lay out broad adaptive frameworks that are flexible enough to be adopted by both developed and developing countries. In 2007, an organization named the ‘Partnership for Global Sustainable Tourism Criteria’ was formed as a coalition of 32 partners, initiated by the Rainforest Alliance, the United Nations Environment Programme (UNEP), the United Nations Foundation, and the United Nations World Tourism Organization (UNWTO) to foster increased understanding of sustainable tourism practices and the adoption of universal sustainable tourism principles. In 2008, it developed a set of baseline criteria organized around the four pillars of sustainable tourism: effective sustainability planning; maximizing social and economic benefits to the local community; reduction of negative impacts to cultural heritage; and reduction of negative impacts on the environment. In 2010, the Partnership for Global Sustainable Tourism Criteria and the Sustainable Tourism Stewardship Council (STSC) merged to officially evolve from the Global Sustainable Tourism Criteria to become the Global Sustainable Tourism Council (GSTC). The GSTC is an independent and neutral organization that represents a diverse and global membership, including UN agencies, NGO’s, national and provincial Governments, leading travel companies, hotels, tour operators, individuals and communities – all striving to achieve best practices in sustainable tourism. Mainstreaming sustainable tourism models requires multi-pronged stakeholder coordination – businesses, Governments, local and indigenous communities, NGOs, academics, development agencies, media and travellers – to advance sustainable tourism practices. The UNEP report, ‘Tourism in the Green Economy’ (WTO & UNEP, 2012), makes

an economic case for investing in the greening of tourism and provides guidance on how to mobilize such investments. It highlights the challenges of the growth of tourism including the sector's contribution to, global greenhouse gas (GHG) emissions, excessive water consumption compared with residential water use, discharge of untreated water, the generation of waste, the damage to local terrestrial and marine biodiversity and the threats to the survival of local cultures, built heritage and traditions.

Making a reality of sustainable tourism entails adopting "best practices," namely, corrective or improved measures implemented in every area of tourist business management and operation. Identifying best practices can help the Ladakh administration, the tourism industry and other stakeholders in formulating and implementing a comprehensive sustainable tourism policy, framework and strategy. Study of Best Practices can help in indicating feasible, practical and implementable strategies to the Ladakh administration and the tourism industry towards achieving the goal of sustainable tourism development in the region of Ladakh. Although some steps have been taken in Ladakh both by the Government, the industry and the local communities towards eco-friendly and sustainable tourism practices, there is scope for improvement based on a more integrated and long-term development approach. Some of the Best practices across the globe are discussed below:-

i. Mongolia

Mongolia has a small but rapidly growing tourism sector. In 2017, tourism comprised 11.4 percent of Mongolia's gross domestic product (GDP), generating USD1.2 billion, 10.4 percent of total employment, and 121,500 jobs. By 2028, tourism is forecast to comprise 11.0 percent (USD2.1 billion) of GDP and provide 149,000 jobs. International visitor arrivals totalled 471,239 in 2017 and are forecast to increase to 1 million by 2028.

Developing the tourism sector is a high national priority to diversify the economy and create jobs. The government's plans to focus on ecotourism in protected areas, which encompass 21 percent of Mongolia's area and are targeted to reach 30 percent by 2030. The government has initiated the National Program on Tourism Development, 2016-2030, which aims to establish Mongolia as a global destination for nomadic culture. The program outlines a phased approach for tourism development that focuses initially on protected areas in northern, central, and eastern Mongolia. It prioritizes investments in visitor facilities, transport and sanitation infrastructure, and community-based products and services. Five sites are listed to pilot and catalyze ecotourism development, two of which are designated the highest priority: Khuvsgul Lake National Park (KLNP) in Khuvsgul Aimag and Onon-Balj National Park (OBNP) in Khentii Aimag (Ooluun.B, 2017).

Khuvsgul Lake in Northern Mongolia is a major tourism site. It is known as “the blue pearl” and has long been considered one of the jewels in the crown of Mongolia’s protected area estate. It is part of a precious and fragile ecosystem. Asian Development Bank’s (ADB) first-ever tourism project in Mongolia is a project that benefits the environment and livelihoods at Khuvsgul Lake National Park. More than 1 million hectares of stunning snow-capped mountains and forested hillsides surround Khuvsgul Lake, which supports 70 percent of Mongolia’s, and 1 percent of the world’s freshwater. Its pristine waters are vital to Mongolia, while the park’s wilderness and biodiversity values are of global importance. Khuvsgul aimag (province) is increasingly becoming an international tourist destination and the Integrated Livelihoods Improvement and Sustainable Tourism in Khuvsgul Lake National Park Project helps create jobs, develop sustainable community-based tourism, and protect the environment. Tourists come to the lake and its national park for trekking, kayaking, and fishing. In 2018, over 101,000 people visited, up from 11,000 in 2010. The upside of the rise in tourism is the increased household income, but the drawback is tourists’

improper use of lake water. The Integrated Livelihoods Improvement and Sustainable Tourism in Khuvsgul Lake National Park Project, funded with a \$3 million grant from the Japan Fund for Poverty Reduction, helped build local tourism activities, improve livestock and pasture management, and strengthen waste management around Khuvsgul Lake. The Project is working to make sure local people benefit from tourism and to prevent damage to the lake and grasslands. The project promotes community-based ecotourism. Residents, tour operators, and local government work hand in hand. Small loans have helped locals set up or expand businesses. Herder groups coordinate grazing to prevent overuse of the delicate grasslands, fencing off the pastureland to reserve it for winter and spring. As the land is preserved when the grass is growing, the pastureland is enriched with more plant varieties. Waste management groups collect garbage, check water quality, and maintain 50 new all-weather eco-toilets. (ADB Portal, <https://www.adb.org/>)

ii. Bhutan

Bhutan is one of the few countries globally that has the ethos of sustainability embedded deep into its social structure as well as public policy. A carbon negative country, it has developed a unique Gross National Happiness (GNH) index based on four pillars: sustainable development, environmental protection, cultural preservation, and good governance. Being a completely land-locked mountain country with difficult accessibility, tourism is the mainstay of the Bhutanese economy, contributing more than 9% to GDP, earning the highest hard currency reserves and providing the highest employment opportunity. Despite this fact, the country had consciously chosen to go on the path of ‘high value, low impact’ tourism. Aware that an unrestricted flow of tourists could negatively impact Bhutan’s pristine environment and unique culture, the government adopted a policy of ‘high-value, low-volume’ tourism in order to control the type and quantity of tourism

right from the start. Bhutan's long-term strategy of controlled tourism with a focus on sustainability and quality has secured the country's reputation as an exclusive and distinctive destination while ensuring the long-term sustainability of the industry and its contribution to the economy. With very strict entry requirements, travellers to Bhutan must be with an approved tour operator who will arrange all travel while in the country and arrive via Druk Air, which offers a limited number of flights from few cities in Asia. All visitors must pay a daily tariff, starting at US \$ 200 per day during the low season and US \$ 250 during peak season. US \$ 65 from this daily tariff is considered 'sustainable tourism' royalty, which is used to bolster the country's free health-care and education system, as well as the building of tourism infrastructure. The success of this model can be ratified by the fact that despite the high cost barrier, tourism in Bhutan continues to flourish, with steady rise in the growth rate. The duration of tourist visits also remains high, with tourists from top 20 international market sources spend seven nights in the country on an average. An interesting thing to note is the high revenue that the country is able to garner from a relatively lower number of visitors due to the higher average spend per tourist enabled through policy mechanisms. The RISE programme (Rapid Investment in Selected Enterprise) seeks to accelerate economic growth and achieve the objective of self-reliance. One of the key sectors identified is Tourism, with a focus to achieve higher yield per tourist as well as double the arrivals, but ensuring that it is spread across the country and throughout the calendar year. The tourism objectives are aligned with the four pillars of Gross National Happiness (GNH). Bhutan has aligned and integrated tourism plans and programmes with biodiversity plans and programmes to ensure that they are complementary. (Strategic Government Advisory, Yes bank and CII, 2017).

