

A Study on Geography of Pilgrimage Tourism and Environment: A Case Study of Kashmir Valley

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ABSTRACT

Pilgrimage, a journey resulting from religious causes, externally to a holy site, and internally for spiritual purposes and internal understanding is one of the religious and cultural phenomena most common to human society throughout the world. Pilgrimage have powerful political, economic, social and cultural implications, and can affect world trade and health. It is an important subject due to its scope and spatial influence. It stimulates geographer's interest with distance traveled and the phenomenon's affect on behaviour. Kashmir is one of the most preferred destination of tourists worldwide. However, considering the description of the Kashmir valley, significant impacts are produced by the slightest negative aspects attached with tourism industry. Present development at the cost of future is not acceptable. The study area is Kashmir valley, a beautiful mountainous area, is one of the most preferred destination of national and international tourists. The aim of our study is to focus on biophysical carrying capacity which deals with the extent to which the natural environment is able to tolerate external interference. The paper concludes that Kashmir valley has a tremendous potential to absorb tourists, but at the same time the results propose that for increasing human welfare we have to set environment at priority and limit tourism to the carrying capacity of the region; promote sustainable tourism in Kashmir valley.

Keywords-- Pilgrimage; Tourism; Carrying Capacity; Environment; Sustainable, Tourism; Statistics

Buddhism, Islam, Hinduism and Judaism. It is defined as, A journey resulting from religious causes, externally to a holy site, and internally for spiritual purposes and internal understanding (Barber, 1993: 1). Today, pilgrimage is considered a traditional religious or modern secular journey. The literature on pilgrimage and religious tourism is still fragmented and lacks synthesis and holistic conceptualization (Timothy and Olsen, 2006). Pilgrimage creates population mobilities such as trade, cultural exchanges, political integration, and the less desirable spread of illnesses and epidemics (Barber, 1993). Pilgrimages have powerful political, economic, social, and cultural implications, and can even affect global trade and health. Pilgrimage stimulates geographers' interest with distances travelled and the phenomenon's affect on behavior. Pilgrimage is an important subject due to its scope and spatial influence. It is also a primary economic activity for some countries and cities (Barber, 1993; Vukoni'c, 1996, 2002). Geographers are beginning to recognize the powerful and contingent roles of religion and spirituality on a range of geographical scales, from the corporeal to the institutional and the geopolitical (Holloway & Valins, 2002). Each year, lakhs Hindu pilgrims visit Kashmir valley and go Amarnath and other religious places. It is important that tourism planners must first of all understand the phenomena with which they are dealing, as well as the participants' characteristics and desires. In many parts of the world the pilgrimage shapes the nature of economic activity and the design of the public space.

Kashmir is like a bowl so tourism and environment is directly related. Kashmir is a muslim majority area so people of Kashmir are concerned towards environment than economic development as guided by

I. INTRODUCTION

Geography is a science that connects natural and human phenomena. Pilgrimage, one of the religious phenomena most common to human society, is important feature of the world's major religions: Christianity,

holy Quran. The Quran depicts nature as being ultimately a theophany, which both veils and reveals Allah. The essence of an ecosystem and ecological balance are also beautifully described in holy Quran. *"And the earth, we have spread out, set therein mountains firm and immovable; and produced therein all kinds of things in due balance"* (15:19) Surat Al-Hijr. This Quranic verse and its commentary, in brief sums up the entire scope of ecology, food chains, food webs, trophic levels, community ecosystem, energy flow, bio-geo-chemical cycles etc. All things that Allah has created in this universe have been created; qualitatively and quantitatively; in due proportion and measure. Allah has declared in the Quran, *"Verily, all things have we created by measure"* (59:49) Surat Al-Hashr. The ecological balance is inherent in the very process of creation. The Holy Prophet's (SAW) attitude towards sustainable use of land, conservation of water and the treatment of animals is illustration of the humility of his environmental philosophy. *"The earth has been created for me as a mosque and as a means of purification."* [Al-Bukhari I:331] With these words the Prophet (SAW) emphasizes the sacred nature of earth or soil, not only as a pure entity but also as a purifying agent. This reverence towards soil is also demonstrated in the ritual of tayammum, or "dry wudu" which permits the use of dust in the performance of ritual purification before prayer when water is not available. The Prophet (SAW) saw earth as subservient to man, but recognised that it should not be overexploited or abused, and that it had rights, like the trees and wildlife living on it. In order to protect land, forests and wildlife, the Prophet created inviolable zones known as hima and haram, in which resources were to be left untouched. Both are still in use today: haram areas are often drawn up around wells and water sources to protect

