



Study of Environmental Impacts of Tourism in Kashmir Valley and Need for Sustainable Tourism Development

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Abstract

The tourism industry has had a significant global upsurge in the last several years and has grown to be an essential component of individual vacation and travel, supporting the growing worldwide economy. Travellers from all over the globe come to Kashmir Valley, sometimes known as "Paradise on Earth," because of its abundance of gorgeous scenery, snow-capped mountains, verdant meadows, and high altitude lakes. Policies now in place from the state government are insufficient to oversee tourism in the area. The purpose of the research was to evaluate how Kashmir Valley tourism affected the ecosystem. The current study attempts to investigate a number of economic development indicators, including visitor influx, job creation, state GDP, infrastructure development, and regional development, in order to comprehend the financial implications of tourism in the state of Jammu and Kashmir. Tourists, local community leaders, people from the civil administration, hotels, and tour companies servicing the regions are all included in the research community. To get greater comprehension, 650 questionnaire were given to responders along with a short explanation of the research's significant factors. After confirming the validity and reliability of the instrument, hierarchical regression was used for analysing the data. The review's determinations showed that a critical piece of the populace sees financial benefits, like development, work and business prospects, and improvement of framework coming about because of the travel industry. Nonetheless, it was found that the climate and regular capital was continuously breaking down. Notwithstanding the social climate, abuse of land, attack by different societies, and air and water contamination from gridlocks, strong waste development, wastewater, and ozone depleting substances are completely known to add to social weakness. The research offered an ideal structure for the growth of sustainable ecotourism, together with encouraging government interventions to guarantee efficient preservation of the ecosystem and natural assets without endangering the residents' social and economic well-being. Furthermore, in order to find useful inputs concerning environmentally friendly destination management abroad, the variables and constructions studied may be reproduced to other destinations.

Keywords: Tourism Industry, Kashmir Valley, Environmental Impacts, Sustainable Destination Management, Tourism Development, Ecosystem and Biodiversity, Socio-Economic Benefits.

Introduction

In the recent past, tourism served as a significant driver of economic growth on a global scale. It has emerged as one of the industries with the fastest rate of growth, (Mukhtar, 2013), accounting for 8.7% of all jobs globally and 9% of the (GDP). India has a unique position in the globe since it is home to several spiritual hotspots (J&K Economic Survey, 2013). As a result, (Bhatia, A. 1978), from 80.3 lakh foreign visitors arriving in India in 2015 to 88.9 lakh travellers in 2016, overall was a 10% rise in FTA(Getz, D. 1983).

According to the most current statistics, (H. A. 2014), the Indian government Foreign Exchange Earning (FEEs) increased by 15.1% in 2016 to a staggering Rs. 1, 55,650 crore (Annual report submitted by MoT Govt. of the Indian subcontinent, 2016-17)(Haghsetan, 2011). This statistic is mostly influenced by the northernmost valley in Kashmir. Culture, business, and ecology of a site may all be impacted by tourism. Both good and negative effects are conceivable from them (Hall D., 2000). The benefits include increased income, employment opportunities,(Briassoulis H, 2013), a decline in rural migration, and a motivation to protect the area's heritage, environment, and culture.

However, the negative repercussions of tourism are compromising the future of tourist destinations owing to the degradation of the environment, the loss of resources of nature, garbage and pollutants, and disturbance of local lives and traditions(Butowski L 2021). The saying "tourism destroys tourism" may apply to poorly managed tourism (Azam M, 2018). In addition to being detrimental to the environment, mass tourism is also having an unfavourable economic and social effect on the cultural and social assets of the community(Bakhriddinovna AN, 2020).

Since the environment is a key source of tourism-related goods, it should be preserved in order to support future tourism expansion and economic progress (Adebayo TS, 2021). In order to establish and maintain a tourism sector, tourism development brings vacationers to a certain location. Furthermore, ecological sustainability is the future-focused,(Bijendra K. 2012), deliberate endeavour to maintain natural resources and socio-cultural legacy in order to safeguard ecosystems in the environment while fostering human health and economic growth(Abar J, 2017).

Clean, green natural landscape design, (Krampe F 2021),abundant biodiversity, pristine beaches, (Kuvan Y, 2010),vast expanses of desert steppes, sociocultural standards, and archaeological finds are examples of how the environment can be sustained (Liang Y, 2018). They also demonstrate how eager the locals are to welcome tourists and how motivated they are to travel. Since the sustainability of the environment and tourism development are seen as linked in this context, growth in tourism and visitor numbers have a direct impact on the standard of sustainable and environmentally friendly travel.

