

## **AN ASSESSMENT OF SUSTAINABILITY INDEX ON HUMAN DEVELOPMENT DUE TO CLIMATE CHANGE IN TOURISM OF UTTARAKHAND.**

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### **Abstract**

The relativity of Sustainability and Human Development is very new in the spectrum of light of many young researchers who connect environment with economics in the developing world. Ecotourism in this respect plays a principal role in Sustainable Development in Garhwal and Kumaun Himalayas. The major parts of area covered under Forest. This study is the assessment of Climate Change behaviour in Tourism mobility in Uttarakhand.

Key Words: Ecotourism, Tourism Relativity, Climate Change, Sustainability, Economics, Physiological needs, Emigration, Paris Agreement, Tulip Garden of Munsyari.

### **Background of Manuscript**

The layer of Greenhouse Gases (GHG), including carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide and others, in their optimum concentration in Earth's atmosphere, acts like a protective blanket which maintains its temperature and the natural ecosystem. Lately, anthropogenic (human induced) activities, mainly burning of fossil fuels, have resulted in increasing the concentration of these gases which in turn trap extra heat and increase Earth's average temperature leading to climate change. This in turn leads to a wide-ranging impact including sea level rise, melting of snow and glaciers, changes in weather patterns, increased frequency and intensity of extreme events and natural disasters etc.

Uttarakhand is most vulnerable to climate-mediated risks. Mountainous regions are particularly vulnerable to climate change and have shown 'above average warming' in the 20th Century. According to the Intergovernmental Panel on Climate Change (IPCC), impacts are expected to range from reduced genetic diversity of species to glacial melt in the Himalaya, leading to increased flooding, which will affect water resources within the next few decades.

The natural resources of the region provide life supporting, provisioning, regulating and cultural 'eco-system' services to millions of local as well as downstream people. The economy as a whole was characterized by low economic growth combined with high rates of population growth in the past. However, in recent times, the state has shown rapid economic growth (2.9% at the time of formation

of the state to 7.87% at present). The livelihoods are almost totally based on natural resources—water, forest, agriculture, etc. Uttarakhand has also been the fulcrum for environmental activism such as, for example, the Chipko movement. About three-fourth of state's population is rural and virtually all depend on agriculture. Tourism and animal husbandry are other sources of income.

With over 15 important rivers and over a dozen major glaciers, Uttarakhand is a valuable freshwater reserve. Hydel power continues to be a prime resource base for state's economy (with more than 200 large and medium-sized hydro-projects). A large portion of the state is under forests, with several forest-based industries. Climate change will have direct impacts on livelihoods as most of the economic and livelihood sectors are vulnerable to the impacts of climate change. Some of the reported climate-change-induced changes in the Uttarakhand Himalaya include receding glaciers and an upwardly moving snowline, depleting natural resources, erratic rainfall, irregular winter rains, advancing cropping seasons, fluctuations in the flowering behaviour of plants, shifting of cultivation zones of apple and other crops, reduction in snow in winter, a rise in temperature, an increasing intensity and frequency of flash floods and drying up of perennial streams.

As on date, no detailed climate vulnerability analyses and risk analyses exist for Uttarakhand. Likewise, no record of community perceptions of impacts of climate change on tourism appears to have been documented. However, analyses carried out elsewhere hold true in general for Uttarakhand as well. The tourism industry and destinations are clearly sensitive to climate variability and change. The climate defines the length and quality of tourism seasons and plays a major role in destination choice and tourist spending. In many destinations, tourism is closely linked with the natural environment. The climate affects a wide range of the environmental resources that are critical attractions for tourism, such as snow conditions, preservation of wildlife and biodiversity and water levels and quality. The climate also has an important influence on the environmental conditions that can deter tourists, including infectious diseases, wildfires, insect- or water-borne disease and extreme events. As such, mountain destinations such as in Uttarakhand are considered particularly sensitive to climate-induced environmental change, as are nature-based tourism market segments. Considering the current and potential scope of tourism, climate change poses a direct economic threat to not only the sector but also the state.