Another key factor in the success of Bhutan's tourism strategy has been the privatization of the industry. Until 1991, the Bhutan Tourism Corporation, a quasi-autonomous and self-

financing body, implemented the government's tourism policy, and all tourists came as guests of the Corporation. The Corporation, in turn, operated the transport services and nearly all the hotels and accommodation facilities. The Tourism Council was established under the Ministry of Trade and Industry and the Department of Tourism with the primary responsibility of developing new tourism growth opportunities, undertaking research, protecting tourism assets and its impact on the environment, and managing the administration of visa and trekking permits. Bhutan's main tourism attractions are its traditional culture and way of life, its religious festivals, historic monuments and its pristine environment. Protecting nature and culture is part of the Bhutanese value system and is an important aspect of the traditional way of life in Bhutan, and its tourism policy reflects these concerns. The policy of imposing a US \$ 200 per person per day tariff (including a US\$ 65 royalty charged by the government plus food, accommodation, local transport and guides) has succeeded in providing a source of government income for education, health and building tourism and transport infrastructure, while at the same time making tourism in Bhutan an exclusive and distinctive experience. The Tourism Council of Bhutan works in close cooperation with the Association of Bhutanese Tour Operators, the Hotel Association of Bhutan and the Guide Association of Bhutan to establish a channel for closer and more effective collaboration between the tourism industry and the Department of Tourism. It also ensures that the interests of the private sector are represented in developing tourism in a sustainable and responsible manner. The government encourages initiatives to enable the private sector to provide value for money to their clients. For example, new luxury hotels, the upgrading of existing hotels and foreign direct investment are encouraged through tax and fiscal incentives. (International Trade Centre, Trade Forum Editorial,2011).

iii. Switzerland:

Switzerland has a unique geographical location, with the Alpine range, several large lakes, and many other natural assets. The main tourism product of Switzerland is the Alps, but town centred tourism has also gained considerable importance, particularly in Zürich and Geneva. The country is an active advocate of public transport for citizens as well as tourists not only because it is fast and reliable but also to minimize negative impact in Alpine areas. The Swiss Travel System in Switzerland is the world's most effective public transportation system—a fully-integrated air, train, and bus system—powered majorly by clean hydroelectric power sources. This results in reduced carbon footprint by travelers and citizens alike. A third of Switzerland is made up of woodlands and annually an area the size of Lake Thun additionally added in accordance with the federal forestry law, forests must occupy at least thirty percent of the nation's land. Particularly in the Alps and south side of the Alps woodlands are again gaining territory. Legislation in Switzerland ensures areas of woodland remain unchanged – especially in heavily populated and growing regions. Forest clearances are only permissible with special permission, and felled trees must generally be replaced. (2020, Devender Grover).

iv. Botswana

Throughout the 1990s, Botswana's tourism industry adopted a “high value-low volume” approach to lessen the negative impact of tourism on its environment. This policy resulted in the region developing only a few major tourist attractions, like the Okavango Delta. Most of the tourism revenue was siphoned off in payments to external agents and absorbed in import leakage, leaving few financial benefits for the Botswana economy. In 2001, the Government of Botswana recognized that its tourism industry was dependent upon its abundant wildlife.

To diversify, it decided to open up areas less known, such as the parks in the centre and south of the country, and add new products like cultural, historical, and archaeological attractions. The challenge was to diversify in a manner that protected the environment, provided local multiplier effects, and decreased leakage. Botswana chose to develop a National Eco-Tourism Strategy (NES) with the help of a number of different stakeholders, namely, the Department of Tourism under the Ministry of Environment, Wildlife and Tourism, the European Union, Botswana Tourism Board, and the Regional Tourism Organization of Southern Africa (RETOSA). The NES emphasized community development through tourism by stressing that host communities needed to be actively involved so that the people of Botswana had a voice in managing their country's valuable resources responsibly. New products developed in the community had to meet the social, cultural, economic, and environmental needs of its people by:

- Minimising negative social, cultural, and environmental impacts;
- Maximising the involvement in, and the equitable distribution of economic benefits to, host communities; and citizen entrepreneurs.
- Maximising the revenues for re-investment in conservation;
- Educating both visitors and local people as to the importance of conserving natural and cultural resources;
- Delivering a quality experience for tourists.

Every stakeholder featured these five points in their promotional materials so that all tourism development, planning, and management promoted and rewarded the use of eco-tourism best practices. With these yardsticks in place, the NES educates both visitors and local communities about the importance of conserving natural and cultural resources. Since implementing Botswana's NES, further construction of tourist accommodation (including

five star hotels and resorts), airfields, and road infrastructure has grown hand in hand with an annual increase in selected wildlife species. The number of visitor arrivals, available beds in hotel rooms, and the occupancy rate has increased; and the total fees generated from parks and game reserves rose from US\$ 10.8 million in 1998 to US\$ 21.1 million in 2000. By 2001, tourism was the second largest contributor to total GNP.

The NES has also led to the growth of Community Based Tourism (CBT) ventures. CBT are community owned projects, or joint ventures with the private sector based on equitable community participation. These projects use only natural resources in a sustainable manner to improve the community's standard of living in an economic or viable way. To date, there are over 50 community-based organizations in Botswana at various stages of development. For example, in western Botswana the revenue from a growing number of international visitors buying Bushmen handicrafts and culture (i.e., traditional dancing, storytelling, and guided hunting and gathering trips) is flowing directly back to the participants and producers in the community. Craft production is an important source of income for women in remote areas of Botswana, and increased bigger demand for their products has encouraged these artists to produce more. To ensure quality service, Department of Tourism officials inspect the premises of tourism operations prior to granting and renewing licenses in order to ensure that standards are met. Failing inspection, a license is withheld to give the proprietor time to rectify the situation or else the license is revoked. (Helen Williams, Dr. Dorothy I. Riddle 2004).

v. **Honduras**

Honduras, officially the Republic of Honduras is a republic in Central America. Honduras is a tourist destination that attracts by abundant and varied natural beauty as white sandy and

dark sand beaches, coral reefs, abundant flora and fauna and archaeological beauties, along its entire culture expressed in their customs and traditional foods. The Ministry of Culture, Tourism and Sports which is responsible for ensuring the maintenance of tourism resources of the country emphasized on tourism marketing so as to improve the sustainability of the 4P's in light of emerging global market trends. The main objective is to capture and analyse the data, provide a comfortable environment for investment in the tourism product and ensure that international standards are adhered to and achieved. The official tourism slogan: "Honduras – one small country, three wide worlds" – where the three worlds referred to are tropical nature, Maya renaissance, and Caribbean creation symbolizes a way of life. It represents a message rather than solely serving as a marketing campaign in a way that is easily understood by visitors. (Rajeev Kumar Ranjan, 2019).

vi. Peru

The main policy instrument is the National Strategic Plan of Tourism of Peru (PENTUR). It has four pillars covering: The competitiveness and sustainability of tourism supply; Tourist market diversification; Travel facilitation; Sector strengthening, tourism awareness and vocational training. The main objectives of the tourism policy are to:

- Incorporate continuous improvement in its processes, as a requirement for competitiveness: improving the quality of services and products and increasing tourist awareness, in harmony with the environment,
- Strengthen ties with the regional and local economy: increasing potential for social and cultural benefit from tourism, improving the local environment, and making local destinations ideal places to live, work and enjoy,

- Promote the development of sustainable tourism projects and activities that contribute to the development of communities,
- Promote and implement measures that contribute to the control and prevention of environmental pollution and biodiversity conservation.

There are also a National Plan for Tourism Quality, a National Strategic Craft Plan, and a National Artisan Register (RNA). The RNA is a tool to identify artisans, handicraft companies or artisan associations. It enables the mapping of artisans in a defined geographic space, named “Craft Conglomerates”, such as San Blas (Cusco), Quinoa (Ayacucho), Lurín (Lima), and their incorporation into tourist circuits. The Peruvian Government, through the Ministry of Foreign Trade and Tourism has launched an inclusive development Programme called Turismo Emprende that promotes the creation, development and consolidation of private tourism-related enterprises through activities that include aspects of conservation, sustainable resource use and economic development. This programme has an annual fund of USD 763000 for four years. The main objective is to provide grants for the development of tourism ventures at the national level. The Programme finances the improvement and expansion of established businesses as well the creation of new enterprises, in the hotel, restaurant and travel sectors. For new businesses, the programme can fund up to 100% of project costs (OECD Tourism Trends and Policies 2018).

To enhance women’s participation in the production and marketing of handicrafts and in community-based tourism initiatives, the Peruvian programme “Turismo Emprende” gave preference to proposals that served to promote the empowerment of women, cultural heritage and environmental sustainability. Within the framework of social tourism intervention actions, access by and participation of single mothers and young women is facilitated in the tourism sector so that they can directly benefit from these activities. The

national community-based rural tourism strategy of the Ministry of Foreign Trade and Tourism of Peru promotes the development of quality tourism in the communities of all three regions of Peru (coast, mountain zone and rainforest). Working with communities, empowering women and recovering traditional knowledge are, therefore, essential components for the effective implementation of the strategy. (United Nations World Tourism Organization, UNWTO, 2018),

vii. Sikkim, India

Taking a cue from the neighbouring country of Bhutan, Sikkim has been constantly striving to develop tourism with a conservative approach, keeping a check on carrying capacity infringements and devising mechanism to diversify tourism in the hinterland and avoid undue pressure on the fragile mountain ecosystem. Realizing its advantage of an immensely diverse landscape coupled with a unique culture, the state Government took two progressive policy mechanisms that made it stand out amongst all states of the India as well as other Himalayan counterparts – first, Sikkim became the first state to be declared completely organic, hereby automatically incentivizing agriculture sector in the state, and second, it again became the first state to launch an eco-tourism policy. The state demonstrated how a pragmatic approach from the administration can catalyze small and medium enterprises on the ground. The Government made topical changes to central Government schemes like the ‘Indira Awas Yojana’ that enabled villagers to construct extra rooms and sanitation facilities for homestays. The Department of Forests, Environment and Wildlife Management (DFEWM) also implemented a Japan International Cooperation Agency (JICA) assisted Sikkim Biodiversity Conservation and Forest Management project. The project was for a period of ten years commencing from 2010-2011 to 2019-2020 at a total cost of Rs.330.57 Crores. The Project objective was to strengthen biodiversity conservation activities and

forest management capacity, and to improve livelihood for the local people who are dependent on forests by promoting sustainable biodiversity conservation, a forestation and income generation activities including eco-tourism for the community development, thereby contributing environment conservation and harmonized socio-economic development of Sikkim. Sikkim Himalayan Home Stay Program promotes ecotourism in rural areas of Sikkim. It is supported by UNESCO, Norwegian Govt. and the Principality of Andorra, and implemented by Ecotourism & Conservation Society of Sikkim (ECOSS), a non-Governmental organization. The Sikkim Himalayan Homestays Program is operational at Dzongu (North Sikkim), Pastanga (East Sikkim), Yuksam (West Sikkim) and Kewzing (South Sikkim). ECOSS is also developing new rural ecotourism sites at Naitam (East Sikkim), Lingee Payong (South Sikkim) and Ray Mindu (East Sikkim) (Strategic Government Advisory, Yes bank and CII, 2017).