the groundwater table from over-pumping. Hima applies particularly to wildlife and forestry and usually designates an area of land where grazing and woodcutting are restricted, or where certain animal species are protected. The relationship of environment with tourism industry is of main focus in this study. The interrelationship between the two concepts – environment and tourism, has received some considerable attention owing to the facts that: (i) human interference with environment has resulted in an ecological imbalance that threatens the comfortable living as well as existence of not only the contemporary human beings but also of the future citizens of the world, and (ii) the placement of most of the emphasis on tourism development through the highest degree of exploitation of natural resources has resulted in eco - degradation. We are indeed a part of nature and depend on it for every big or small requirement. The exploitation of natural resources would mean exploitation of us. In fact the Kashmir valley is very much dependent on tourism than any other state of India. The Himalayas is unique and Kashmir being part of it inherent individuality. In view of the literature (Cohen, E. (1998), Bilal et al 2008, Samira et al 2017 etc) we chose the study area Indian Administered part of Jammu and Kashmir. The present study makes an extensive use of secondary data (in thousands) of pilgrim tourists inflow in the state of Jammu and Kashmir for the period 1989-2012. The state of Jammu and Kashmir (J&K) popularly known as paradise on earth because of its beauty with an area of 222236 square kilometer was unfortunately divided into two parts in 1947. One part of Kashmir is controlled by Pakistan and other part is controlled by India. The political events in the sub-continent that followed partition disfigured the map of J&K state. The present distribution of area of J&K state is given as:

J&K-Distribution of Area

(i) Total Area of J&K State as on August 15, 1947	2,22,236 sq.km.
(ii) Area under PAK (Pakistan Administered Kashmir)	78, 932 sq.km.
(iii) Area illegally handed over to China by PAK	5,180 sq.km.
(iv) Area under illegal occupation of China (occupied in 1962 war)	37, 555 sq.km.

The tourism industry in Kashmir valley relies on natural resources but the same industry has the potential to impact its natural resources in adverse manner. Tourism and the supporting infrastructure that it requires pose threat to the environment particularly forests, water resources and wild life. The aim of this study is to find trade-off solution that guarantees a flourishing tourism industry. Since polluted regions distract tourists, the tourism planner has to take care of the environment at the time of planning. The attempt is made in this paper to address the issue of environmental quality affected by tourism influx .The

focus is on tradeoff between environment and tourism though one being economic and other being social good. This will help us analyze and establish the necessary condition where attaining economic good will not hamper the social good, thus minimize the loss.

II. METHODOLOGY

To examine the trend and predict the tourists inflow regression modeling was used. To identify the best model for a particular time series, generally model

selection criteria R^2 (the ratio of the regression sum of squares to the total sum of squares), Draper and Smith(1982) is used. It is generally considered that the more the value of R^2 , the better is the fit. Other measures like AIC, BIC etc are also used to check the model fitting.

$$\text{MAE} = \frac{\sum_{i=1}^n |y_i - \hat{y}_i|}{n}, \text{RMSE} = \sqrt{\frac{\sum_{i=1}^n (y_i - \hat{y}_i)^2}{n}}, \text{MAPE} = \frac{\sum_{i=1}^n |y_i - \hat{y}_i|}{n} \times 100\%$$

Where y_i and \hat{y}_i are the actual observed values and the predicted values respectively while n is the number of predicted values.