Rewards for visiting remote areas

In addition, does tourism in rural areas benefit the community, but it also benefits visitors and the government. Here are a few substantial benefits of rural tourism:

- Since rural tourism is a small-scale enterprise, it cannot generate employment on the same size as the government, but it may aid in job retention. It particularly facilitates increased commerce in the areas of retail, transportation, lodging, healthcare, farming, and fishing.
- It provides employment opportunities for locals in tourism-related industries like as hospitality, retail, catering, transportation, communication, and historical interpretation.
- It provides the local youngsters with the chance to participate in tourism-related activities.
- It promotes the growth of new companies. When the number of visitors rises, demand for local food and handicraft businesses grows.
- It contributes to the maintenance of rural heritage and cultural assets because it inspires people to do so when they realise that their history and culture are the foundation of their success.
- Money made from tourism may go towards maintaining the location.
- The atmosphere is also enhanced since, just like in our everyday lives, we attempt to keep our village tidy for guests by cleaning the home as often as possible.

Long-Term Sustainable Growth

The International Commission on Sustainability and Development first described sustainable development as "*development, which addresses the needs of today's generation while preserving the potential of later generations to meet their own demands*" in the Brundtland Report, a study of 1987.

Reducing the negative effects of economic growth on the surroundings is just one aspect of sustainable development. It demands a new method of development planning in which all of these three factors' costs and benefits are considered and incorporated into the preparation phase from the beginning. Long-term economic development and standard of living are reliant on environmental quality. While greater production and consumption are a result of economic expansion, there is also a need for more effective use of natural resources and an overall reduction in the amount of emissions and waste generated.

The Indian state of Jammu and Kashmir (J&K), which is made up of the three separate regions of Jammu, Kashmir, and Ladakh, includes the valley. The state's tourism sector has expanded dramatically, which has helped the local service sector flourish. These include small-scale businesses such as retail, gardening, handicrafts, transportation, and hospitality. Both a sizable number of local visitors and an adequate proportion of visitors from other nations attract themselves to the Kashmir Valley.

This article is mostly based on data collected before to 2016, when the political climate in the valley soured and individuals were forced to find other options. According to official figures, state GDP was 7% driven by tourism in 2014. As such, it has great potential for augmenting the development of infrastructure and creating job possibilities. Many locals have some kind of

connection to tourism, either directly or indirectly. Even those without specialisation may find work as ponywallas, staff at hotels, tour guides, and other professions. Historically, Kashmir has served as a primary gateway for the economic and cultural flow of goods and services between Eastern Asia and India (Mandić A, 2018).

It gives travellers from all over the globe with options of sustainable tourism, religious tourism, adventurous travel and even wellness tourism. Gulmarg in Pahalgam, and Dal Lake, Sonamarg, Wular Lake, Mughal Gardens, and Amaranth Cave are some of the popular places to visit in Kashmir. In addition to boosting the nation's economy, tourism is elevating the Kashmir region's reputation both nationally and globally. The link between nature and tourism has been the subject of much discussion over the last thirty years. Despite its positive effects on the economy, tourism may seriously harm the environment.

According to Hawkins, tourists is a goose that may harm its own nest by causing degradation in the environment in addition to laying a golden egg (the economy advantages) (Ratnasari SL, 2020). While well-thought-out management and planning may mitigate negative effects, improperly managed or unprepared tourism can cause harm that sometimes surpasses the ability of nature to recover, leading to irreversible consequences. Because of its extreme reliance on natural resources, the tourist sector has an important effect on the environment, culture, society, and economy—mostly in a negative way.

Next to horticulture and agriculture, tourism has been highlighted as a sector with potential for growth in Kashmir and Jammu, the northernmost state of India. While the Jammu region, known as the land of temples, is drawing a lot of pilgrims, Kashmir Valley, also known as "the paradise on earth," continues to be a highly sought-after tourist destination due to its verdant forests, sweet springs, constantly flowing rivers, beautiful mountain scenery, and pleasant climate. The moon country, or Ladakh area, is well-known for adventure tourism and has long been a popular travel destination, particularly for international visitors.