Chapter VI

Conclusions and Recommendations

While tourism's multi-faceted social and economic impact has the potential to improve living indices at the bottom of the pyramid and be a key contributor to investment, employment, and tax revenues through investment in both infrastructure and people, the influx of tourists can have negative side effects too, especially in ecologically fragile mountainous areas. It can put pressure on infrastructure and natural resources, and also erode cultural heritage and traditional ways of life. The challenge is to maximize the benefits of tourism while containing the side effects, and to ensure that tourism enrich the lives of both visitors and hosts. Tourism can damage the environment which, over time, reduces visitors and revenues. The increasing number of travellers, large hotels with massive energy consumptions and other modern day amenities put a strain on natural and cultural resources and also contributing to climate change. There is now spotlight on tourism value chains' increasing share in greenhouse gases emissions and other indices negatively impacting the environment. Governments and the tourism industry can work together to avoid all these adverse impacts.

The localisation of SDGs has been ascribed utmost importance, as the States and Union Territories (UTs) are the actual implementers of India's ambitious development agenda. The various mountain States of the country have developed tourism/eco-tourism policies and master plans but not all of them address these challenges and harness opportunities, and further may not necessarily be synergised with other cross-sectoral policies and eco-tourism policies. In the above context, it is imperative that the newly created Union Territory of

Ladakh also achieves the various socio-economic objectives envisioned in the SDGs, particularly with respect to sustainable Tourism development.

Globally, since the early 1990s, interest in eco-tourism, sustainable tourism and community tourism has grown rapidly amongst decision-makers and other stakeholders across the value chain. In order to succeed, sustainable tourism requires the combined effort of the host community, tourists and private and public sector. Sustainability relates to areas of public concern—air, water, natural and cultural heritage and the quality of life. Governments have many tools that can be used to make a difference, such as the power to make regulations and offer economic incentives, and the resources and institutions to promote and disseminate good practices, and invest in the requisite infrastructure. The public sector needs to set up the planning, regulation and monitoring systems that satisfy the niche market they have decided to cater for and the related tourism development strategy. Governments, both at the Centre and State/Union Territory levels are the key stakeholders responsible for policies related to tourism. Other stakeholder groups such as accommodation industry, local business enterprises, and industry associations constitute the operational structure of the tourism sector, while local communities provide resources, labour and knowledge. Enabling conditions need to be created for the business sector to invest in conservation and in inclusive tourism business with local stakeholders as key partners. As per UNWTO, Sustainability principles refer to the environmental, economic, and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability. Thus, sustainable tourism should:

- i. Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.

- ii. Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.
- iii. Respect the socio-cultural authenticity of host communities, conserve cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.

Making tourism more sustainable is not just about controlling and managing the negative impacts of the industry. Within the tourism sector, economic development and environmental protection should not be seen as opposing forces, rather they should be pursued hand in hand as aspirations that can and should be mutually reinforcing, and practices that commensurate with these values can provide long term benefits to the industry as well as the community. Moreover, tourism is one of the few service sectors operating in rural areas and other fragile ecosystems, where the conservation of cultural heritage also becomes an important facet apart from the natural heritage. An understanding of what type of tourism philosophy a country or a State/ region wants to promote and what type of tourists it aims to attract is very important. Best practices on a global level can provide guidelines in order to design a sustainable tourism plan. An integrated and comprehensive plan is needed to manage land use, local community participation and to measure its compliance.

Sustainability has always been a core component of Indian culture. Its philosophy and values have underscored a sustainable way of life. Yoga and Ayurveda are perhaps among the most well-known ways of holistic Indian living. Sustainable and environmentally friendly practices and psyches still continue to be part of the lifestyle and culture. Under the federal structure of India, Tourism falls under the State list of the Indian constitution, hence issues of land, transport, hotels, industry, law and order and the development of tourism infrastructure are

handled by the State Governments/Union Territory Administrations. At the national level, the Ministry of Tourism, Government of India formulates national policies and programmes for the development and promotion of tourism in India. The Ministry also plays a crucial role in co-ordinating the activities of various central and state-level Government agencies, co-ordinating and supplementing the efforts of the State Governments/Union Territory Administrations, catalyzing private investment, strengthening promotional and marketing efforts and providing trained manpower resources, while its overseas offices promote India as a tourism destination. The India Tourism Development Corporation (ITDC), a public sector enterprise under the administrative control of the Ministry of Tourism, plays a key role in the development of tourism infrastructure. Apart from developing hotel chains in India, ITDC offers tourism-related services like transport, duty-free shopping, entertainment, production of promotional materials and professional consultancy services. The National Council for Hotel Management and Catering Technology (NCHMCT) is an autonomous body of the Ministry of Tourism responsible for the growth and development of hospitality management education through its affiliated institutes. The Indian Institute of Tourism and Travel Management (IITTM) is another autonomous institute under the Ministry of Tourism providing specialized education and training for the tourism and travel industry. Apart from this, the Ministry of Tourism plays an important role in training and professional education, with necessary infrastructure support, capable of generating manpower sufficient to meet the needs of the tourism and hospitality industry, both quantitatively and qualitatively.

Tourism has become a key driver of socioeconomic development of the Indian Himalayan region, and has been contributing more than 10% to the GDP in many Indian Himalayan States such as Uttarakhand, West Bengal, Tripura, Assam, and Meghalaya, and 6.4 % in the State of Jammu & Kashmir. The contribution of Tourism to Ladakh's GDP is around 50 %. For local mountain people, tourism provides valuable economic and business opportunities

and jobs, and for state governments and private entrepreneurs it brings revenues and profits. Last few decades have seen rapid growth of modern mass tourism in the Indian Himalayan region. The total number of tourist arrivals from 2011-2015 were 494 million, which is 8.42% of the total national arrival of 5,870 million. The total number of tourist arrivals in IHR was 84 million in 2011, growing to 136 million in 2015. On an average approx. 100 million domestic tourists annually visit IHR, whereas the population of IHR is approximately 60 million. It is expected that by 2025, tourist footfall in Indian Himalayas will increase to an estimated 240 million (Dr. Vikram Singh Gaur, Dr. Rajan Kotru ,2018). Though modern mass tourism stimulates the economy, drives infrastructure development and generates employment in the Indian Himalayan region, it has an enormous impact on the fragile mountain ecology and ecosystem of the Himalayas, on the local social structures and huge demands on the water and natural resources of this region. According to the Report of Working Group II, Sustainable Tourism in the Indian Himalayan Region, released by the NITI Aayog in August, 2019, except for Sikkim and Himachal Pradesh, the environmental index of the rest of Himalayan States is very low.

The region of Ladakh in the northernmost area of the western Indian Himalayas was opened for tourism in 1974 and has recently witnessed very rapid growth. 527 tourists arrived in 1974, 27 of them Indian, increasing gradually to 1.42 lakh in 2011 and in 2018, a total of 327,366 tourists, including 49,477 foreigners, visited the region, about 50,000 more than in the previous year. Tourism has now emerged as the most important sector in Ladakh in view of its potential for creation of employment opportunities and generation of income. This industry has a direct bearing on the socio-economic scene of the region. Tourism industry provides employment to a large number of people engaged in the related sectors like transport, Hotels and catering service, cottage industry and even promotes economic activities in the remote areas. While tourism contributes positively to the economy and enhancing

income of the local population, there is an increasing realization that the tourism development needs to take place on sustainable development principles.

Tourism in Ladakh is characterised by following factors: extreme seasonality, lack of suitable infrastructures and planning, and high interference with fragile ecosystems and protected areas. Tourism development is posing a threat to the conservation of Ladakh environment, due to the fragility of its ecosystems, as well as the lack of adequate infrastructure. The rapid development of Ladakh, mostly on account of tourism as well as climate change has led to the degrading of ecosystems. Expanding infrastructure to accommodate rapidly growing 'modern' tourism consumes more resources than can be supported by local ecosystems. This has led to over exploitation and degradation. The impact of unregulated tourism is taking its toll on natural resources, especially leading to severe water scarcity in the region. Ladakh is a water deficit area and mostly dependent on snow/glacial melt and Indus River flow. The traditional Ladakhi systems of water management and sanitation were in greater harmony with nature. Influx of tourists has brought with it a more westernised lifestyle and many problems. Also, due to a lack of drainage system, sewage water is being let into once pristine streams, thereby polluting the source of drinking water for local inhabitants. Lack of a proper sewage disposal system in Ladakh is also leading to sewage overflow and pollution of local drinking water sources. To overcome the water crisis, hoteliers have resorted to indiscriminate digging of borewells, and there is no effective legislation or regulatory system in place to tackle the menace. As a result, groundwater table is declining rapidly. Expansion of tourist facilities has resulted in serious adverse effects in and around Leh town, especially due to unplanned and rapid construction activity, including increased use of iron and cement instead of local material which is better suited to the environment; increased transportation network and growth of vehicles leading to air pollution, constrained energy resources, water supply,

sewage, and garbage disposal. Both legal and illegal buildings are mushrooming, often occupying poorly suitable locations, such as riversides and low hills.

