

# Impact of Tourism Development on Physical Environment: A Study of Gujarat

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**Abstract:** *Contemporarily, tourism is seen as a tool for regional development as it stimulates the economic growth of the region in question in various ways. The ability of tourism in exhorting positive impact on the society and economy of a region is, of course undeniable. Exposure to tourists from far and near, tends to influence the mind-set and attitude, traditional and dogmatic social rules, customs and practices, demand for enhancement in the standards of education, adoption of healthier and hygienic practices among the host population and creation of suitable health, transport and hotel infrastructure at the tourist center, leading to overall social transformation and human development. The economy of the center tends to get diversified and provide varied employment opportunities to the host population, bringing in improved economic standards of living, increased gross income and production, and balance of payments. The negative impacts of tourism cannot, however be overlooked, particularly in case of the developing countries like India, where management of resources is yet to match with that of the developed countries. Unplanned and uncontrolled growth of the tourism sector results in the deterioration of both physical and human environmental quality, particularly in areas of nature or historical and cultural heritage based tourism activity. Actually tourism satisfies the desire of people for adventure and thirst to discover places of natural, historical and cultural significance. The value of these places is threatened by teeming visitors who seek to explore them. For the purpose of attracting tourists, artificial environment is created making alterations in the physical environment, which in turn brings in changes in the behavior and skill of the host population. The huge inflow of people from outside creates infrastructural crisis, which impels the residents and the tourists to overuse the available resources. Lack of or insufficient public utility services prompt the tourists to depreciate the quality of the environment. Overcrowding leads to increase of socio-economic crisis with thriving crime rates at most of the destinations.*

**Keywords:** Environmental quality, Human development, physical environment, Infrastructure

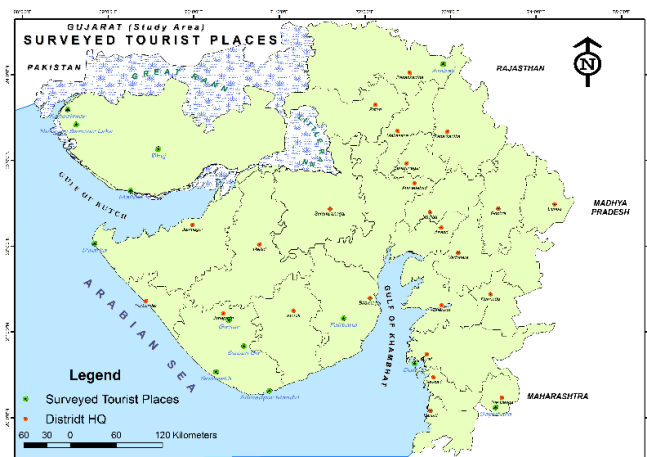
## 1. Introduction

### 1.1 Study Area

The study area is one of the most important industrialized States in India situated on the westernmost flank of the Indian Peninsula, spread over 1,96,024 sq km area. The latitudinal and longitudinal extension is in between, 20° 02' N and 24° 39' N and 68° 10' E and 74° 37' E [1] respectively. Climatically the study area lies between two extremities i.e. tropical arid and maritime oceanic humid. On tourism point of view the area is well suited for tourism attractions. However, for tourists it is advisable to visit during the October through March. Forests and hills of Vindhya, Satpuras & Sahyadri [2] lie on the eastern & South Eastern borders enriches the beauty of region, while mount Abu and the outliers of Aravalli range forms the border in the north & north east.

### 1.2 Literature Review

The paper includes the various studies done by researchers and experts. My work has been reviewed under following scholars. Alister & Wall (1982) [3], has elaborated that uncontrolled growth of tourists & related industry proves unfavourable impacts on physical environment. Cooper, Featcher, Gilbert & Wanhill (1993) [4], advocate that tourism impacts turns more towards negative impacts, strongly on host community. In my study it is worth to mention that the impact of tourism on physical environment as a case study in Gujarat state has not been done by anyone till my knowledge, so this research is the original work of the researcher.



