

Sustainability of Tourism in India: Perception of Tourists on Delhi Tourism

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Abstract - This research paper attempts to examine the impact of tourism on economy, environment, and socio-cultural aspects of Delhi and explores how Delhi incorporated sustainable tourism development as the core mission to achieve economic, environmental, and socio-cultural development of tourist destinations. This research paper also examines the environmental, economic, and socio-cultural sustainability of tourism development in Delhi. A primary research was conducted at various tourist destination in Delhi for evaluating the sustainability of tourism through the questionnaire survey. A data set consisting of 141 responses were generated. The factor analysis provides rare insights on the factors, which lead to sustainability of tourist destinations in Delhi. Research findings establish that the resource management, pressure on resources, local empowerment, environmental management, socio-cultural unsustainability, tourism governance, destination management, sustainable tourism promotion, local community participation and anti-social activities are the important factors, which affects the sustainability of tourist destinations in Delhi. As this research paper provides comprehensive and scientific evidences about the environmental, economic, and socio-cultural impacts of tourism development in Delhi, the research findings can guide the government agencies, tourism operators, hotels and restaurants, and NGOs while formulating and implementing tourism policies.

Keywords: Sustainable Development, Economic Sustainability, Environmental Sustainability, Socio-cultural Sustainability.

I. INTRODUCTION

The tourism industry is world's largest and rapidly growing segment of the economy. It is considered as an engine of economic growth in both developed and developing countries. Tourism industry contributes precious foreign exchange, generates employment, and helps infrastructure development and alleviation of poverty. However, the inconsiderate tourism development brings about disastrous implications on the economy, society, and environment of tourist destinations. Sustainable tourism has emerged as the most comprehensive approach to achieve sustainable development and mitigate the adverse impacts of tourism. The World Tourism Organization (WTO) defines sustainable tourism as "sustainable tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, and biological diversity and life support systems". It emphasizes the balance between

environmental, social and economic aspects of tourism; the need to implement sustainability principles in all segments of tourism; and global aims such as poverty reduction. Achieving sustainable tourism is a continuous process and it requires constant monitoring of impacts and introduces preventive and corrective measures whenever necessary. (Page, et al (2003), Mowforth and Mount (2009), Hall and Richards (2003), Reddy and Wilkes (2013))

Tourism development in India is at crossroads. Lopsided planning and haphazard implementation of tourism plans have brought a plethora of problems and issues, which challenge the economic, social, and environmental existence of the destinations. Tourism is primarily driven by the private sector, with a multiplicity of stakeholders where size ranges from micro-enterprises to large transnational corporations. Interaction between all these players along with tourists and local communities determine the overall impact of tourism on the environment. The Central Government and State Governments play a critical role in determining sustainable tourism policies and introducing legal enactments

surrounding sustainable tourism. Through positive intervention, the governments have to create an environment that enables the private sector to operate more sustainably, influence the pattern of visitor flows and behaviours to optimize the impact of tourism. National Tourism Policy, Incredible India campaigns, Millennium Development Goals (MDG), Bharat Dharshan and Atithi Devo Bhava campaign are the manifestations of sustainable tourism development in India. India has endorsed the principles and guidelines on sustainable tourism formulated by various international conventions and declarations. Government of India introduced eco-tourism in India. The Ministry of Tourism designed and implemented a comprehensive "Sustainable Tourism Criteria for India (STCI) and Indicators for Tour Operators and the Accommodation Sector".

Globalization has brought about enormous challenges and opportunities for the tourism industry. Tourism involves a complex and dynamic interaction between destinations and various stakeholders representing contradicting and conflicting interests, which exerts profound impact on the economy, ecology and society. This complex interaction has widened the horizons of tourism management as a discipline and has opened new vistas and dimensions to the research that can lead to better destination management for achieving the social, economic, and ecological sustainability. In this research paper, Delhi has been identified as a heritage tourism model, which represents Indian tourism. This study attempts to examine the impact of tourism on the economy, environment and society of Delhi. It will also explore how Delhi has incorporated the sustainable tourism development as the core mission to achieve economic, environmental, and socio-cultural development of tourist destinations.

1.1 Objectives

The broad objective of this research paper is to examine critically the policies and programmes followed by tourism industry in achieving sustainable development. The following are the main objectives of the research paper: -

- Study the impacts of tourism on economy, ecology and society of Delhi,
- Examine economic, environmental and socio-cultural sustainability of tourism development in Delhi,
- Find the factors affecting sustainability of tourism in Delhi
- Suggest measures to make tourism development more sustainable.