In Ladakh, a remote region located in Indian Himalayas, trekking related tourism has been steeply increasing. Waste dumping in campsite areas or along the trail has resulted in surface and groundwater pollution. Pack animals, besides contributing to the above-mentioned impacts on soil and vegetation cause overgrazing in favourably located grasslands, with subsequent loss of productivity and biodiversity. Additionally, trekking activities determine a number of indirect impacts, such as increase in traffic, and therefore air and noise pollution, off-road driving, land occupation, soil loss and deforestation due to the construction of campsites, accommodations, and tourism infrastructures in general. Though tents are pitched within defined areas, waste management is neglected. Each year, huge amount of trash is generated across many popular spots. Himalayan rangelands in Ladakh are critical to the local population, particularly the herding and pastoral communities inhabiting the highlands. However, in recent years this limited pool of resources is under immense pressure from the increasing demand from the local economy and the tourism sector. Located at altitudes of 4,000-5,000 metres, the wetlands in the Changthang area of eastern Ladakh attract a large variety of wildlife as well as humans with their livestock. Increased human interference is taking a toll on the fragile environment of these wetlands, the vegetation cover has degraded mainly due to increased domestic livestock pressure, new settlements are being built, new suitable lands being converted into agricultural fields and brooks being diverted to irrigate these areas. Further, most tourists are ignorant of the disturbance caused to wildlife by their appearance while trekking along the wetlands or driving in close proximity to them.

Ladakh's economy was historically based on subsistence agriculture and animal husbandry, and long-distance transit trade with Yarkand, Kashmir, Tibet and the rest of the Indian

subcontinent. Livestock grazing and subsistence agriculture are primary economic activities for highland communities. Tourism, being a labour-intensive as a service industry has led to employment generation, especially for local communities. Tourism has also increased the demand for locally produced goods, agricultural and livestock products, and handicraft items, leading to change in Ladakh's occupational structure. Last few Census reports indicate a shift from the traditional sector i.e. agriculture to non-traditional sector i.e. service sector. It has however been found that the benefits of tourism are concentrated in a few places mainly in the town areas of Leh due to the availability of tourism infrastructure. Due to this, the gap between the core and periphery regions is rapidly increasing and developmental work is concentrated mostly in the regions where there is an influx of tourists. With rapid growth of tourism, people from the villages flock into Leh town in search of jobs, thus decreasing the number of population involved in farming. The result has been a growing insecurity and competitiveness, even leading to ethnic conflict. Women in the region who are mainly responsible for livestock rearing and limited agriculture activities such as milking and food processing, and conservation directly bear the hardships from the destruction of natural resources. Lack of sustained economic opportunities for the poor and marginal groups and women in the current tourism model has led to skewed income distribution, migration of youth to urban areas and communities unable to reap the benefits from the expanding tourism in the region.

Ladakh lay in its seclusion for many decades until the road from Kashmir valley to Ladakh was built and opened in 1960s and tourism allowed in the 1970s. The geographical isolation of the region allowed it to preserve its culture. The population of Leh district is overwhelmingly Buddhist (77%) and with its airport, has become the entry point into the tourism hub of Ladakh. Kargil is 80% Muslim. The demographic and religious composition of Ladakh has a significant bearing on Ladakhi identity. Ladakh's rich cultural identity is highly

dependent on its institution of Buddhist monasteries known as gompas. These monasteries are religious and spiritual centers of Buddhism and are repositories of a rich art and cultural heritage. There is a visible Tibetan contribution, which has manifested in its monasteries, monuments, art forms, oral cultural traditions, folklore, festivals, and language. Monastic establishments, fortresses, thangka paintings, manuscripts, ritual objects, and decorative elements in architecture, particularly wall paintings and wood carvings manifest Ladakh's unique cultural heritage. These repositories of cultural heritage are facing numerous challenges and many of them have undergone irreparable damage in the recent past. Increasing urbanization and civic development to accommodate tourism pose serious threats to this cultural heritage. In several monasteries and other heritage monuments, traditional architecture has been destroyed and rebuilt or added using modern materials without considering their suitability and consequences in the local climate. Many Monasteries have become commercialized due to their exposure to modernization. Construction of roads through hills leads to disturbances in the natural geological setup and also causes vibrations in these ancient structures, which gradually adds to their damage. The root of the Ladakhi social system has been the tradition of cooperation, interdependence and mutual help. The development of tourism and general opening up of the region has resulted in disruption of community bonds and degradation of social values as well as widening disparities in income and increased consumerist and materialistic values among the locals. Interdependency between Ladakhis has plummeted and the traditional economy has migrated to a tourism-related model where all profits earned by transactions related to tourism are being diverted towards expansion activities within the tourism sector. Growth of mass tourism now affects the social behaviour, religious settlements and tradition as well as culture of the people, and broad socio-cultural impacts include degradation of moral values, crime rate increase, thefts, interference in religion, child labour increase, congestion of the town and effect on the traditional habits.

Recommendations :

Though Tourism has become the primary activity in the Ladakh region to support its economy, there is immense potential for further growth, considering the unique landscape of Ladakh, the adventure activities, the unique Cultural and heritage sites, and improvement in connectivity, but it needs to be ensured that the growth in Tourism happens in a sustainable and eco-friendly manner. Further, the tourism activities should bring economic benefits to the local population, including tribals and womenfolk, as well as help in promotion and conservation of their cultural heritage. As many mountainous regions, including some in the Indian Himalayan region, have successfully implemented many sustainable tourism and eco-tourism practices, plans and policies towards this end, these need to be studied and analysed for adopting them in Ladakh, with suitable modifications as per unique regional characteristics and cultural heritage of the region, and towards formulating a specific and unique sustainable tourism developmental framework for the region of Ladakh. The negative impacts of growth of tourism on the environment, ecology, society and culture need to be minimized in order to keep it sustainable and to ensure the wellbeing of the region and its populace.

In view of the extremely fragile nature of its ecology and its unique cultural heritage, and dependence on Tourism for socio-economic growth of the region, a specific and unique sustainable tourism developmental framework is required for the region of Ladakh. Removal of Article 370, and bifurcation of the erstwhile State of J&K to create a new Union Territory of Ladakh is expected to lead to direct flow of central assistance to the region, and also make the Ladakh region not dependent any more on the erstwhile Government of the State of Jammu & Kashmir for funds, resources, institutional support and plans for realizing socio-

economic development of the region, especially related to the Tourism sector. There is an opportunity thereby for this region to frame its own independent policies and action plans, infrastructure creation, the requisite institutional and human resources framework towards sustainable tourism development and promotion of the Ladakh region, considering the region's unique characteristics pertaining to its fragile ecology, its demography, resource constraints and traditional knowledge and culture.

Conservation of indigenous resources, minimizing the impact of unplanned development and involvement of local communities are imperative for developing sustainable tourism in Ladakh. In particular, the poor and the marginal groups who have directly invested in the natural and cultural offerings of the region hold the key to the development of tourism in the region. Present shortcomings in the growth of tourism in Ladakh on sustainable basis include lack of state tourism policy, inadequate infrastructure, inadequate human resources, lack of investment in the sector labor force, most tourism business owned by outsiders etc. Both legal and illegal buildings are mushrooming, often occupying poorly suitable locations, such as riversides and low hills. Hotels and other tourist infrastructures are encroaching the agricultural land in middle and upper Leh. Urban sprawl in Leh, and its relationship with tourism growth, must be studied and monitored in order to support the proposal of suitable spatial planning policies. The negative impacts of growth of tourism on the environment, ecology, society and culture need to be minimized in order to keep it sustainable and to ensure the wellbeing of the region and its populace. Further, the tourism activities should bring economic benefits to the local population, including tribals and womenfolk, as well as help in promotion and conservation of their cultural heritage. The Global Sustainable Tourism Council's (GSTC) Criteria serve as the global baseline standards for sustainability in travel and tourism. They are arranged in four pillars: Sustainable management, Socio-economic

impacts, Cultural impacts, Environmental impacts (including consumption of resources, reducing pollution, and conserving biodiversity and landscapes).