### 1.3 Objectives

The present study has been carried out to study the:

- Contemporary issues, practices and future changes and challenges in present tourism development policies.
- Trends in tourist traffic inflow and its impact on physical environment in the study area.

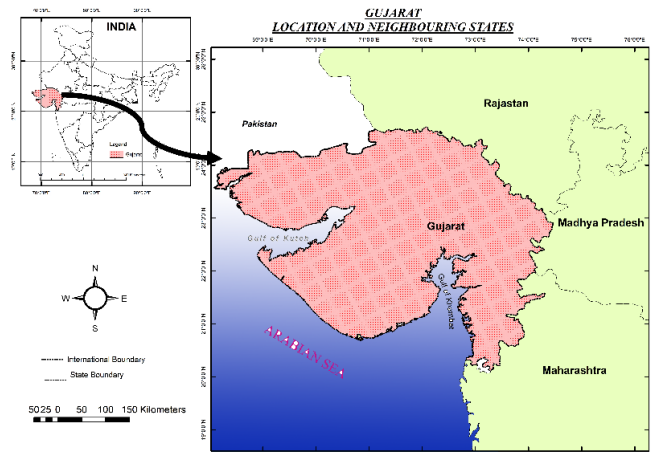
### 1.4 Data Collection and Methodology

The study was designed to collect data on the impact on physical environment, the questionnaire, field observation & interview method has been adopted. Statistics pertaining to the impact procured through primary sample survey (direct/indirect personal interviews), interaction with private and government tourist operators (agents, government officials, guides) and also to professionals of various hotels,

lodges & resorts. For the purpose the local, inter-state (domestic) & international (foreign) tourists has been interrogated to meet the objectives. A total 10 tourist centers have been identified for the purpose and total of 400 questionnaires (40 at each centers) were administered at random to various aforesaid heads. The data obtained were analyzed by putting responses on 7 point Likert's scale. The present exercise is based on the views of both the host and tourist population on the environmental quality due to tourism activities and the present and expected problems in the area. For the purpose, ten selected tourist spots from different parts of the State have been studied. This present research work is vary by its nature & is based on extensive field survey & available secondary sources in both digital and non-digital forms. The study clearly reveals incessant degradation of the physical and cultural milieu at all the tourist centers, and raises questions pertaining to the sustenance of tourism activity and the environment at these centers. The paper also deals with the strategies and policy measures for sustainable tourism in the State.

1.5 Introduction to Study Area

Gujarat has some adorable physical backgrounds such as rare wildlife, including the Asiatic lions, wide variety of sceneries from vast salt marsh and desert in the northwest, irrigated green fields in the southeast, and some first-class beaches in the southern part of the state. Cultural background is not too less like, fascinating and idiosyncratic architecture, exquisite crafts, religious & sacred places. It will be worth to say that Gujarat is one kind of land of travellers.



It is quite pertinent therefore that the study of the positive and negative impacts of tourism phenomena will open up new arenas of development. An attempt is made in the present exercise in this direction with reference to Gujarat. Being a 'Jewel of the West', Gujarat is known for its natural beauties, sceneries, beaches, splendid shrines, temples, parks and gardens and so on. Recent marketing policies and concerted efforts have placed the state of Gujarat in general and a few places in particular, among the top destinations of the country. An attempt to study the impacts of tourism on the environment of any area would involve the assessment of changes and consequences in the physical as well as cultural aspects over time. For the purpose, collection and generation of data pertaining to appropriate elements of both the

environments becomes inevitable. Much of course depends on the availability of such data, which is generally not an easy affair. One of the ways out is to make an attempt through the evaluation of perceptions of the population involved.