The Tourism Policy of the state focuses on placing Uttarakhand on the tourism map of the world as one of the leading tourist destinations and making Uttarakhand synonymous with tourism; developing the manifold tourism-related resources of the state in an eco-friendly manner, with the active participation of the private sector and the local host communities; and developing tourism as a major source of employment and income/revenue generation and as a pivot of economic and social

development in the state. Key priorities include conducting carrying capacity studies, promoting more responsible and equitable tourism, distributing income from tourism, including retention of tourism income in local areas of the state and promoting low-key, community-based tourism.

Towards improving the scientific knowledge and evidence base and understanding climate change and its impacts, the Tourism Department will set into motion processes for tracking and documenting impacts of climate change on the sector, its infrastructure and the linked economic, social and environmental continuum to build an improved understanding and evidence base. This will be carried out on an ongoing basis by the department and its partners and other organizations such as the GMVN and KMVN. It is anticipated that as the knowledge and experience base grow, increasing responsive and efficient measures can be adopted for both adaptive resilience building and mitigation. For improving governance mechanisms, institutional decision making and convergence, the Tourism Department will develop a Climate Change Cell, tasked with overseeing climate change-related issues and initiatives. It will, in addition, work with GMVN and KMVN to establish similar cells, in addition to seeking partnerships with and encouraging associations of tour operators and other private sector tourism service providers in the state to undertake similar measures. At the same time, the department will also seek convergence opportunities with linked departments (especially the Forest Department and its eco-tourism initiatives) for shared/co-ordinated responses to climate change wherever possible.

Leisure, adventure and religious tourism play a prominent role in Uttarakhand's economy, with Corbett National Park and Tiger Reserve and the nearby hill stations of Nainital, Mussoorie, Almora, Kausani, Bhimtal and Ranikhet being amongst the most frequented destinations of India. Uttarakhand has many other tourist spots as well, where tourists come from all over the world, such as Rishikesh, Hemkund Sahib, Nanakmatta, Auli, Chakrata, Bageshwar, Bhimtal, Kausani, Lansdowne and many others.

The state also has numerous peaks, mountains and pristine high-altitude lakes of interest to mountaineers, trekkers and outdoors enthusiasts. Other national wonders include the Valley of Flowers, which along with Nanda Devi National Park and Biosphere Reserve forms a UNESCO World Heritage Site. The state has always been a destination for mountaineering, hiking and rock climbing in India. A recent development in adventure tourism in the region has been white water rafting and other adventure sports. Ecotourism, agri-tourism, freshwater angling and cultural and rural tourism have also found new grounds in many villages of the state.

Uttarakhand is also home to some of the holiest Hindu shrines and for more than a thousand years, pilgrims have been visiting the region. Gangotri and Yamnotri, the sources of the Ganga and Yamuna,

are located in the upper reaches of the state and together with Badrinath and Kedarnath form the Char Dham, one of Hinduism's most spiritual and auspicious pilgrimage circuits. Haridwar, meaning 'Gateway to God', is also a prime Hindu destination. Haridwar hosts the Kumbha Mela every 12 years, in which millions of pilgrims from all parts of the India and the world take part. Rishikesh, near Haridwar, is known as the pre-eminent yoga centre of India. The state is also known for the typical architecture of most of these temples. The ancient temples at Jageshwar (a complex of 124 temples in a Deodar woodland) are historically the most prominent for their distinct architectural features. Hemkund, nested in the Himalaya, is a prime pilgrimage centre for the Sikhs. Tibetan Buddhism has also made itself felt with the recent reconstruction of Mindroling Monastery and its Buddha stupa, south-west of Dehradun.