In the above context, and the analysis made in earlier Chapters, following recommendations are made for development of tourism in Ladakh on a sustainable basis:-

i. Formulating appropriate policies and regulations :

The hilly geographical area of Ladakh comprising of 2 districts, Leh & Kargil, is the newest Union territory, created w.e.f. 31st October, 2019, after being separated from the erstwhile State of Jammu & Kashmir, which has also now become a Union territory after abrogation of Article 370 in August, 2019. Ladakh has been reorganized as a Union Territory without legislature on the lines of Daman and Diu. The largest town in Ladakh is Leh, followed by Kargil, each of which headquarters a district. Leh and Kargil districts are administered by autonomous district councils, the Ladakh Autonomous Hill Development Councils (LAHDCs) of Leh and Kargil. In the 30-member LAHDC, 26 members are elected while four are nominated, with no voting rights. The councils enjoy executive power over subjects like health, agriculture and education in their respective districts, and work with village panchayats to take decisions on economic development, healthcare, education, land use, taxation, and local governance. In the year 2005 LAHDC developed the “Ladakh Vision—2025” with extensive community consultation, to build Ladakh into an economically and environmentally resilient, self-contained and sustainable region. It covered various sectors such as agriculture, Tourism, IT and communication, health, infrastructure and their use for growth and development of Ladakh. Regarding Tourism, the Vision was *“To connect tourism to the unique topographical advantage and cultural heritage of Ladakh without endangering its fragile eco-system, while at the same time cautiously scaling up tourism to*

contribute to the economic and social wellbeing of the people of this region.” The proposed Strategies included improving infrastructure, build local capacity, encourage community based tourism, expand the tourism package, preserve Ladakh’s pristine beauty. However, due to lack of any adequate and effective support as well as lack of political will of the erstwhile Government of the State of Jammu & Kashmir, no real progress could be made towards achieving the various goals envisioned in Vision 2025. The reasons for non-performance of LAHDC include the lackadaisical approach of the erstwhile State government of Jammu & Kashmir towards Ladakh in general and the Council in particular and its relative inexperience in matters relating to organization and administration.

Removal of article 370, and bifurcation of the erstwhile State of J&K to create a new Union Territory of Ladakh is expected to lead to direct flow of central assistance to the region, and also make the Ladakh region not dependent any more on the erstwhile Government of the State of Jammu & Kashmir for funds, resources, institutional support and plans for realizing socio-economic development of the region, especially related to the Tourism sector. The Union Territory now is headed by Lieutenant Governor and a team of his advisors and officials who work closely with the 30 members of LAHDC. At present there is no integrated Tourism policy framework exclusively for the region of Ladakh. There is an opportunity thereby for this region to frame it’s own independent policies and action plans, guidelines, institutions and regulations, the requisite infrastructure as well as institutional and human resources framework towards sustainable tourism development and promotion of the Ladakh region, considering the region’s unique characteristics pertaining to its fragile ecology, it’s demography, resource constraints and traditional knowledge and culture. The ‘Tourism Policy’ should appreciate the role of various stake holders involved in tourism related activities like local indigenous people, private sector and NGOs, with the Government acting as a facilitator and not a regulator with respect to tourism. Policies should take into account

the fact that tourism is cross-sectoral and requires coordination among several governmental institutions, and between the private and the public sector. The Policy needs to cover the following aspects:-

- Vision;
- Mission;
- Goals;
- Framework to promote Tourism, which may inter-alia include roadmap for building and strengthening tourism infrastructure, promoting investment in the tourism and allied sectors; creating a suitable investment environment for the private sector, including incentives for adoption of sustainable community based tourism,
- Public-private partnership models and opportunities;
- Tourism promotion roadmap which includes building the ‘Ladakh Tourism’ brand nationally and internationally, including presence in social media;
- Suitable monitoring, evaluation and information management techniques to support the formulation and implementation of sustainable tourism policies, strategies, plans and processes.
- Communication mechanisms for disseminating information on sustainable practices among the stakeholders, including the tourists;
- Promotion of different tourism sub-sectors and activities like adventure tourism, hiking, wellness, cultural tourism, spiritual tourism, film tourism, village tourism, eco-tourism, heritage tours, MICE (Meeting, Incentives, Conferences & Exhibition) Tourism,, theme based parks;
- Support for initiatives from community-based organizations and MSMEs (Medium and small enterprises)
- Framework for the use of renewable energy technologies in tourism activities;

- Roadmap for shift to low-emission transportation, ending the use of plastics; reduction of the carbon footprint of the accommodation sector and improving their waste management practices
- Policy for tourism projects, including land policy, accommodation facilities, transport, commercial operations, eco-tourism, adventure tourism projects, wellness tourism projects, ropeways, trekking, home-stays, impact assessment studies, fiscal incentives, government support like subsidies for green energy etc.;
- Biodiversity conservation in the tourism sector;
- Facilitate and support the participation of indigenous people, including women and youth, people in sustainable tourism, ,

ii. Initiatives / measures/ Framework required from Government / Public sector in order to create a conducive ecosystem for sustainable tourism models to develop :

Ladakh remained dependent on the erstwhile State of Jammu & Kashmir for seven decades, for most of the socio-economic development. As the number of legislators the region of Ladakh used to send in Jammu & Kashmir Assembly was irrelevant due to their small number in comparison to members from the other two regions of Jammu & Kashmir, the region of Ladakh had no effective bargaining power in the state and therefore did not garner the requisite attention for decades, and therefore there was not much of socio-economic development in the region, especially in the Infrastructure and Tourism sectors. The Tourism infrastructure development in the Ladakh region lagged behind the development in Kashmir and Jammu regions by a wide margin, in spite of the rapid growth of Tourism to Ladakh in the last decade and the Tourism sector being the most important non-agricultural sector of the region, contributing maximum to the regions' GDP and employment generation. Though the erstwhile State of Jammu and Kashmir was receiving substantial

funds from the central government, but the allocations to the region of Ladakh were quite meagre considering its development needs. The erstwhile State of Jammu And Kashmir State used to draw funds from the central government but grant only two per cent of the allotted budget to Ladakh because the state government would distribute the resources on the basis of population. In the year before Ladakh became a Union Territory, the budget for Ladakh was Rs 57 crore. The budget increased to four times to Rs. 232 crore after it became a Union territory and also got Rs 6000 crore as a special development package. Despite tourism being its mainstay, the Leh Development Authority and the Kargil development authority each got just Rs 1.1 crore from the state government for promoting tourism in the state's budget, a small share of Jammu and Kashmir's Rs 324 crore Tourism budget as per latest statistics of the erstwhile State. In 1979-80, the district of Leh commanded almost twelve per cent of the state's budgetary outlay, but now the Leh district accounted for just three per cent of the plan outlay. The policies, initiatives and infrastructure development related to Tourism were undertaken by the erstwhile State of Jammu & Kashmir considering the State as a whole, and most of these activities and the budget spends were concentrated with regard to Tourism in the Kashmir valley and Jammu regions and there were no initiatives and state machinery focussing on the Ladakh region for ensuring sustainable and eco-friendly development of tourism or for preserving and promoting the unique cultural heritage of the region. Removal of article 370, and bifurcation of the erstwhile State of J&K to create a new Union Territory of Ladakh is expected to lead to direct flow of central assistance to the region, and also make the Ladakh region not dependent any more on the erstwhile Government of the State of Jammu & Kashmir for funds, resources, institutional support and plans for realizing socio-economic development of the region, especially related to the Tourism sector. There is an opportunity thereby for this region to create adequate infrastructure, establish requisite institutional and human resources framework towards sustainable tourism development and promotion of the Ladakh region. Following initiatives

towards achieving the goal of sustainable tourism development are recommended in this regard:-

- **Enhance the infrastructure facilities** that support tourism in this region, so that the full potential of the sector can be harnessed. Infrastructure development with regard to tourism is lacking, especially with regard to quality accommodation to handle the tourist rush in peak seasons, poor sanitary conditions, inadequate transport facilities, facilities in telecommunications, medical help and emergency evacuation services etc. There is lack of good accommodation facilities, especially outside the main towns of Leh and Kargil, there is unplanned and rapid construction activity, issues in water and electricity supply, inadequate sewage system & garbage disposal, lack of organized tour/travel/adventure tourism operators etc. All the new projects having an impact on environment should be carried out in a sustainable way without damaging the fragile ecology of the state. Feasibility studies may be conducted to identify the project structures best suited to local needs. The funding mechanisms for seamless project execution may be identified, including approaching multilateral institutions, donor agencies, development banks etc. There is also a need for the development of tourist infrastructure like accommodation units, regular transport service (both private and public) in the tourist areas which are located outside the town, the installation of the public lavatories on the major roadsides like Srinagar-Leh& the Manali-Leh roads and the roads connecting different destinations within the Ladakh region.

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- **Incentivize Private Sector Participation:** There are certain institutional and regulatory aspects that cannot be expanded beyond the Government due to social and governance considerations, including developing and approving tourism policy and strategy, contracts for major infrastructure projects including connectivity, granting permits and licenses,

evaluating/ monitoring contracted services, but it is difficult for the administration to move beyond this domain into creating and managing tourism enterprises. While there are certain instances where the Government ventures into creating and running its own infrastructure, recent policy decisions including divestment of Government owned hotels have shown the Government's intent to restrict its role to overall governance and infrastructure development and let the private sector work towards creating and managing specific tourism infrastructure, products and enterprises. The private sector has to take the lead in creating business mechanisms that work closely with local communities and are cognizant of the need to conserve fragile ecosystems, and through these collaborative mechanisms to create profitable business models. Private sector participation should be encouraged in the provisioning of Tourist amenities, like wayside amenities, public conveniences, parking lots, wayside motels, shopping facilities, transport services, etc. as well in developing adventure tourism activities. Government should incentivize private players to invest in tourism projects, especially those satisfying sustainable principles. Incentives can include interest subvention scheme for small tourism projects. Measures be taken for enhancing Ease of Doing Business (EODB) in sustainable tourism sector, such as single window facility for projects, reducing GST on Homestays etc. Private sector, in the form of tour operators, guides and the hospitality industry, can play a positive role in effecting conservation through sustainable, eco-friendly practices, awareness generation, tours focussed on presenting Ladakh's history and culture in partnership with local NGOs.

