PERCIEVED ENVOIRNMENTAL IMPACTS OF TOURISM: A CASE OF HARIDWAR, UTTRANKHAND

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Abstract

Tourism is rapidly growing industry in India and has numerous promises for economic and socio-cultural development. But the on environment, tourism development at mass level has emerged as tool of pollution. The same is true with Haridwar which is well known pilgrimage destination situated in Uttrakhand.This study aims to examine perceived environmental impacts of tourism industry. Responses collected through structured questionnaire were analyzed by factor analysis and linear regression. Out of five extracted, the factor with highest variance was pollution and shortage of water in city.

Keywords: Environmental Impacts, Perceived, Tourism, Haridwar

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Introduction

Tourism is considered a significant industry for economic development of India. With 6.5% GDP contribution, the industry has created numerous economic activities from tourism flow. Tourism has proved its important role in development of rural, hilly and other remote areas. Uttrankhand, a hilly state of India emerged as full-fledged state in 2000.The state has huge inventory of tourism resources. Pilgrimage tourism has wonderful scope because state has a no. of most sacred places of Hindu religion. Haridwar, one of the important pilgrimage cities is situated on bank of river the Ganga. The city is one of the four sites of where drops of Amrit, the elixir of immortality spilled over by celestial bird Gruda .After every 12 years KumbhaMela is celebrated here and this attracts millions of devotees, tourist and pilgrims. Haridwar strategic location close to Rajaji National Park, Corbett national park and foothills of Himalayas makes it a perfect destination for wildlife and adventure lovers. The city with population of 295213 has more than 70% literacy rate (Census, 2011).It has more than eighteen attractions of various tastes. Perennial flow of tourist flocks to city has come with a no. of tourism impacts. The most visible outcomes are in form of environmental impacts. These changes are well documented and studied in details for other surrounding states like Himachal Pradesh (H.P.) Like Khosla P.(1998) in his study "Himalayas facing ecological disaster" clearly stated that rapid expansions of tourism in HP has led deforestation. The road constructions have increased hill slopes instability, pollution of water and air, soil erosion etc. Rao (1998) highlighted presence of food cans, plastic carry bags and other non degradable materials left by tourists, trackers and others has raised the heights of wastages' heaps in this region. Lohuni (1998) in his study concluded that industry has become a serious threat to environment of Manali which is a popular tourist resort of area. Further at global level Butler (1980), Glasson et. Al (1995) and Prosser (1994) have warned the tourism planners by stated that "Tourism has the seed of its destruction". Uncontrolled constructions, insufficient infrastructure, unplanned urbanization, damage to wildlife and local environment, air and water pollution are some of results of overuse of resources. The industry can kill itself if not planned well specially in highly eco-fragile areas like Uttrankhand and same is true for Haridwar. Survey literature conducted by researcher found no study related to environmental impacts of tourism on city. The present study aims to investigate the perceived environmental impacts of tourism on Haridwar and tries to fill this gap in literature.

Research Methods

The study is based upon primary data and uses a scale of 15 items in form of structured questionnaire which was tested with Value of cronbach alpha (0.7673). The scale was also translated in Hindi for respondents' conveniences. The perception of respondents was measured with the help of likert scale. The five point scale was used (1=strongly dissatisfied, 2= dissatisfied, 3=uncertain, 4=satisfied and 5=strongly satisfied).A total 180 respondents from city were contacted and 143 responded positively. The response rate was 79.44% and well represented the population. The demography profile of the respondent is given in table 1

Table No. 1 Demographic Profile of Respondents (N=143)

	Number	%
Gender		
Male	81	56.64
Female	62	43.36
Age		
15-25 years	68	47.55
26-35 years	39	27.27
36-45 Years	28	19.58
Over 45 Years	8	05.59
Education		
Illiterate	18	12.58
Secondary	33	23.07
Senior Secondary	37	25.87
Graduation	40	27.97
Post Graduation	15	10.48
Occupation		
Shopkeepers	53	37.06
Students	21	14.68
Employees of Tourism	9	06.29
Industry	7	04.89
Auto Drivers	7	04.89
Rafters	10	06.99
Police and Security Personals	46	32.17
Others		
TOTAL	143	100

Factor Analysis

Present study used factor analysis in order to make groups of variables for investigation of underlying dimensions of environmental impacts of tourism perceived by residents of Haridwar.KMO measures and Bartlett test shown in table 2 has verified the relevance of technique used for data analysis.