1.2. Research Hypothesis

Based on the objectives of the research projects we have formulated four alternative research hypotheses. These are stated as follows: -

- Governance mechanisms directly contribute to sustainable tourism development,
- Tourism development directly contributes to economic sustainability,
- Tourism development directly contributes to environmental sustainability,
- Tourism development directly contributes to socio-cultural sustainability of tourist destinations.

II. RESEARCH METHODOLOGY

2.1 Sample, Sample Design and Research Methods

This research paper examines three aspects of sustainable tourism development: economic, environmental and socio-cultural sustainability. A primary research has conducted for evaluating the sustainability of tourism based on the questionnaire survey conducted at different tourist places in Delhi and prepared a database consisting of responses of 141 tourists. The paper has identified and selected 36 attributes of sustainable tourism development representing four pillars of sustainability: economic, environmental and socio-cultural sustainability and tourism governance. A five point Likert scale is used to evaluate each variable based on the following scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree. (Punch (2005)) In this research, 36 statements are developed for collecting data from respondents based on the tourism governance, economic, environmental and socio-cultural sustainability.

2.2 Multidimensional Statistical Analysis - Factor Analysis

The multidimensional statistical analysis – factor analysis based on principal component analysis (PCA) identifies the underlying dimensions of the perceived variables of sustainable tourism development. The Principal Component Analysis (PCA) linearly transforms the original dependent variables into new uncorrelated variables called principal components, which summarize the information on dependent variables and arranges them according to their contribution to the explanation in the total dispersion of the observed variables. The varimax rotation is used to maximise the differences among the components extracted and to maintain the correlation among the components.

2.3 Variables of Sustainable Tourism

Tourism Governance: This research paper has identified 8 variables for examining how tourism plans and tourism governance system ensure sustainability of tourism in Delhi.

- **Tourism Plans:** Tourism plans, policies and programmes encourage tourism.
- **Safety and Security:** Government ensures safety and security of tourists.
- **Legal System:** Efficient legal system exists to deal with the violation of rules and regulations related to the tourism sector.
- **Emergency Mechanism:** Effective and efficient mechanism to deal with emergency situations.

- **Managed Tourist Destinations:** Effective planning and management of tourist destinations including temples, churches and mosques, national parks, wildlife, sanctuaries, coastal zones and natural heritage sites.
- **Positive Behaviour of Officials:** Tourism officials maintain friendly attitude and positive behaviour towards tourists.
- **Local community Engagement:** Local community is consulted and engaged in the formulation and implementation of the tourism plans and policies.
- **Tourists Follow Sustainable Tourism Practices:** Tourists follow sustainable tourism practices.

Economic Sustainability: This research has identified 5 variables to examine the economic sustainability tourism development in Delhi.

- **High Inflation:** Tourism inflates general prices of goods and services, housing and properties.
- **Employment Generation:** Tourism increases employment opportunities.
- **Prefer Locally Made Products:** Tourists prefer locally made products to imported products.
- **Poverty Reduction:** Tourism reduces poverty and improves standard of living.
- **Trained Guides:** Guides and tour operators are properly trained and skilled.

Environmental Sustainability: We have identified 15 variables for examining the environmental sustainability of tourist destinations in Delhi.

- **Pressure on Water:** Tourism puts pressure on water resources.
- **Pressure on Air:** tourism puts pressure on quality of air.
- **Pressure on Land:** Tourism puts pressure on land.
- **Pressure on Transportation:** Tourism increases pressure on transportation infrastructure.
- **Pressure on Natural Vegetation and Wildlife:** Tourism puts pressure on natural vegetation and wildlife.
- **Waste Generation:** Tourism generates huge amount of waste in the destinations.
- **Water Management:** Effective and efficient management to mitigate pressure on water resources.
- **Mechanism to Reduce Air Pollution:** Proper Mechanism to Mitigate the Air Pollution.
- **Land Management:** Effective and efficient management to reduce the pressure on land.
- **Transportation Management:** Effective and efficient management to mitigate pressure on transportation.
- **Management of Natural Vegetation and Wildlife:** Effective and efficient mechanism to reduce pressure on natural vegetation and wildlife.

- **Waste Management:** Waste disposal and recycling is effectively managed in the destinations.
- **Environmental Education:** Government promotes environmental education.
- **Energy Conservation:** Government encourages sustainable consumption of conventional and renewable energy.
- **Local Community Management of Environment:** Active contribution of local community in the environmental management.