- **Public Private Partnerships (PPP) for Sustainable Tourism** : Public Private Partnerships are essential tools to ensure that stakeholder engagement, especially Government and large enterprises, shift from delivering services directly, to service management and coordination, entrusting last mile implementation to the local

community. The synergy between the public sector and private sector has been a major force in stimulating tourism competitiveness in a number of countries at National, State and Local levels. Comprehensive development of tourism is best possible if created jointly by Government, private sector and local community. PPPs enable the public sector to benefit from commercial dynamism, innovations, skills and experience and raise finance in an environment of budgetary restrictions.

- **Create Repository of Land Banks:** Availability of suitable land is one of the main concerns for investing in tourism projects, especially when it comes to sustainable tourism infrastructure in fragile areas. The administration of the Union Territory of Ladakh needs to develop land bank outlining the land parcels available for tourism projects, which are made accessible over an interactive web platform for enabling investors to assess the preliminary viability of their projects basis the nature of land parcel/ select the appropriate land parcel suitable to the proposed project.

- **Establishing a Sustainable Tourism Authority (STA)** as an autonomous organization under the Government to implement policy instruments. A Sustainable Tourism Authority (STA) can work with other departments and institutions on sustainable tourism.

- **Promote Smart Infrastructure:** As sustainable tourism models seek to uplift rural communities, creation of smart infrastructure will be pivotal towards attracting tourists to offbeat locations. Separate incentive schemes for projects with smart and frugal infrastructure will encourage private players to invest in smart and frugal urban and rural infrastructure and homestays. Ecotourism standards should be emphasized across new and established accommodation and other tourism infrastructure. As large hotel chains provide their guests with very luxurious living conditions that imposes a severe strain on

the fragile eco-system, they should be allowed only after satisfying strict standards of eco-tourism in their properties.

- **Imposing entry tax:** Imposing a stiff uniform entry tax for all foreign tourists entering Ladakh and earmarking the taxes to be spent on the diversification of tourist facilities from Leh, developing sustainable infrastructure etc. Imposition of taxes and penalties on tourists can help in preservation and resource generation. There should be a moderate entry tax for domestic tourists. In the more fragile areas such as Changthang, Nubra, Dha-Biama, and the popular trekking routes, stiff monetary penalties for violation of the local norms and environmental pollution should be imposed. The imposition of 'sustainable tourism' royalty in the hilly kingdom of Bhutan, wherein all visitors must pay a daily tariff, which is used to bolster the country's free health-care and education system, as well as the building of tourism infrastructure has been successful as despite the high cost barrier, tourism in Bhutan continues to flourish, with steady rise in the growth rate.

iii. **Environment protection and resource conservation**

Preservation and protection of the physical and sociocultural environment of Ladakh is of paramount importance as they are the prime sources of tourist attraction in the region. Any permanent damage to the environment can adversely affect tourist inflow. Hence ways have to be found to achieve the ends for sustainable tourism by formulating and implementing practical and prudent strategies and policies with the proactive participation of the locals.

- **Regular impact assessment studies** need to be carried out by the Government in association with the technical experts to understand patterns of tourism-induced environmental degradation, so as to support mitigation interventions, as well as the

development of suitable tourism policies. Urban sprawl in Leh, and its relationship with tourism growth, needs to be studied and monitored in order to support suitable spatial planning policies.

- **Carrying Capacity Management:** In ecology, carrying capacity means the maximum number of individuals that an area of land can support. In tourism, carrying capacity refers the maximum number of tourists and visitors that destination and protected area can support or provide, generally defined by their service requirements. The rapid growth of tourism and consequent development in the region of Ladakh has brought many socio-economic benefits, but if the carrying capacity of the region is not considered carefully, its natural resources will give way to natural and man-made disasters and irreversible damage to the natural environment and depletion of the scarce resources to the detriment of the region. In order to ensure sustainable utilization of resources and to avoid any irreversible damage to the environment or communities, a comprehensive survey of carrying capacity needs to be undertaken for the region of Ladakh in order to devise location-specific action strategies to realize the goal of developing Sustainable Tourism in the region.

- **Develop Water conservation mechanisms :** At present the Ladakh region is having an almost 38 % deficit in drinking water supply and there is limited access to piped water supply. Efficient use of water by hotels, guest houses, restaurants, tourists; waste water management; pollution control and technology incorporation can be the key to conserving water as well as promoting the larger objective of sustainable tourism. On account of low rainfall, Leh faces issues related to water supply and high dependence on borewells. Following options need to be explored for solving the issue of water supply:

- Strict regulation of borewells: controlling their number and usage;

- Water storage techniques: rainwater harvesting & innovative systems, such as ice stupas and artificial glaciers. Measures of water harvesting and increasing groundwater availability can be put into place by installing the requisite structures and means for the same such as storage tanks, water capture channels on roofs, low-water intensive bathroom fixtures etc. in local hotels and resorts..
 - Smart irrigation systems: Installing IoT sensors in irrigation systems for remote monitoring, and detecting of leakage and breakage;
 - Reducing the need for water for tourism will allow for more water availability for local residents who effectively bear the brunt of tourism-oriented resource use.
 - Technological interventions are required to provide piped water supply at sub-zero temperature during winter season.
 - Ensure the state promotes sustainable tourism and those coming to the district are more mindful of their water usage.
- **Solid waste management** : Waste management at present is characterized by inefficient collection, transport, storage and disposal. There is no source segregation of waste, unorganised secondary storage of solid waste on roadside, manual handling of solid waste, lack of waste treatment facilities, no engineered sanitary landfill site. More than 75% of the households are dependent upon on- site sanitation facilities (Septic Tanks, Pit latrines, etc.). Efficient and exhaustive solid waste management is important for development. Following initiatives can be undertaken: Sustainable Integrated Solid Waste Management System and efficient waste management; Development of plants for efficient treatment and disposal of waste; Waste segregation at source; Compost toilets: Compost toilets are not water intensive and do not produce waste that has high nitrogen content; Biomining: This method helps in processing legacy waste and reclaiming landfill space using stabilization, sorting & disposal techniques; Waste to energy technologies and systems ;

Decentralised Faecal Sludge and Septage Management for waste water treatment; Promote reduction and reuse at source to enable waste minimization. A number of hotels are using water-intensive techniques for waste and sewage disposal. Waste segregation and proper disposal needs to be initiated in conjunction with other organizations working in the area, while organizing cleanup drives and awareness campaigns on the same issue.

- **Adoption of clean energy technologies:** The hotel sector is one of the tourism industry's largest drivers of employment and economic revenue but at the same time it is one of the most energy-intensive. In fact, hotels and other types of accommodation account for 2% of the 5% global CO₂ emitted by the tourism sector. The accommodation and other sub-sectors of the tourism sector are usually characterized by utilization of out-dated technologies, lack of human and financial resources and a limited awareness and knowledge on greener alternatives. Helping the sector respond to the challenges of climate change is thereby necessary. SMART Grid with Smart Metering for efficient demand side management and reduction in Transmission and Distribution losses and Micro Grids for power supply to remote areas not connected to main grid can be adopted in Ladakh. Since last year, after Ladakh became a Union Territory, many investors have evinced interest in investing in its solar power sector. Experts say the region can become India's newest solar power hub. The UT, which gets about 320 days of clear sunshine every year, has the highest solar radiation intensity in the country. The Solar Energy Corporation of India (SECI), the government body mandated to encourage the development of the solar energy sector in the country, is planning a \$6.7-billion project to generate 7.500 MW of solar power in the state by 2023. In the tourism centric nation of Seychelles, the Seychelles Energy Efficiency and Renewable Energy Programme, which was launched in 2014, provides households and small enterprises with soft loans for the purchase of energy-efficient appliances and renewable energy equipment. Similar support of private sector and

international funding from reputed NGOs can be explored in Ladakh. Solar heated hotels and guesthouses should be encouraged, and even be supported by the government to some degree. Apart from attracting tourists because of their comfortable and warm living conditions, such establishments would also serve to set an example in the use of renewable energy in Ladakh.

- **Green Transport** : Clean energy usage in tourist-related transport is necessary for sustainable tourism development at the regional and local levels. Transition towards more efficient and low-emission vehicle technologies, including electric and CNG vehicles and development of allied infrastructure is required. Efforts are needed to make Leh carbon neutral. The city should also push towards clean energy mobility solutions such as e-vehicles and shared mobility, deploying of smart parking systems to enable monitoring and regulation of parking slots, non-motorized transport, demarcating vehicle free zones within the city center. The Ladakh administration may also provide a clean transport subsidy for electric and hybrid vehicles, and work towards establishing a fleet of electric taxis and hybrid buses. Taxi owners in particular should be encouraged to embrace this change. The Government administration should work with international organizations to establish environmentally friendly and sustainable transportation system.