## **I. SOCIAL TECHNOLOGICAL ECONOMICAL POLITICAL (STEP) – ANOVA Test**

### **I.1. SOCIAL**

Civil society and voluntary organizations have played critical roles in shaping the development landscape of not only Uttarakhand but the nation. These will continue to have vital roles in the context of climate change and have the potential to deliver programmes and services to communities and to bridge the roles of not only the government and community but also the roles of scientific research institutions and the private sector with government and the community. As such, the UAPCC envisages the following outcomes relating to the role of civil society:

- Developing a roadmap for exploring and articulating the potential role of civil society organizations (including non-governmental organizations (NGOs), NGO networks, community-based organizations (CBOs) and CBO networks) in UAPCC implementation, including capacity building at various levels, especially at district and sub-district levels, providing inputs to the UAPCC on poverty, equity and livelihood concerns, providing outreach and extension services, playing bridging roles, documentation of community perceptions and best practices, undertaking participatory research, knowledge networking and contributing to expanding the available evidence base on climate change.

The state has performed well in the social sectors. Uttarakhand is considered to be a hub of education in the country, with many reputed educational institutions. The literacy rate in the state in 2011 was 78.8 percent with male and female literacy rates at 87.4 and 70.0 per cent, respectively which were also higher than the corresponding rates at the All-India level (82.1 per cent and 65.5 per cent). The literacy rate recorded an improvement of 8 percentage points over the Census decade 2001 to 2011. Gross Enrolment Ratios at the secondary and higher secondary levels for the state (85.7 percent and

75.8 percent) were higher than the all-India figures (80.0 percent and 56.2 per cent respectively) in 2015-16.

The population growth rates in the hills areas (0.7 per cent) and in the plains (2.7 per cent) show a large differential. The reason for the low population growth in the hills is likely due to out-migration motivated largely by socio-economic reasons. The population growth rate for age group 0-6 years in the hills is lower compared to that of the plains as well. A favourable sex ratio for the hills areas signifies huge male out-migration and the phenomenon females being left behind.

## **I.2. TECHNOLOGICAL**

- Strategic Thrust.
- Implementation of Information and Communication Technology (ICT) Policy.
- Building an effective ICT Infrastructure.
- Developing Human skills.
- Security.
- Accelerating Industrial Growth through IT Adoption and Attracting Knowledge Industries.
- Implementation of Electronics System Design and Manufacturing (ESDM) Policy.
- Rural BPO/KPO Industry.
- Data Centers and Data Center Parks.

## **I.3. ECONOMIC**

Uttarakhand is among the fastest growing states in India. Between 2012-13 and 2016-17, the state's Gross State Domestic Product (GSDP) grew at an average rate of seven per cent per annum. The GSDP is expected to grow at a rate of 6.8 percent in 2017-18. With an estimated per capita net state domestic product (NSDP) of Rs.177,000 in 2017-18, almost 60 per cent higher than the national income, Uttarakhand emerges as the sixth richest Indian state – next only to Haryana, Karnataka, Maharashtra, Sikkim and Telangana. The per capita income of the state increased at a higher rate than the national average, significantly higher at Rs. 1.77 lakh in 2017-18 as compared to the national average of Rs. 1.13 lakh.

Tourism is one of the fastest growing sectors in the State. During 2017-18, the State received over 30 million tourists and this number is projected to reach to 67 million by 2026. However, almost all of them are domestic tourists, and a little less than half of them have come for pilgrimages. Several challenges are faced by the State in expansion and diversification of tourism sector in terms of providing services and catering to the growing number of tourists with a variety of interests and expectations. There are broader issues like, carrying capacity of mountains and programmatic issues such as access and ease of transportation, status of physical infrastructure and facilities, appropriate hotel accommodations, parking and health facilities, management of solid waste, availability of

efficient tour guides, strength of local establishments and importantly, participation of local communities in the tourism sector of the State. To realise the Vision of Uttarakhand as the most favoured tourist destination in the country, which attracts national and international visitors having multiple interests, the above-mentioned challenges need to be addressed on priority basis. State tourism policy proposes to expand tourism in several new geographical areas and add new themes in the tourism bouquet such as water sports, adventure, heli-skiing, eco-tourism, spiritual Yoga, wellness, heritage and culture etc., to attract both national and international tourists in increasing numbers. However, catering to the needs of prospective Indian and foreign tourists in coming years (about 6 times of State's current population) will entail substantial expansion in physical infrastructure, building linkages, human resources, marketing and branding, and more significantly, coordination amongst concerned line departments and maintenance of the delicate eco-systems in the State.