Objectives of the study

- Identify and evaluate the current negative effects of tourism on the environment in the region known as Kashmir Valley, including waste production, deforestation, pollution of the air and water, and habitat destruction.

Examine how tourism affects local communities' social and cultural aspects, such as alterations to customs, way of life, and cultural heritage.

Literature Review

(Baloch, 2023) The empirical study looked at how environmental suitability and tourist development relate to each other in order to provide a framework for ecotourism that is sustainable. The paradigm recommended a balance between commercial and environmental objectives in preserving the natural environment with the moderating aid of government funds and legislative efforts. The research population includes all parties involved in tourism, such as tourists, local government officials, hotel owners, and tour companies that operate in the region.

(Wani, G. A., 2022) The state of responsible tourism at the tourist location level was examined in this article. The main goal is to evaluate destination performance in comparison using the perspectives offered by tourism stakeholders, including visitors, locals, and service providers. Survey participants' perceptions are transformed into unique weights by statistical processes and further enhancements. EXCEL as and SPSS were utilised for data input, normalisation, and other the calculations. Each variable's weights are independently normalised based on its destination. For every tourist destination, the scores of markers and measurements were determined using a composite index approach.

(Gujree, I., 2020) Since most visitors visit places with a natural or green environment, the sector of tourism is closely related to the environment. The goal of this research is to show how the geographic approach may be used to evaluate the master planning of Sonamarg Resort, the most popular tourist destination in the Kashmir valley. A map of land use and cover, water drainage, and topographical settings (slope, aspect, and elevation) were used to assess the Sonamarg Tourist Resort's Master Plan (MP). Two methods were used to evaluate the master plan for the Sonamarg tourism resort: zone wise (A, B, C, and D) and slope wise.

(Jeelani, P., 2023) Resource intensity increases poverty and inequality by reducing the environment's services and future eco-benefits. Planning and resource management, according to the management method, may either aid or jeopardise fragile regions. This is the pursuit threshold. This research used a conceptual modelling technique engaging stakeholders in an effort to assess the trade-off between tourists and the environment. Tourism-related activities and ecological aspects were compared in terms of relevance and size using the Leopold Matrix approach known as the Environmental Impact Evaluation (EIA).

Hypothesis

H1: The expansion and development of tourism has a major impact on environmental contamination.

H2: Growth and expansion in the tourism industry have a substantial impact on the environment's physical ecology.

H3: The expansion and development of tourism has a considerable impact on the sociocultural environment.

H4: The expansion and development of tourism has a substantial impact on the community's and people economic environment.

H5: The link between environmental elements and tourist development and growth is greatly moderated by government policy and assistance.

Methodology

The purpose for this study was to look at the relationship between the growth of tourism and how it affects environmental variables. As a result, a survey approach was used for data collection by involving all relevant locals. The viewpoints of stakeholders from the Kashmir Valley,

particularly from Gulmarg in Pahalgam, Dal Lake, Sonamarg, Wular Lake, Mughal Gardens, and Amaranth Cave, formed the basis of the research. Through a survey, 650 stakeholders from the aforementioned tourism sites were contacted. Table 1 discusses the sample's statistical distribution.

Table 1: Sample arrangements.

Participates	No.
Members of civil administration	80
Five hotel managers from each location	50
There are four tour companies per location.	40
Representatives from the communities	80
25 tourists from each location	400
Total	650

(Field Questionnaire-2021)

Hierarchy linear regression testing was used to examine the possible links between the expansion of tourism and other aspects of sustainability in the environment using statistical approaches.

Similarly, a 5-item scale was used to quantify Government Intervention and Assistance, our moderating variable. The details of the instrument are shown in Table 2 below.

Table 2: Instrument dependability

Variable	No. of item	Reliability
Growth and development of tourism	6	.94
Natural resource depletion	8	.98
Pollution	4	.92
physical impacts on the ecology	6	.96
Degradation of society and culture	9	.85
Economic circumstances	8	.83
government assistance and initiatives	4	.94

Result and Discussion

The evaluation of the data has been performed using SPSS Versions 26. Stepwise hierarchal regression analysis, linear regression, and correlation are all included.

According to Table 3 above, there is a significant and positive correlation between our tourism growth and development and the following factors: polluting the environments ($r= 0.45^{**}$), the physical effects on ecosystems ($r= 0.24^{**}$), the depletion of natural resources ($r= 0.66^{**}$), and the socio-cultural degeneration ($r= 0.41^{**}$).