2. Results and Discussions

The table below shows that the tourism in Gujarat state has shown not much positive impact on physical environment while negativity seems more dominant as per the perception opined by the residents, shopkeepers and tourists over a space and time. Total 13 parameters have been selected to understand the impact. Later measured on seven point Likert's scale [5] – a psychological measurement device that is used to gauge attitudes, values and opinions.

Table I: Indicator shows Negative Impact of tourism on Environment (in%)

S N	Physical Impact (Indicators)	SD	MD	D	Undecided	A	MA	SA
1	Over Crowding and Congestion	1	8	4	0	18	41	28
2	Increase Noise and Air Pollution	0	0	24	0	41	29	5
3	Strain on Public Utility Services	11	3	2	3	39	21	21
4	Good Quality of defecation facility	22	24	16	1	12	13	13
5	Need of Separate Place for Parking	0	0	0	0	5	47	48
6	Problem in pure and Adequate Water Supply	3	7	11	0	34	29	16
7	Development in Basic Infrastructure	16	17	29	0	22	9	6
8	Cleanliness	11	23	32	0	22	9	3
9	Increasing Water Pollution	0	3	6	9	27	47	6
10	Good Quality of Sewage and Garbage Disposal	15	28	25	1	20	8	2

Table 2: Indicator shows Positive Impact of tourism on Environment

SN	Physical Impact (Indicators)	SD	MD	D	Undecided	A	MA	SA
1	Improved Road Conditions	6	6	19	0	29	17	22
2	Increased in The Number of Hotels/Dharmshalas	5	2	5	2	14	22	49
3	Good Road connectivity	0	1	11	0	57	28	3

2.1 Indicator shows Negative Impact of tourism on Environment

Negative impacts from tourism occur when the level of visitor use is greater than the environment's ability to cope with this use within acceptable limits of change [6]. The Table-I indicates general perception of the residents and tourists towards the pressure of population in terms of over-crowding & congestive stage of the tourist place. 41% of

tourists are moderately agree and say they don't feel much about congestion but as compare to earlier yes population has grown up tremendously. 28% are strongly agreed about haphazard increase of population in last ten years. They find it become more congestive not only because of growing population but also increasing number of vehicles which every time turned to worst use of physical infrastructures. Conversion of roadside houses into hotels & restaurants make road chaotic due to less preference of parking places at most of congestive religious tourist places. Overall 69% of resident agreed upon population increase and they credit it to tourism expansion at the centers. Very little %age of resident were in dilemma and did not provide proper answer and little disagreed on over-congestion.

The second indicator attempted to inspect the impactful perception of residents towards increase in noise and air pollution. This analysis is fully based on towards their perception & it has nothing to do with the actual level of air / noise pollution prevailed over there. 41% of residents were agreed upon upsurge in noise and air pollution (however the answers might be based on the increasing level of irritation). Increasing number of vehicles create unnecessary nuisance and sometimes the visibility becomes too low. 29% of them were moderately agreed upon rise in the level of pollution. Only 5% are strongly accepted deterioration in quality of air. Overall, 3/4<sup>th</sup> of enquired residents were agreed on the negative impact. Approximately <1/4<sup>th</sup> didn't shown any negative perception.

Almost 81% residents strongly agreed upon mounting strain on public utility services & become one of the utmost problem faced by the tourists. The services like toilets, bathrooms, telephone booths, clean & pure free drinking waters & so on were included in questioning. Most of these facilities either not present or if are in desecrated condition. However, the mobile and internet facility is found almost at all shops but still the basic requirements are lacking at the spots. The quality of product and constructions are not up to the mark. Even the Gujarat tourism information centers are not in good conditions and useless since most of the times it is closed. Some private organizers are running these facilities but on towering charges. 16% did not made any negative comment on this issue, while 3% did not responded.