Socio-cultural Sustainability: In order to examine the social-cultural sustainability of destinations in Delhi this paper has identified 8 variables.

- **Preserve Social Heritages:** Tourism preserves and promotes the social heritages such as historical monuments, museums, churches, temples and mosques.
- **Promote Festivals and Folklores:** Tourism protects and revives local festivals and folklores.
- **Commercialisation of Culture:** Tourism development leads to commercialization of culture.
- **Cultural Clashes:** Tourism leads to cultural clashes between tourists and local community.
- **Anti-social Activities:** Tourism leads to anti-social activities such as drugs, prostitution, alcoholism, gambling and other criminal activities.
- **Loss of Habitat:** Loss of habitat to local community due to tourism development in destinations.
- **Bad Influence on Children:** Tourism has bad influence on children and juvenile.

2.4 Methods of Examination

The factor analysis is utilised for examining the sustainability of tourism development in Delhi and identifying the factors, which influence the economic, environmental and social-cultural sustainability of Delhi.

III. DATA ANALYSIS

3.1 Factor Analysis

The main objective of the research is to examine the sustainability of tourism development in Delhi and identifying the synergies between environmental, economic and socio-cultural sustainability in the development paradigm of Delhi by using factor analysis. The factor analysis is a data reduction method, which reduces a set of variables to a limited number of principal components, which underlines the correlation between the original variables. It explores and explains the magnitude and pattern of the correlation that exist within the set of observed values by identifying variables and factors that influence those values. For examining the economic, environmental and socio-cultural sustainability of tourism destinations, we have used multidimensional statistical

analysis, called factor analysis based on the principal component analysis (PCA).

Data Structure Analysis: The suitability of data for factor analysis is examined by applying Keiser-Myer-Olkin test and Bartlett Test of Sphericity. Keiser-Myer-Olkin test measures sampling adequacy and Bartlett's test of Sphericity tests the data assumptions. In order to be suitable for factor analysis, a data set must have a Kaiser-Meyer-Olkin value between 0.5 and 1.0 and Bartlett's test of Sphericity must be statistically significant at $p < .05$.

Table 7.2 shows the results of sampling test and data assumption from Bartlett test of Sphericity and Kaiser-Meyer-Olkin (KMO).

Table 4.1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.690
Approx. Chi-Square	2194.44

Bartlett's Test of Sphericity D.F	630
Sig.	.000

Source: SPSS output from primary survey

From the table above Table 4.1 the Bartlett test of Sphericity is significant (Chi-square = 2194.44, $p < 0.000$). The Kaiser-Meyer-Olkin (KMO) overall measure of sampling is 0.690, which indicates that data are suitable for the principal component analysis. The values from Kaiser-Meyer-Olkin (KMO) measures above 0.60 is an adequate indicator for performing factor analysis.

Table 7.3 and Figure 4.1 represent the results of factor analysis including the components, eigenvalues, and percentage of variance, cumulative variance, and communalities for 36 variables after performing factor analysis using Principal Component Analysis (PCA).

TABLE 4.2: TOTAL VARIANCE EXPLAINED

Components	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.196	14.044	14.044	3.933	10.630	10.630
2	4.887	13.209	27.253	3.841	10.382	21.012
3	3.051	8.245	35.499	3.064	8.282	29.294
4	2.374	6.417	41.916	2.423	6.549	35.843
5	2.063	5.576	47.492	2.242	6.059	41.902
6	1.709	4.620	52.112	2.153	5.820	47.722
7	1.428	3.859	55.970	1.752	4.736	52.457
8	1.411	3.815	59.785	1.650	4.460	56.917
9	1.224	3.308	63.093	1.645	4.445	61.362
10	1.018	2.752	65.845	1.418	3.832	65.195