Uttarakhand has a large diversity in landscape, abundant natural endowments, rugged topography and untapped natural resources. All these attributes collectively make it a prime tourist destination contributing a major share to the State's GDP. The number of tourists visiting Uttarakhand for Char Dham Yatra and Hemkund Sahib is also rising steadily. In terms of foreign tourist's arrivals, there is a larger scope for development, relative to other States. Uttarakhand outnumbered Himachal Pradesh in terms of number of tourist arrivals. In the year 2016. While Himachal had 184.51 lakh visitors, Uttarakhand reported 317.77 lakh tourists. However, Himachal Pradesh has a comparative advantage in terms of infrastructure and thus attracted a larger number of foreign tourists (4.52 lakh) in comparison to Uttarakhand (1.13 lakh) in 2016. To further improve the prospects of tourism sector in the State, the Government plans to have a comprehensive tourism plan based on theme and destination specific inputs, as different tourist destinations possess different potential and confront varying challenges. For instance, the Char Dham tourist sites need a comprehensive management plan to regulate the spurt of tourists during the peak season, while the sites of adventure tourism need to overcome basic problems of connectivity, accommodation, local establishments, public infrastructure and market development. Estimates of tourist inflow in Uttarakhand by 2026 are in the region of 67 million. The State plans to give equal attention to pilgrimage tourism, adventure tourism, heritage and eco-tourism. Plans of establishing a world class infrastructure, attracting more private players along with the identification and documentation of new tourism destinations is under way. The larger idea is to redefine the contours of the present tourism policy, in order to harness the tourism potential of Uttarakhand. As a part of these endeavours, emphasis would be laid upon bringing in a qualitative change in the service providers associated with tourism industry, focussing on skills development in hospitality, camping, adventure sports, wellness, naturalists training for trekking and bird watching,

health and hygiene, housekeeping, necessary social etiquettes, regional and foreign languages and solid waste disposal management. Growth Centres driven by homestays and rural tourism opportunities in a hub and spokes model is being considered, where it is proposed to develop carefully selected tourism centric growth centres within 25-30 kms distance from highly frequented tourist destinations in Uttarakhand. These new tourism zones will consist of the hub where tourists will be able to experience rural life, culture, cuisine, performing arts and crafts. The tourism hubs will consist of homestay options to suit various pockets, a village where there will be facilities to shop for locally produced artefacts, clothing, food products, organic fruits and vegetables, flowers, eateries offering local recipes, a performance centre for shows of local music and dance, outlets to sell/rent equipment and gear for trekkers, adventure sports. These tourism hubs will be connected to the established tourist destination through shuttle bus services and to nearby villages in radius of 15-20 Kms where additional homestays will be available. It is envisaged that with each of the tourism hubs 10-15 villages will be connected each offering 10 guest rooms on their properties/orchards. This will also decongest the popular tourist destinations and take care of the spill over of the seasonal rush. The concept of 'Ghost Tourism' is being considered to attract foreign tourists. Uninhabited haunted sites will be used for promotion of ghost tourism. Several hilly villages have been abandoned, and they are available to enthusiasts to use them for tourism related activities. The Government envisages a grand idea to develop Uttarakhand as a comprehensive, world class tourism destination by realising the untapped potential of sustainable tourism, through the design of innovative tourism products that build on the inherent strengths of the State as a natural destination which can cater to all categories of tourists. The objective is to make the State one of the top 10 tourism destination States of the country by 2020, up from its present rank of 12, to acquire a place among the top 5 destination States by 2024, and finally to attain a position among the top 3 destination States by 2030.