The poor facility of toilets and defecation facilities are one of the biggest problems faced not only by residents but also tourists surveyed. Few are there but always stinking and once in a month or 15 days it is cleaned. Lacks of sweepers are the main problems pointed by the residents. However, if they are appointed thought government are not working properly. 62% of respondents were strongly agreed upon stinking of toilets and bathrooms and pointed on immediate need of defecation facilities. Many a times complaint was done but no response in turn was received. Except at Palitana most of the tourist places were full of garbage with bad conditioned toilets. Private organizers provide facilities on robust charges. 37% did not responded negatively at all on these issues. They have given contradictory answers for these problems.

Water especially fresh drinking water is mostly overused at most of tourist destinations. Rise in tourists, demand greater supplies of water for drinking purpose. Issue of water scarcity is of particular concern because hot and dry climate impel tourists to have more water than they do at home. 34% of tourists were agreed upon the issue of pure and adequate water supply. Overall, 79% of residents having positive response towards problem faced in pure and adequate water supplied. 21% of them were showing negative response towards above mentioned issues. No hesitation were mentioned in mentioning about deteriorating water quality day by day (based on taste & smell) & 81% of tourists were agreed upon rising problem of water pollution. This problem is felt uppermost in the coastal areas. Mostly, the economy class tourists are facing unaffordable hike in the cost of water bottles day by day.

The separate place of parking is disparately needed at most of the crowded tourist places. 95% of all were in favour of immediate need of separate place of parking mostly for luxury buses and cars. If they are, not in a good condition. During the survey it was observed that all vehicles were placed alongside the roads.

There is a strong relationship between population growth and need of infrastructural development. Both the quality and quantity of infrastructures are declining in all study area except at Palitana. 62% of the respondents were disagreed upon easy availability of needing infrastructure at destinations. 38% of them were on positive side and indicated no such crisis.

68% of them answered about bad conditions of streets and roads. The garbage materials were not properly disposed. Many a times the sewage water gets choked up and overflowed. However this condition was not same everywhere and received positive response towards sewage managements. During survey the Palitana is the only place where the surveyor had received quite positive response as compare to other destinations.

Quality of cleanliness is one of the good indicator tourists like most. This is the first and last impression a tourist experience at any destination. 66% of residents denied the good quality of cleanliness. According to them this is the worst service they are facing since tourists have started arriving there. General public chews tobaccos and spitting here and there which stink during seasons. 34% of them were happy with the level of cleanliness and they don't bother about this issue.

## 2.2 Indicator shows Positive Impact of tourism on Environment

*Table-II* indicates about resident perception towards quality improvements in road conditions. 68% of residents were strongly happy over improvement in road conditions. Many tourists viewed that they have not seen such good quality of roads. Good road conditions make easy and efficient transport developments. However, in terms of width there was some disagreement observed. However, 32% of residents were against this improvement & viewed all



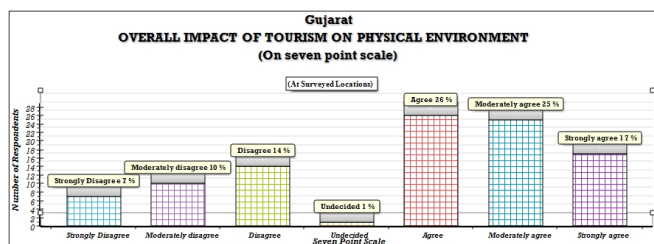
weather roads could have been better especially during monsoon. Overcrowding of Lorry's & vendor sometimes creating chaos and people face difficulties through passing thereby.

Peoples were positively responded towards increasing number of hotels/resorts/ Dharmshalas which seems positive growth towards tourism growth of that particular area. 49% of them strongly agreed upon high growth of means of accommodations. Except Narayan Sarovar/ Koteshwar almost at all places the researcher has got positive response. Over 80% of residents agreed upon overwhelming rise in hotel industry. However, most of these are dormitories, motels, one or two star hotels.

Overall 88% of residents said that they are happy with the road connectivity. 12% of resident were not agreed on good road connectivity. They think government has constructed road only for tourists easiness while for them to perform goods servicing to other locations become difficult due to increase in distance and simultaneously the cost.