III. REGRESSION ANALYSIS

This is the technique of developing a statistical model, used to predict the value of the dependent variable

The mean absolute error (MAE), the root mean square error (RMSE) and the mean absolute percentage error (MAPE) which are given respectively by the following equations,

by at least one independent variable and $Y = a + bx$. Where, Y is the dependent variable, a is the intercept, b is the slope

Trend Analysis

A linear trend can be obtained by using the least squares method. The line has the equation $y = a + bx$, where $x = 1, 2, 3 \dots$, b = slope of the line, and a = value of y when $x = 0$. The coefficients of the equation, a and b, can be determined with usual notations

$$a = \bar{y} - b_{yx} \bar{x} \text{ and } b_{yx} = \text{Cov}(x, y) / \text{Var}(y)$$

The process of data was done using the standard computer softwares like SPSS version 20 and MINITAB 17.

IV. RESULTS AND DISCUSSION

Kashmir valley is one of the most preferred tourist destinations, both for national and international visitors, which is evident from the constant inflow of tourists.

Tourism is an asset, an endowment of the nature on the state. Unless we are not able to spawn the requisite infrastructure and other facilities of international standards for the tourists, in consideration with the environmental norms, the real benefits will not flow to our people. Service and business classes constitute the largest group of

visitors to the valley with sightseeing and pilgrimage as the major purposes. The principal mode of haulage is road transport. "Contented Tourist" itself is the best tourism promotional method as it is noticeable from our field survey that many tourists visit valley on the recommendations of their friends and relatives. In chorus, the disappointed tourists prove injurious to the interests of tourism industry. The analysis shows that the tourists are attracted mainly by the natural beauty of Kashmir; so under such circumstances the concerned are suggested to take care of the pristine environment, which is the basic stuff of the industry. It is encouraging that tourists visiting Kashmir encourages plays a significant role in encouraging others to visit. The Picture 1 and Picture 2 shows the attitude of authorities towards environmental protection.



Picture 1: Waste present on road side of Kashmir valley



Picture 2 : Improper Hospital Waste Disposal in Kashmir valley

Environmental Effect of Pilgrim Tourism/Tourist

Destinations in Kashmir Valley: Pahalgam A Growing Concern Pahalgam is situated at an altitude of 2,133 meters amidst lofty deodars, fir and pine trees,

junipers and many other conifers. Pahalgam gets lively during the tourist months of the summer, as well as during the weeks before the Amaranth Yatra. The town is at



Picture 3: Heaps of Garbage lying in sensitive areas

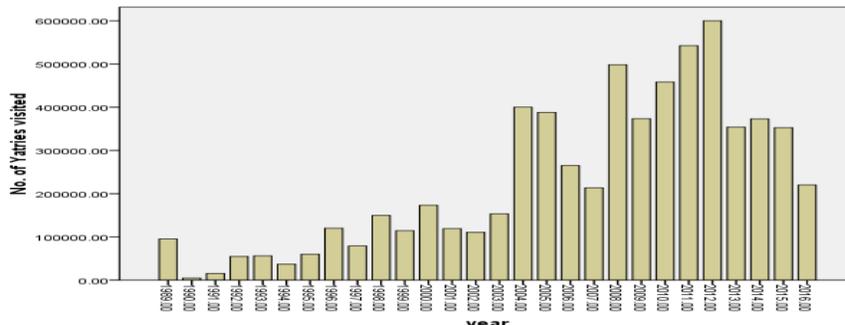
the junction of the Aru and Sheshnag rivers surrounded by, fircovered mountains with bare, snowcapped peaks rising behind them. The Aru flows down from the Kolahi glacier beyond Lidderwat while the

Sheshnag from glaciers of the great Himalayas. According to the mountaineers from Jawahar Institute of Mountaineering (JIM) in 2008, the glacier has receded by half since 1985. The glacier is not safe to study because it

is hollow and in places has 200 foot deep (61 m) crevasses. The sounds of cracking ice can be heard from either side of the glacier, which indicates an imminent collapse. Tourism in Kashmir is of different forms. Pilgrimage tourism, in