- **Camping treks** put a strain on the local environment. Ponies and donkeys, used to carry camping supplies, eat the limited grass available that is otherwise needed by wildlife and domestic animals. Rubbish is often left lying and toilet waste is a major problem due to poor facilities at the campsites. Both trekking agencies and trekkers need to behave responsibly when camping. Campsites should provide a Ladakhi style toilet, with closing door and a shovel and earth.

- **Creating Tourist Awareness** : Very few visitors to Ladakh are aware of the ecological sensitivity of the area they are travelling through, the disturbance to flora and fauna and the problems of garbage disposal. An important prerequisite for sustainable management of ecosystems is for people to know the value of these ecosystems, and understand how they function and what services they provide to humans. Ecotourism can work and can start to restore the ecology of the region only if people – both residents and tourists – are taken into confidence and told of the effects of unplanned tourism on Ladakh. Mechanisms for educating tourists about the significance of conservation of the region's culture and environment through distribution of pamphlets with relevant information at the entry points, information centres in Leh, Kargil and other tourist centres etc. need to be set up. The travel agents and the taxi drivers accompanying the tourists should be made responsible to manage any garbage produced, the travel organisers, guides, cooks and drivers should be made to attend environment education courses.

iv. Branding and Promotion :

Tourists across the world are increasingly in search of unique tourism products and destinations. Thus to explore the true potential of tourism sector in Ladakh, appropriate branding and promotion are required to attract the tourists, especially the ones with high spending capacity. The unique , breathtaking landscape and biodiversity along with the unique cultural and spiritual act as a Unique Selling Proposition (USP) for tourism for the Ladakh region which needs to be harnessed through appropriate Branding, Promotion, Policies, Framework and Infrastructure. An appropriate tagline for promoting Ladakh Tourism needs to be developed to highlight it's USPs.

Though tourism is one of the major activities in Ladakh, it lacks in terms of branding itself as a tourist destination. Promotional activities are primarily undertaken by private sector operators. The tour operators carry out their own campaigns for Ladakh tourism, however, there is a need for an unambiguous marketing message that showcases the region's attractions. The websites of the Ladakh region along with tourism departments should be unified in their branding approach. A concerted campaign with an appropriate tagline would unify the region's strengths and advantages into one coherent brand identity. An appropriate tagline and a concerted national and international media campaign, including the ever expanding social media, needs to be undertaken by the UT's tourism department along with other stakeholders like tour operators etc. on the lines of Kerala tourism's successful campaign with the tag line 'God's own country'. Ladakh's competitive advantage in tourism lies in the vast unspoiled landscapes and enduring nomadic lifestyle, which are difficult to find anywhere else in the world.

Major tourism products of Ladakh include :

Nature Tourism:- Major attractions include Pangong Lake, Khardungla Pass, Zaskar Valley, Changla Pass and Hemis National Park

Wild life tourism: Distinctive and diverse mountain fauna such as snow leopard, Tibetan sheep, yak, marmot, blue sheep, lynx etc..

Adventure tourism: Major attraction include trekking, mountaineering, rafting, motorcycle tours, cycling, camping and safaris. Stok Kangri and Kangyatse (6200 m - 6400 m) are popular peaks for mountaineering The Indus and Zaskar rivers are popular for rafting.

Spiritual/Cultural Tourism : Multitude of ethnic and religious groups inhabit Leh- Buddhist, Tibetan, and Muslim. : Leh has a strong Buddhist culture, and is home to several monasteries. Major attractions include Hemis monastery, Sankar Gompa, the Palace

Museum, Leh Monastery and Leh Mosque Major festivals include Hemis Festival, Gustor, Stok Guru Tsechu and Matho Nagrang

Nature tourism: Region has several species of indigenous wildlife, flora and topography, such as lakes and mountain passes.

Efforts have to be made to effectively brand and market the abovementioned tourism products of the Ladakh region. Leh's several facets can be portrayed to attract tourists. Efforts should be made to sustain the peak tourist season for four to five months in a year as compared to two months currently. Appropriate infrastructure needs to be established in order to popularize winter tourism. Solar heated guesthouses and hotels would help in sustaining winter tourism in the region. There is need to market Ladakh at international trade fairs as an eco-tourism destination to attract international tourists. Influential travel writers and researchers can be roped in to promote Ladakh as an ideal tourist location, popularize the wide range of travel products there and in creating awareness regarding the need to protect the natural environment and cultural heritage of Ladakh. Development of soft infrastructure can communicate the essence of Ladakh's beauty and culture as well as safeguarding it for future.

Develop niche tourism products across the value chain to ensure adequate opportunities for the local people. The niche products can include wellness, cultural, sports, eco-tourism, MICE, community based tourism, heritage tourism, nature-based and adventure tourism. The traditional nomadic way of life, based on livestock raising and living in traditional gers, is of great interest to overseas tourists. Tourism based on Nomadic lifestyle in Changthang, or medicinal plants in the mountains can be encouraged. New trekking routes should be developed every year by employing professionals to survey the land and suggest sites for them. Eco- tours, bird and snow peak watching, animal and plant research, cultural and

historical tours can be developed as niche tourism products. The religious tourism should be developed as the area is having a lot of Buddhist cultural and religious sites. Ladakh is having one of the oldest mosques built by one of the famous Sufi saint Shahi-Hamdan which could be the point of attraction not only for the Muslims of India but also for the Muslims of Central and South Asia. The Gurudwara PatherSahab is one of the famous Gurudwaras for the Sikh community and the Hindus are having the river Indus (Sindh) as a sacred river so the people of Sikhs and the Hindus can also be attracted through promotional activities. Ladakh has a very rich culture which is displayed in the many festivals held there. In Ladakh most of the festivals are celebrated in winter but some of the festivals are celebrated in summer also . The festivals of Ladakh exhibit highly choreographed dances accompanied with mystic music, colorful dresses and unique facial masks to mark the celebration. Some famous festivals of Ladakh include the Sindu Darshan, Hemis, Losar, Matho Nagrang etc. which highlight the region's rich cultural heritage. The traditional dances of the Ladakh include Cham-mask dance, Jabro dances, Drugpa-Rches which beautify the festivals. Most of the festivals which are celebrated in this region are annual monastic festivals and comprise of dances and dramas in gompas performed by the lamas or monks. Dance in these festivals represents the inseparable relation between the two. The monks in dances wear comic marks, colorful dresses representing the different aspects of their religion, culture and ethnicity (Ajay Kumar, 2012). The unique festivals and dances of the region need to be showcase nationally and internationally in order to attract tourists and promote and preserve the rich cultural heritage.

Promote 'Ladakh Organic Brand': Organic food (both the production and consumption of it) should be greatly encouraged in Ladakh. There is immense potential for a 'Ladakh Organic' Brand, considering the high demand for such products among the health conscious tourists.

v. **Preserving Cultural heritage**

In tourism destinations, tourists are attracted to natural landscapes such as scenery, wildlife and the environment as well as to the cultural heritage, including customs, traditional dance, arts, architecture and food. Cultural heritage includes “cultural diversity, spiritual and religious values, knowledge systems, educational values, inspiration, aesthetic values, social relations, sense of place, cultural heritage values, recreation and ecotourism”. As local communities appreciate their heritage and are alert to preserve and earn from it, they are interested to present cultural landscapes as destinations. Furthermore, the tourism industry is looking for new and different destinations to offer tourists, and an opportunity to present an area as a cultural landscape, involving interpretation and involvement. Governmental bodies can contribute to maintain the biodiversity, traditional genetic resources and local culture. and take action to develop strategies for preserving, managing and developing cultural landscapes . Cultural landscape includes the scenic, economic, ecological, social, recreational, and educational opportunities to help local communities to understand better. The cultural activities encourage tourists and youths to learn how to dance, sing, cook traditional cuisine, play traditional sports and games, participate in religious activities, cultural ceremonies and experience the nearby tourism sites. Sustainable tourism generates income and employment opportunities at the tourist destination, without affecting the cultural heritage of the destination.

The precious social and cultural legacy of Ladakh region , which includes the spirit of Ladakh people, their survival skills, traditions and customs, way of life, language, clothing needs to be preserved and also highlighted among the tourists. The cultural heritage in this region is not just a continuing tradition, it also has archaeological, historic and aesthetic value that has been passed on for centuries. A consolidated heritage policy and regulations, especially for living

cultural heritage in the region needs to be formulated. A comprehensive approach and framework incorporating archaeological, historic, aesthetic, artistic, religious and functional values of the heritage will lead to sustainability in conservation efforts and continuity of the traditional practices and culture. At present, many unorganized heritage conservation groups are carrying out conservation of monastic heritage. While some conservation attempts have been made responsibly, others have created an environment of mistrust and discomfort with the communities. The Ladakh Administration also needs to establish a Cultural Heritage Conservation Fund for restoration and conservation of important heritage and historical sites. Preservation of monastic heritage in Ladakh and conservation of the related structures, artefacts, traditions etc. needs to be given high priority for ensuring sustainability in conservation interventions to save the invaluable cultural heritage in the region. The administration need to take up the responsibility of making policy decisions to create checks and balances in civic development and tourism-related issues.. The number of monuments and structures under ASI protection need to be increased to preserve the precious cultural heritage of the region. There needs to be regular and institutional interaction between the stakeholders, viz. the administration and institutions /individuals working with heritage and the community. The Government should also encourage research work in the areas of identification and preservation/conservation of the cultural heritage of the region by issuing financial grants, fellowships etc. Other measures include educational and awareness programs, structured training programs for guides and other stakeholders, cultural performances for tourists, creating hubs for production and sale of locally made handicrafts.