Source: SPSS output from primary survey

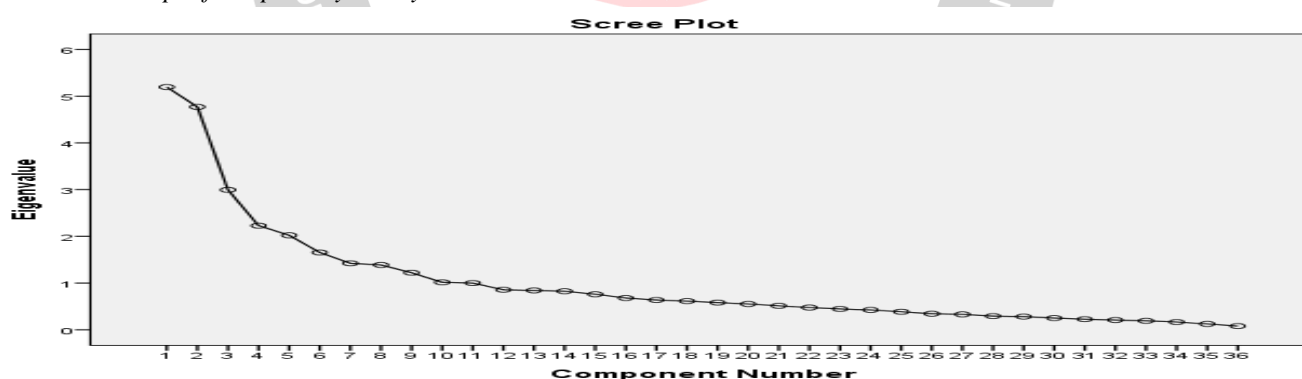


Figure 4.1: Scree Plot

Source: SPSS output from primary survey

From the table 4.2, and figure 4.1, we have chosen top ten variables having the eigenvalues more than one (>1), which form a strong argument for representing the factors. The factor analysis with varimax rotation is performed to measure how the variables are clustered around the principal factors. Ten factors are rotated, based on the eigenvalues greater than one (>1).

The table 4.2 reveals that all the variables are clustered into eleven factors or components. These factors are named as resource management, pressure on resources, local empowerment, environmental management, socio-cultural unsustainability, tourism governance, destination management, sustainable tourism promotion, local community participation and anti-social activities. The cumulative variance for the ten significant factors is 65.195% after varimax rotation of factors. The resource management contributes 10.63%, pressure on resources accounts 10.382%, local empowerment explains 8.282%, environmental management represent 6.549%, socio-cultural unsustainability explains 6.059%, tourism governance

contributes 5.820%, destination management explains 4.736%, sustainable tourism promotion shares 4.460%, local community participation accounts 4.445% and anti-social activities represent 3.832% to the cumulative variance explained (65.195%) by the model.

Table 4.3 shows the results of factor analysis with varimax rotation of ten factors generated from the factor analysis. The principal factors with loading above 0.45 are shown in the table, which indicates strong significance of correlation exists among the particular group of variables.

TABLE 4.3: ROTATED COMPONENT MATRIX

VARIABLE	1	2	3	4	5	6	7	8	9	10
Mechanism to Reduce Noise Pollution	.909									
Mechanism to Reduce Water Pollution	.855									
Mechanism to Reduce Air Pollution	.848									
Mechanism to Reduce Pressure on Transportation	.842									
Mechanism to Reduce Degradation of Natural Vegetation	.689									
Pressure on Land		.841								
Pressure on Water		.831								
Pressure on Transportation		.815								
Pressure on Air		.814								
Pressure on Natural Vegetation		.761								
Increase Employment			.835							
Revives Socio-cultural Heritages			.754							
Improve Standard of Living			.704							
Revives Local Festivals			.675							
Preference to Local Products			.531							
Promotes Environmental Education				.728						
Promotion of Renewable Energy				.666						
Management of Waste				.595						
Local Community Contribution to Environmental Management				.566						
Cultural Clashes and Acculturation					.791					
Commercialization of Culture					.723					
Loss of Identity and Values					.618					
Safety and Security						.815				
Efficient Legal System						.608				
Tourism Plans						.506				
Officials Behaviour							.770			
Emergency Mechanism							.744			
Trained Guides								.732		
Tourists Follow Rules								.72		

								6		
Behaviour of Local Community									.59 2	
Bad Influence on Children										.74 2
Increases Anti-social Activities										.50 4

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalisation.

Rotation Converged in 10 Iterations.

Source: SPSS output from primary survey

1 Resource Management: The factor analysis suggest that the resource management is significant factor that contributes to the sustainability of tourism in Delhi. Mechanism to reduce Noise Pollution (.909), mechanism to reduce pressure on water (.855), mechanism to reduce Air Pollution (.848), mechanism to reduce Pressure on Transportation (.842) and mechanism to mitigate Degradation of Natural Vegetation (.689) are the important variables that explain the sustainability of Delhi tourism. The important disastrous impacts of tourism are water pollution, air pollution, misuse of land, pressure on transportation and degradation of natural vegetation. Delhi tourism integrates the system of resource management for ensuring efficient and effective utilisation of resources by installation of proper mechanism to mitigate the adverse impact of tourism on resources.