#### **I.4. POLITICAL**

Uttarakhand's achievement in the industrial sector is the result of political consensus on developmental issues; dynamic, visionary and motivating political and bureaucratic leadership. As a result, the industrial sector recorded the highest CAGR of 16.5% during the years 2004-05 to 2014-15, which is much higher than National average of 7.2%. The share of secondary sector in the State GDP grew to 49% in 2017-18 from 19.2% in 1999-2000. The index of industrial production in Uttarakhand was 155.84 in 2016-17 as compared to 145.92 in the previous year. The State is home to about 50,400 SMEs, 1,000 Khadi/Gram Udyog units and 2,950 factories providing employment to more than 6.3 lakh persons. Labour force participation has increased. Worker population ratio has increased during last decade from 377 to 488 and 388 to 425 for rural and urban areas respectively. In order to address challenges in the agri-processing sector, reforms at policy level are under active consideration. The

State has taken several policy measures including the Special Integrated Industrial Development Policy for the hill regions in 2008, the MSME Policy in 2015 and AYUSH Policy in 2018. Uttarakhand has been taking big strides on Ease of Doing Business front. Due to extensive efforts, Uttarakhand jumped from BRAP rank of 23 in 2015 to 09 in 2016. The State achieved 96.13% BRAP score in 2016 as against 13.36% in 2015. This enabled the State to be in leader category as per BRAP score. However, full benefits of this achievement are yet to be fully realised on the ground. Uttarakhand Investors' Summit organised in October 2018 led to signing of 623 MoUs worth INR 1.24 Lakh crores across 12 focus sectors, which include Food Processing, Horticulture and Floriculture, Herbal and Aromatic plants, Tourism and Hospitality, Wellness and AYUSH, Pharmaceuticals, Automobiles, Natural Fibres, IT, Renewable Energy, Biotechnology and Film Shooting. The State intends a paradigm shift to high-end manufacturing. However, large scale investment in digital infrastructure is a pre requisite, besides requirement of physical infrastructure to allow plug and play options, which attract MSMEs who will have a larger role to play, to make high end manufacturing feasible with localized smart manufacturing units. This also needs developing a digital eco system, establishing common high tech equipment facilities, meeting the skills gaps, inviting PPPs and supporting MSMEs in the process of paradigm shift to high end manufacturing.

## **II. SWOT ANALYSIS – STRENGTH WEAKNESS OPPORTUNITIES THREATS**



Tourism sector is accepted as a growth driver for inclusive social economic progress through its forward and backward linkages, and the ability to create employment in the economy. The vision is to develop Uttarakhand as a comprehensive, world class tourism destination by realising the untapped potential of sustainable tourism, through the design of innovative tourism products that build on the inherent strengths of the state as a natural destination which can cater to all categories of tourists. The aim is to make the state one of the top 10 tourism destination states of the country by 2020, up from its present rank of 12, to acquire a place among the top 5 destination states by 2024, and finally to attain a position among the top 3 destination states by 2030. For the initial three-year period till 2020, taking stock of the existing strengths and weaknesses, as well as detailed planning for the development of the new segment of tourist markets can be the strategy. There should be a plan to