The festivals of Ladakh can be divided into two broad categories: the annual monastic and the non-monastic. These festivals are becoming popular among tourists and encouraging tourism in Ladakh. Monastic festivals are the distinct characteristic of Ladakhi Culture which is celebrated with great pomp and fervor. These are held to commemorate the founding of a

monastery, the birthday of its patron saint or the major events associated with the evolution of Tibetan Buddhism. The festivals involve dances performed by monks or lamas wearing colorful silk garments, and different facial masks which are appealing to the spectators. The head lama of the monastery initiates the rites to begin the festival. Almost every gumpa observes a special festival associated with some outstanding event in the history of Buddhism in Tibet or with some legend forming part of the religious tradition of Ladakh or even with some occult demonstration (Ajay Kumar, 2012). Dances of Ladakh are another interesting feature of Ladhakhi culture. These are very colorful and majestic too. Ladakh's culture is reflected in its unique festivals and dances and has strong ties with its unique tradition, rituals and customs. Traditional festivals and dances need to be showcased nationally and internationally in order to encourage tourism and preserve the culture and heritage of Ladakh. The local youth needs to be made aware of the importance of the unique intangible cultural heritage of Ladakh and encouraged to participate in the traditional festivals, which would be instrumental in ensuring that the centuries old heritage is preserved and not lost forever. Coordinated efforts and mechanisms need to be undertaken by the Government in consultation with the local communities to promote and preserve different intangible heritage of Ladakh including traditional dance, music, folk songs, handicrafts, masons, carpenters.

vi. **Community Participation**

Livelihood opportunities for people in most of the mountain areas of the Indian Himalayan region, especially in the remote and resource scarce region of Ladakh are limited, therefore tourism has emerged as the foremost alternative option that can create new jobs, reduce poverty for communities in remote, resource-scarce regions and further economic and regional development as a whole. Tourism has immense potential to sustain livelihoods in Ladakh if adequate opportunities are provided to the local communities. A successful venture

discussed in Chapter IV earlier is the Integrated Livelihoods Improvement and Sustainable Tourism in Khuvsgul Lake National Park Project in Mongolia, which helped build local tourism activities, improve livestock and pasture management, and strengthen waste management around Khuvsgul Lake. The project promotes community-based ecotourism. Residents, tour operators, and local government work hand in hand. Small loans have helped locals set up or expand businesses. Herder groups coordinate grazing to prevent overuse of the delicate grasslands, fencing off the pastureland to reserve it for winter and spring. As the land is preserved when the grass is growing, the pastureland is enriched with more plant varieties.

Any strategy for environmentally sound development of tourism needs the awareness, help and active participation of the locals. Community-based and participation-oriented tourism allows locals to participate in the decision-making process as well as tourism activities across the value chain. Participation also leads to support and co-operation of the locals for conservation projects. The local community, especially, the poor, women and scheduled tribes lack training and specialized skills that are required to participate effectively in tourism. However, they are directly invested in cultural traditions and local lifestyles that have the potential to provide visitors with a unique local experience. Additionally, locals have the knowledge of their environment and the ways to save it. The primary ingredient for community involvement is the motivation of the locals and a high level of participation in environmental protection and development projects. The involvement of the locals is necessary because they have a first hand experience of various negative and positive impacts of tourist activities, and are better placed to suggest practical and implementable solutions within the given environment. It is imperative to integrate and coordinate the efforts of the local government, nongovernment organizations, religious groups, and monasteries towards community participation and involvement for the development of tourism. Active participation of local communities, especially the poor and the marginal groups should be

ensured through regular meetings, feedback forums and action committees. Further, the revenue generated from tourism should be directed towards the development of local communities.

Tourism policies need to integrate natural resource management and environmental preservation. The objective of these strategies should be to reduce the vulnerability of these communities and supplement their income so that they are not as dependent on their immediate environment for their sustenance. An example of sustainable venture is the wildlife tourism programme run by SLC-IT, wherein along with conservation efforts trains locals to track snow leopards and maintain homestays, enabling extra income in the winters. Rangeland populations are familiar with high altitude terrain and would be suited for employment in adventure tourism opportunities. Mountain trekking tours also creates economic opportunities for the local population, especially the poor and marginal groups. Government and other stakeholders should facilitate investments, create requisite infrastructure, create job opportunities for local communities in mountaineering, trekking and camping , create training facilities for local communities to meet safety standards, create emergency and first aid centres, encourage participation of tribal and rangeland youth through promotion and involve local communities in promoting adventure tourism in the highland terrains of Ladakh. In addition, rest houses, guest accommodations, medical care facilities and allied infrastructure provide long term employment to these communities. New eco resorts can be developed to provide much needed employment to rangeland peoples as well. Local communities need to be involved in wildlife conservation efforts and grassland management and participation of youths from local tribes who are already familiar with the environment and local fauna needs to be encouraged.

Community-based tourism (CBT) is closely related to nature, culture and local custom. It is designed to attract the tourist market that needs authentic experiences, enhancing community development, poverty alleviation and conservation. Homestay Programmes can be developed in rural areas, where tourists will be accommodated by the local population, be entertained by the cultural performances and traditional activities and have meals with their adoptive families. The main objective of Homestay Programme is to offer accommodation to the tourists and discover the local, cultural and natural lifestyle wherein tourists have the opportunity to get experience with friendly host families. Tourists enjoy the many experiences in villages, practice how to cook traditional cuisine, learn the customs and various traditional games and activities of the local community. Home stays are one of the most accessible avenues for the poor to actively participate in tourism. They also supplement the local income. Home stays can be positioned as an authentic, local experience with a focus on Ladakhi hospitality and tradition. For instance, Markha valley and Tsomoriri that are known for local wildlife, and Lamayuru, Alchi and Wanla which are culturally significant areas are potential sites for development of homestays. The tourism industry needs to be decentralised from Leh to the villages of Ladakh. In this regard, appropriate infrastructure (such as home stays, roads, and well-stocked shops) needs to be made available in Ladakh's rural areas.

vii. Digital Transformation Tools

The various stakeholders in tourism development in the region need to adopt the new digital transformation tools in this sector, including integrating knowledge from traditional and non-traditional data sources, enhancing the available data with geo-referenced data (location intelligence); spatial components for the generation of more precise and timely information for tourism, the Internet of things and big data; technology for improved accessibility of destinations; using technology for the protection of cultural heritage and biodiversity;

technology for monitoring visitor and community satisfaction etc. A web-based central information system should be created that contains locally relevant data about Ladakh (history, geography, culture, natural resources), agriculture and related sectors. The Digital Infrastructure needs to be upgraded in order to harness the potential of ‘digital transformation’ tools towards achieving the sustainable tourism goals, which includes establishment of IT Connectivity throughout Ladakh, implementation of all ICT Citizen Services, Digitalization of Govt Depts like Tourism, Transport, Education, Health etc. There is need to provide support to the tourism industry in the digital transformation of its business models and processes, which will aid in the digital transformation of tourism market development activities.

viii. Women’s participation

In recent years, tourism aimed at the involvement and empowerment of women is developing as a niche market in many countries across the world. In Ladakh, such modes of tourism can provide avenues for gainful employment of women. Presently, the Ladakhi Women’s Travel Company, a woman based organisation with trained female guides is involved in organising tours. Similarly, the Women’s Alliance of Ladakh organises workshops in handicrafts and for developing traditional skills for local women. Such initiatives not only help develop opportunities for women in the region but also create awareness of local traditions and lifestyles for cultural preservation. There is need to Structure guidelines and incentives for agencies and organisations to employ women, train women to develop capabilities as a tourism workforce .

ix. Capacity building

The local community, especially, the poor, women and scheduled tribes lack training and specialized skills that are required to participate effectively in tourism. At present, there is limited access to digital education in schools. There are only two Industrial Training Institutes. There are challenges of physical facilities in government schools. Smart and digital educational platforms need to be developed and adopted and Participation of private sector needs to be encouraged in Vocational Education and Industrial Training for Employability. There needs to be increased public and private investment in skills development and training programmes, particularly for young people and women, in order to support the employability of workers and to meet the needs of a qualified workforce for the tourism sector. Public and private sectors, civil society and other relevant stakeholders, including the Central Government and the local administration need to do capacity-building in the area of sustainable tourism among the local communities and other employees in this sector, including creating appropriate institutions, create awareness regarding various aspects of sustainable tourism among people involved in tourism, including indigenous peoples, entrepreneurs, especially regarding protection of environment, biodiversity, traditional knowledge and culture, sustainable utilization of resources, waste management, and business management skills including financial management, marketing and promotion. Specialised tours are an increasingly popular offering amongst tourists who demand customised tourism products to suit their needs and expectations. Efforts need to be made to enhance teachers' capacity to provide school children with environmental education.

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