Table 2

Table No. 2 KMO measures and Bartlett test to examine the relevance of test

	Bartlett Test of Sphericity	
KMO	Approx. Chi-Square	Sig.
0.712	511.406	.000

The correlation and linear regression between selected variables and residents' perception of environments impacts was also used to examine whether there exists any significance difference.

Discussion

Table 1 indicates demographic characteristics of the sample. Man and woman are almost equally distributed. Respondents in age groups 15-25 years (47.55%), 26-35 years (27.27%), 36-45(19.58%) and above 45 years (05.59%) and more than 77% are educated.38% of the respondents is with graduation and post graduated degrees. Further profile indicates that 37.06% shopkeepers, 14.68% students 32.17% from other sector of economy respondents participated in our study.

Factor analysis technique was used for examining the underlying dimensions. KMO value 0.712 makes factor analysis technique suitable for analysis. The objective behind this analysis is to make grouping of variables into factors based upon relationship between them. Table no. 3 shows that five factors have been extracted from present data base. These five groups are with 62.506% of cumulative percentage of variance. Only the factors with Eigen value equal to or more than 1were included for interpretations.

Table No. 3 -Number of extracted factors, Eigen values and variance explained by each factor

Factors	Eigen value	% of Variance	Cumulative % of variance

1	3.697	24.650	24.650
2	1.789	11.926	36.576
3	1.595	10.630	47.206
4	1.250	8.334	55.540
5	1.045	6.966	62.506

The analysis technique categorized the variables into pollution and shortage of drinking water, infrastructure development and natural calamities, Destruction of environment,loss of wildlife and forest and last factor with single variable was plantation of foreign plants. Factor loadings of each variable after varimaxrotation is shown in table no. 4

Table No. 4 Factor Analysis with Varimex Rotation

Factor	Items/Variables	Factor Loading
POLLUTION AND SHORTAGE OF DRINKING WATER	Problem of Potable Water	**.598**
	Air Pollution	**.816**
	Noise Pollution	**.728**
	Water Pollution	**.577**
	Overuse of water	**.679**
INFRASTRUCTURE DEVELOPMENT & NATURAL CALAMITIES	More private vehicles	.823
	Natural calamities	.534
	Infrastructure Development harmed environment	.707
DESTRUCTION OF ENVIORNMENT	Reduction in Vegetation Coverage	.800
	Ineffective systems for Air Pollution control	.460
	Destruction to wildlife	.654
LOSS OF WILDLIFE AND FOREST	Encouragement to protection of Wildlife	.572

	Tourism reduced forest coverage area	.747
	Protective measures for wildlife	.726
FOREIGN PLANTS	Plantation of foreign plants	.857

Linear regressions for investigation of respondents' perception related to environmental impacts of tourism in city were used and table no. 05 revel the results. The predictor variables were age, sex, education and profession. Respondents' perception was taken as dependent variable.

Table No. 05 Demographic differences in Resident Perception of Environmental impacts

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.108	.208		14.930	.000
	AGE	.035	.060	.060	.576	.565
	MALE	-.022	.105	-.021	-.209	.835
	EDUCATION	.007	.047	.014	.147	.884
	PROFESSION	.015	.020	.074	.771	.442

a. Dependent Variable: PER

Results

Using the structured questionnaire, study is modest effort to understand the residents' perception about tourism development in Haridwar. The analysis suggested five factor solution and factors were-pollution and shortage of drinking water; infrastructural development and natural calamities; loss to wildlife and forests; destruction of environment and plantation of foreign plants. The most important factor was pollution and shortage of drinking water with 24.5% of variances while plantation of foreign plants (7.1% of variance) was found as least preferred.Results indicate that development of tourism industry in city is perceived harmful for locale environment. Recommendation can be that plannersshould adopt any other alternate form of tourism instead of mass tourism for Haridwar for sustainable development of industry

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