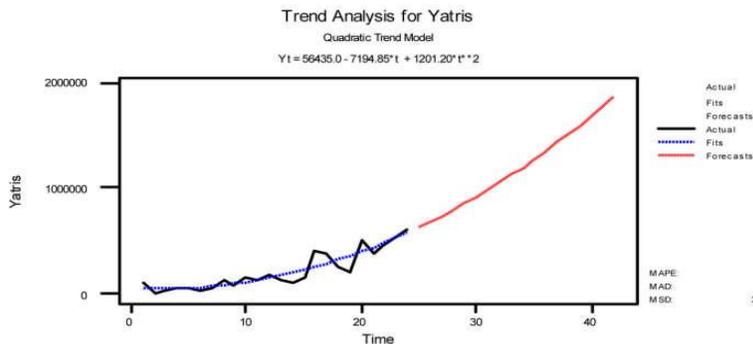
particular, is of most significant forms, which is advantageous as well as disadvantageous for the society of Kashmir. The data presented in Figure 1 shows number of Yatris visiting Kashmir valley.

Figure 1: Number of Amarnath Yatris who visited Kashmir from 1989-2016



The Figure 1, shows that the inflow of devotees visiting the holy shrine have been unremittingly increasing at an alarming rate over the period of time. No doubt there are various fluctuations in the devotees' influx but on the whole there has been a steady increase in pilgrims visiting the Holy cave. The number of pilgrims starts declining after 1989-90 due to turmoil in the valley, but after slight improvement in valley the arrival of pilgrims again picked up due to the joint efforts of agencies involved. The Government and people of Kashmir valley take an initiative to provide various types of facilities and amenities to the Pilgrims for their safety and security. On the whole it is ostensible from the data provided by the

authorities that there has been a terrific growth in the inflow of Pilgrims visiting the valley. Forecasting Yatris arrival is important as it would enable tourist related industries like airlines, hotels, food and catering services, etc., to plan and prepare their activities in an optimal way. From the data it is observed that Yatris arrivals has generally increased over the years and obviously it is not a stationary time series. On the basis of fitting various models as reported in Table 2 using statistical software SPSS version 20, taking number of Yatris visiting as dependent variable and year as independent variable, we forecast by applying a suitable model on the basis of the highest value of Rsquare.



The forecasting is of course based on the assumption that events, like government policy, promotion campaigns, natural or man made events, etc., do not change drastically. The forecasts are given in the Table 2. It is prominent from Table 2 that the arrival will go on mounting as growth will reach to 1484.6. The terrific increase in the limited capacity of the destination is an alarming bell for the valley as a whole. The apex institution of India has recently raised two more points on Amarnath Yatra in the Kashmir valley. One, the most important from study point of view is, how this large

number of people – seven times more than the handling capacity to be specific –had been permitted to visit the cave. It is important that, it should be the effort of the State administration to make the movement of such pilgrims safe for the environment; the environment that should be prevailing in the future to attract the tourists in large. It is obvious that during Amarnath Yatra there is a heavy load on environment due to the increased number of visitors pilgrimages accompanied by a good number of beggars and security personal.

Table 2: Year wise projection of pilgrim tourists into Kashmir valley from 2009-2025

S. No.	Year	Yatris (000)
1	2009	373
2	2010	458
3	2011	542
4	2012	600
5	2013	606.1
6	2014	643.4
7	2015	680.7
8	2016	718
9	2017	755.3
10	2020	1056.2
11	2025	1484.6

V. CONCLUSION

The J&K State Pollution Control Board was created vide order no.34 of 1987 Dt.03.08.1987. (vide SRO 88) under the provision of the Water (Prevention & Control of Pollution) Act, 1974. The Board has been performing its duties assigned to it under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and under the Air (Prevention & Control of Pollution) Act, 1981. Additional responsibilities were assigned to the Board for enactment of Environment (Protection) Act, 1986 (EPA). We have many rules related to environmental protection in J&K on papers. The EPA

had a large domain of regulatory and developmental function in the area of Environment Management which is an umbrella Act and various Rules made under this Act from time to time covering the various facets of Pollution. The present study have expressed concern over the number of people participating in the Amarnath Yatra which is having a negative impact on the area's ecology and to a some extent expressed support for government regulated limits on the number of pilgrims permitted to make the trek. The heavy rush of yatris creates a condition of excessive pollution. The sustained increase in tourist influx to Pahalgam cheers the concerned departments up, but there is something that will soon give a bad taste.