Table 3: Correlation matrix

Variable	M	SD	1	2	3	4	5	6	7
Growth and development of tourism	6.99	0.21	1						
Natural resource depletion	6.49	1.99	.23**	1					
Pollution	1.69	0.46	.14**	.12**	1				
physical impacts on the ecology	3.21	2.49	.19**	.42**	.52**	1			
Degradation of society and culture	4.67	0.26	.41**	.10**	.41**	.52**	1		
Economic circumstances	2.59	0.75	.52**	.20**	.13**	.10**	.32**	1	
government assistance and initiatives	2.49	6.49	.41**	.26**	.52**	.56**	.01**	.06**	1

-p<0.05** p<0.01

The discoveries from the straight relapse model introduced in Table 4 above exhibit that the development and advancement of the travel industry predicts varieties in the accompanying regions: 4.1% difference in the double-dealing of normal assets ($\beta = 0.19$, $p<0.01$), 3.49 percent variety in contamination ($\beta = 0.16$, $p<0.01$), 6% change in the actual impacts on biological system ($\beta = 0.29$, $p<0.01$), 3.5% variety in the socio-social debasement ($\beta = 0.14$, $p<0.01$), and 8.8 percent fluctuation in the financial environment ($\beta = 0.83$, $p<0.01$).

Table 4: Analysis of regression for Hypotheses 1-5

	Tourism growth and development	
	B	ΔR^2
Natural resource depletion	0.19**	0.691
Pollution	0.16**	0.064
impact on the environment physically	0.29**	0.023
Degradation of society and culture	0.14**	0.191
Economic circumstances	0.83**	0.269

** p<0.01

The second stage was evaluating the influence of the interaction term "Tourism and Growth Government Interventions." The findings imply that the association among increases in tourism and environmental factors can be manipulated by government assistance and intervention (Table 5).

Table 5: Analysis of moderation

Variables	Depletion of natural resources	Pollution	Physical effects on ecosystem	Socio-cultural degradation	Environment
Step 1					
Growth and tourism	0.36**	0.42**	0.16**	0.21**	0.22**
Govt. interventions	0.19**	0.92**	0.49**	0.26**	0.49**
R ²	0.21**	0.66**	0.16**	0.22**	0.36**

Step 2					
Tourism and G×G interventions	-0.21**	-0.31**	-0.26**	-0.29**	-0.69**
R ²	0.19	0.24	0.16	0.66	0.36
ΔR ²	0.36	0.69	0.36	0.28	0.09

-p<0.05** p<0.01

Discussion

The research has presented new information on the effects of tourism on the environment. We discovered that, on the one hand, the growing popularity and growth of tourism stimulates economic activity (Rauf T, 2019). On the other side, it also has particular negative sociocultural and environmental effects. Our analysis found a 1.8% variation in government support and measures due to the expansion and development of tourism ($\beta=.133^*$, $p<0.01$) (Bhat Bilal A., 2008). More recently, however, the J&K government has developed targeted initiatives that could lessen the negative effects of harmful environmental elements. Developmental initiatives like the J&K Economic Gateway initiative's Road-Infrastructure Network Improvement and the Billion Trees Planting campaign, for instance, (PananjayK.Tiwari, 2011) may operate as moderator to reduce the adverse effects of tourist expansion on the environment. Consequently, these results validate the hypothesis that government direction and support considerably moderates the link between tourist growth and expansion with the environment.

Conclusion

Travellers and explorers have long considered the Kashmiri Himalayan valley to be the "Paradise on Earth." The valley is endowed with abundant natural treasures that draw millions of visitors annually. The state's GDP is significantly boosted by the economic stimulus provided by the tourist sector. The research comes to the conclusion that the valley's law and order issues have had a major impact on the trend in the number of visitors. The viability of the bio ecosystem and the quality of the surrounding environment encourage traveller visits, but excessive tourism may lead to irresponsible activity that degrades the environment and threatens the natural ecosystem. The underlying hypothesis of the research was that the sustainability of ecotourism depends on the corporate interests' capacity to make money while simultaneously protecting and preserving natural ecosystems and treating the host community's sociocultural milieu fairly. The goal for environmentally friendly ecotourism is to address the sustainability challenges brought about by poorly planned tourist development and uncontrollably rapid expansion, not to satisfy the petty comforts of commercial interests.

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