2. Pressure on Resources: The second factor is termed as resource pressure includes the pressure on water, air, land, transportation, and natural vegetation and wild life. Although tourism development has brought huge benefits, the negative impacts of tourism such as scarcity of water, air pollution, misuse of land, traffic congestions have directly affected both the local communities and tourists. The high factor loadings on the such as the pressure on Land Resources (.841), Water Resources (.831), Transportation (.815) Air (.814) and Natural Vegetation (.761) in the factor analysis reveals that the resource utilisation in in Delhi is unsustainable and the negative impacts of tourism development is escalating and putting tremendous pressure on both manmade and natural resources.

3. Local Empowerment: Local empowerment is another important factor, which ensures sustainability of Delhi tourism. The local empowerment is reinforced by the variables such as the Employment generation (.835), Revives Socio-cultural Heritages (.754), improve standard of living (.704), Revives local festivals (.675) and preference to locally made products (.531). The Government has identified tourism as an engine of socio-economic development and introduced various plans and programmes to eradicate poverty by strengthening economic relationship between the tourism industry and the local community for marketing the produce made by the local communities. The employment generation, revival of socio-

cultural heritages, improvement of standard of living, revives local festivals and preference to locally made products are distinctive characteristics of Delhi Tourism.

4. Environmental Management: The environmental management is the fourth factor, which contributes to the sustainability of tourism in Delhi. The Environmental management is composed of the variables such as promotes environmental education (.728), promotion of Renewable energy (.666), waste management (.595) and local community contribution to environmental management (.566). These variables are the essential elements of sustainable tourism, which have been given prominent place in the tourism development of Delhi.

5. Socio-cultural Unsustainability: The Socio-cultural Unsustainability is the fifth factor that influences the sustainability of tourist destinations in Delhi. The socio-cultural unsustainability consists of the adverse impacts of tourism on the socio-cultural environment of Delhi such as Cultural clashes (.791), Commercialisation of Culture (.723), and Loss of Identity and Values (.618). Indiscriminate tourism development is posing adverse impacts on society and culture of Delhi and appropriate measures have to be introduced for making tourism more socially sustainable.

6. Tourism Governance: Tourism Governance is another important factor that contributes to the sustainability of tourism in Delhi. The Safety and security (.815), Efficient legal system (.608), Tourism Plans (.506) are the governance mechanism which enhances sustainability of tourism in Delhi. The safety and security provided by the government at the tourist destinations, and meticulously formulated and implemented tourism plans and programmes are contributing to the sustainable tourism development.

7. Destination Management: Destination management is next important factor, which draws millions of tourists from across the world. The destination management attributes such as positive attitude and friendly behaviour of officials towards tourists (.770) and Emergency Mechanism (.774) are instrumental in promoting tourism in Delhi sustainably.

8. Sustainable Tourism Promotion: The sustainable tourism promotion is another important factor, which positively contributes to the sustainable tourism. The

sustainable tourism promotion is composed of the attributes such as Trained Guides (.732), Tourists Follow Sustainable Tourism Practices (.726).

9. Local Community Participation: The local community participation is an important factor in the sustainable destination management in Delhi. The local community behaviour and attitude (.592) determine the popularity of Delhi as a tourist destination. The destinations are characterised by the positive and encouraging support by the local people in the tourism development. As the local community is aware about the economic, socio-cultural and environmental benefits of tourism, they play active role in the formulation and implementation of tourism plans and policies.

10. Anti-social Activities: The factor analysis reveals that the antisocial activities are another major factor that influence the sustainability of tourism in Delhi. The variables such as Bad influence on children (.742) and Increase in anti-social activities (.504) have brought about adverse impact on the society of Delhi.

IV. CONCLUSION

This research paper has identified Delhi as the heritage tourism model, which represents Indian tourism, for examining the sustainability of tourism development in India. A primary research was conducted to collect the responses from tourists about their perceptions on the sustainability of tourism in Delhi. The factor analysis was used to study the perception of tourists on the tourism policy and governance, economic sustainability, socio-cultural sustainability, and environmental sustainability of destinations. The factor analysis identified ten factors such as resource management, pressure on resources, local empowerment, environmental management, socio-cultural unsustainability, tourism governance, destination management, sustainable tourism promotion, local community participation and anti-social activities, which influence the sustainability of tourism development in Delhi.

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