Picture 4: Polyethylene, plastic bottles and other material lying around streams

A study by the directorate of ecology and environment has expressed serious concern over the surging scale of pollution and excessive use of polyethylene carry bags that have choked the streams in

this region. In the earlier times these forests were so dense and that wild animals/birds would be seen roaming in the lanes of old towns especially in the winter season.



Picture 5: Plastic material and other waste material lying at maximum places

According to the Department of environmental Science, University of Kashmir, State pollution Control Board (SPCB) the physio –chemical properties of water quality of River Lidder indicate some parameters exceeding the prescribed permissible standards of IS resulting in significant degradation of water quality. This has created the epidemic threat in the villages dependent on these nallahs for portable water. Our study maintains that although no industry with severe air emissions exists in pahalgam but the inflow of heavy vehicles and all types of two wheelers, four wheeler , trucks, buses, carriage vehicles, passenger vehicles, yatri load carriers, armed force convoys, building material carriages, carriages transporting tents etc. is disturbing the eco balance of the place. In view of the environmental concerns, the Government of Uttranchal has restricted the number of pilgrims visiting Gomukh and other Gangotari glaciers, the origin of the holy river Ganga to only 150 per day, while in Kashmir per day 20,000 the Amarnath yatris are allowed for Darshan near Kolihi Glacier which is a colossal source of drinking water for residents in south Kashmir. According to the surveys done by various environment and ecological departments, the Kolahai glacier has shrunk by 18 percent during the last three decades. Pumping of a millions of Pilgrims to Amarnath will vandalize the fragile

environment of Kashmir as the number of Pilgrims is much more than the assimilative or carrying capacity of the place. The ecosystem is a delicate phenomenon that cannot be thrown open to wanton exploitation or abuse. Preserving biodiversity in an area of increasing biodiversity erosions is not an option today; it is rather a necessity for a sustainable tourism development agenda. Given the huge environment issue related to it, the Amarnath Yatra should never be looked through the political prism but must be acknowledged as an economic activity which producing output that adds to environment pollution. The present method being adopted for disposal of solid wastes at Pahalgam is of serious health concern, particularly during rainy season and high humidity conditions. The landfill sites, which are not well maintained, are prone to ground water contamination due to leachate percolation. Open dumping of garbage serves as breeding ground for disease. Strategies for better Environment Management are only beginning to see the light of the day. On one hand local authorities are incapable of handling the additional burdens of the floating population due to the lack of resources and on the other hand most Religious institutions which benefit directly from offerings made by Pilgrims, as well as local business are not contributing to improve the environment.



Picture 6: A good number of Beggars are accompanied to Yatris

We have no right to destroy our nature in the name of any religion. PM Modi talks about Clean Indian Drive (Swatch Bharat Mission) but no funds are provided to J&K Government for making Amarnath Yatra clean and *swatch*. Hardly we see the Shrine Board inviting tenders from registered firms doing work on Solid Waste Management in a scientific and approved way. It is seen that contractors who are allotted the sanitation work hardly know the basic techniques like segregation and composting of solid waste which is very much essential. Let SASB invite suggestions for making Amarnath yatra eco friendly from next year. We can jointly find out some scientific mechanism which can control this messy situation in future. Tourism is the lifeline of Jammu & Kashmir and all possible efforts need to be undertaken for retaining, maintaining and sustaining it. According to one estimate,

30 percent of the J&K states population is directly or indirectly connected with the tourism industry so it is important that Kashmir issue may be solved peacefully as it is because of this lingering issue millions of people are facing immense hardships and a state of uncertainty and instability. Tourism has a great potential in Kashmir and if tapped in a right direction Kashmir will be a new Switzerland. The forecasting will help government to plan the future strategies to meet the environmental as well as other challenges. Tourism Policy needs to be developed for the state to be able to attract more tourists both domestic as well as foreign. To conclude, the environmentally conscious friends and religious people can help government in planning for the future strategies to meet the environmental as well as other challenges.



Picture 7: Tents visible on glaciers

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