position 'Brand Uttarakhand' in the domestic and international market. The medium term should see the realisation and execution of the detailed plans made in the short term, along with improvement in the existing facilities. The brand of the state should be publicised and marketed to more countries. The long-term strategy would involve further expansion depending on the success in the medium term. In terms of identifying tourist destinations, the attraction of the state as a pilgrimage site is already well-established, but there is still a great deal of scope to promote the state as a destination for spiritual purposes, yoga, and wellness, alongside as a destination for trekking, mountaineering, river-rafting, and such adventurous activities. Rural tourism and eco-tourism can be encouraged as has been done in other countries and in other states of India, and to achieve this, the needs for infrastructure and connectivity, skill training, accreditation of dhabas/restaurants, and service providers have to be met. Thereafter, tourist destinations in the upper reaches of the state can also be developed, providing employment opportunities to the local youth. Theme-based circuits that have the potential to be showcased as world class tourism products can be developed in consultation with the stakeholders. The state is considering development of spiritual and religious theme-based circuits for tourism. Under the Swadesh Darshan scheme of central government, Uttarakhand is a site for Eco tourism. Other themes may involve treks/hikes/tours to view famous Himalayan peaks, or treks along the course of the Ganga River, or places of culinary interest, or villages where communities maintain traditional lifestyles that tourists may find interesting. Homestays in rural areas and in serviced apartments in urban areas, which supplement tourist accommodation, can be linked to the theme-based circuits for planned growth. The government can promote cleanliness and beautification of the concerned villages and locales for better tourist attraction. A framework for classifying infrastructural gaps can be developed to identify the existing bottlenecks so as to unlock the potential of these circuits. An integrated approach for planning these circuits, along with a comprehensive area development approach to ensure the availability all the requisite facilities in those circuits, is essential. There is a plan to develop thirteen new destinations in thirteen districts of the state based on various themes like adventure, leisure, rural, spiritual, and wellness in the long term. Success of tourism initiatives depend just not on tourism department, but on synergy between tourism and a host of other departments of the government. As a tourist arrives in Uttarakhand, the tourism experience starts at the airport, railway station, bus terminus, or in the car travel s/he undertakes to reach her destination. The tourist's experience actually starts even before that with access to information about tourist destinations and the ease of connectivity of the state with other states in India and with the rest of the world. The experience continues with the comfort of stay in hotels, etc., the culinary experience, the ease of access to popular tourist spots, safety, the diversity of tourist attraction and the functioning of the same, internet availability/connectivity, and above all, the warm and friendly

behaviour of the local people which can make a stay memorable. Evidently, numerous departments such as PWD, road and rail transport, aviation, water and sanitation, electricity, urban development, hospitality, IT, Disaster management and many other departments need synergy with the tourist department to create a complete tourist experience. Here a strategy of deploying project-specific committees which span several major departments should be considered, especially for big projects.

<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>• Sustainable Tourism.</li> <li>• Cluster Based Local Economy.</li> <li>• Vocational Skill Development (VSD).</li> <li>• Management Policy.</li> <li>• Environmental Policy.</li> </ul>	<b>. OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>• Ecotourism.</li> <li>• Inbound Tourism.</li> <li>• Special Interest Tourism (SIT).</li> <li>• Research Fellowships.</li> </ul>
<b>WEAKNESS</b> <ul style="list-style-type: none"> <li>• Hilly region.</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>• Climate Change.</li> <li>• Migration.</li> <li>• Unemployment.</li> </ul>

**Source:** SWOT Analysis by Dr. Ajay Pant; Department of Hospitality and Tourism Management, Kumaun University.

## **OBJECTIVES**

- To find STEP possibilities in the region.
- SWOT analysis of diversity of population in the region.

## **Area of Study**

- Garhwal division and,
- Kumaon division.

## **Problem of the study**

The Researcher examines some behaviour approach in projecting the problem of the study i.e.

- The lack of management planning in the hilly region.
- Low state of the art research and development facilities.
- Low growth of employment.
- Less number of business and entrepreneurship opportunity.

## **Sample Survey**

- Universe.
- Uttarakhand population.
- District employment ratio.

## **Research Methodology**

The Researcher finds the study is scientific in nature. The significance of the study is to observe the change in perspectives of human thoughts in their natural abode or vice versa.

## **Learning Outcomes**

- New technology-based learning model.
- Specialized human resources management planning.

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