**Table III:** Seven Point Scale Measurement of Overall Impact of Tourism on Physical Environment

Physical impact							
Seven Point Scale	SD	MD	D	Undecided	A	MA	SA
Parameter	-3	-2	-1	0	1	2	3
Total tourists	7	10	14	1	26	25	17



The diagram based on *Table-III* is being prepared to analyze the total impact of tourism on physical environment. It is clear that except 1% of residents, all of them have expressed their views on impact of tourism on physical environment. Overall, comparatively the 68% of residents agreed that tourism has greater impact of physical environment while remaining 31% said there is not much impact seen over physical environment.

### 3. Conclusion

Finally, after a study of different perception of the residents it can be said that physical congestion experienced very much at the destination. Congestions increase demand for natural resources and also contributes to source of solid waste residual which creates the problem of air, water and noise pollution, degradation of environmental factors (quality of cleanliness), growth and development of hotel accommodation, problem of parking, pure and adequate water supplies, strain on public utility services, restaurants, recreation & other required basic infrastructure facilities. Side by side it has some positive impact on road & communication infrastructure such as improvement in road

connectivity and efficiency, maintenance of holly places, beautification of tourist places and overall improvements in general community residing there. Generally arrivals of mass tourists during in season is a great deal of waste such as plastic bottles, bags, cups, garbage, food wastage and so on, degrade the environmental quality. Physical appearances are the first and last impression experienced by tourists at the destination, so, there is an immediate need to maintain the quality and quantity of related infrastructure.

The basic problems residents acquainted with high range of cost of stay that is tenfold rise in peak season as compare to the off season. During of in-season, sometimes it becomes not affordable for a normal tourist. This can make a negative impact on tourism growth. 3% of residents were not agreeing on increase of hotel industry at the tourist center (might be because of conversion of homes into hotels).

This study indicates the future prospect of tourism development in the aforesaid areas as the situation is not very good. Geographers & Environmentalists, could look contribute much in these areas as this phenomenon close to it. If policymaker could look towards major areas of physical infrastructure & maintenance Gujarat could be competitively at better position.

### References

- [1] Desai, Anjali H (2011) *"India Guide Gujarat"*, edited by, published by India Guide Publications, *ISSN 978-0-9789517-2-6* pg.-17.
- [2] Mathur, U.B., (2005), *"Quaternary Geology, Indian Perspective"*, Geological Society of India, Bangalore, pp. 243.
- [3] Alister Mathieson & Geoffery Wall (1982), 'Tourism: Economic, Physical and Social Impact', Longman, London & Newyork.
- [4] Cooper, Featcher, Gilbert & Wanhill (1993), *'Tourism: Principles & Practice'*, Trans-Asiatic Publication, Philadelphia, Journal of Travel & Research.
- [5] Bucci Hilary, (Feb. 2003), *"The Value of Likert scales in measuring attitudes of online learners"*.
- [6] Ugur Sunlu, (2003), *"Environmental Impacts of Tourism"*, Ege University, Faculty of Fisheries, Department of Hydrobiology, Bornova/Izmir, Turkey, pg-263.

### Author Profile



I am **Dr. Pawan Kumar Shukla**, did my schooling from Jublee inter College, Lucknow, Uttar Pradesh. For further study I came to Gujarat & did my graduation & post-graduation from Department of Geography, Faculty of Science, The Maharaja Sayajirrao University of Baroda, Vadodara. I cleared my CSIR-UGC joint NET from Earth sciences in June 2010. Later I completed my PhD on Tourism subject in 2015 from the same university which is Accredited 'A' by NAAC. In between I wrote and published 7 research papers at national and international level online/offline journals with ISSN number. My four research paper published in edited books with ISBN number at national level. I having more than 15 years teaching experience in the same department as I joined since December 2004 to date as Temporary Assistant Professor. I am also member of IAAPC, IIG & DGSI.