

Controlling the Uncontrolled: Over tourism in Hill Stations of Northern India

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Abstract

Over-tourism is a multifaceted topic as it seeks to connect the social, cultural, economic, and environmental aspects to high tourist numbers. The recent surge in tourism, pushed by the pandemic fatigue and easing of lockdowns, has led to revenge tourism resulting in an excessive number of tourists visiting popular tourist destinations, forcing the Government to step in to regulate the load. This study empirically analyzes the tourist perceptions of the hill stations of Northern India, in specific to assess the infrastructure availability and socio-cultural impacts of tourist numbers and their correlation. The hill stations to be studied were selected based on the number of tourists and the type of hill stations- Nainital (Lake destination), Shimla (Developed State Capital), and Mussoorie (Small hill station popular for weekends). The study looks beyond the often-researched topic of economic development due to tourism. 260 responses to self-administered questionnaires from recent tourists to these destinations were analyzed quantitatively and results suggest that there is an inadequacy of infrastructure to meet the rising tourist numbers and an adverse socio-cultural impact was observed on the local population. There is also a correlation between inadequate infrastructure and socio-cultural impacts. This research will provide useful insights to the policymakers for designing efficient strategies for tourism development and destination management keeping in view the sustainability of the destination along with the well-being of local communities and the environment in view.

Keywords— Over-tourism, Northern India Hill stations, Tourism challenges, Tourism Strategies, Tourism India

I. INTRODUCTION

In developing countries, the tourism industry is considered the main source of socio-economic development and thus its expansion is pursued by government policies (Brida, 2020). As per the UNWTO report (2019) the industry grew by 5% YoY in international tourist arrivals (ITA) and 4% annually in International Tourism Exports (ITE) (Organisation, 2019). The growth was even more spectacular in India with an 8.9% growth in ITAs and 25.3% in domestic tourists (India, 2020). Despite the pandemic-induced setback in the last two years, the

industry looks all set to revive rapidly and proceed on its growth path, as expected.

The unprecedented growth of tourist numbers in most Indian destinations in a short time has far outstripped the available tourist infrastructure. Tourism has shown economic benefits in terms of jobs, sales, and development of handicrafts and traditional products in the region. However, it has adverse effects on the natural landscape, environment, demography, and living conditions of the residents in that area. The over-tourism is not only about the tourist numbers but also about the infrastructure that is available to support it. The popular destinations

appear to be overrun by tourists beyond their capacities manifesting in the annoyance of residents, conflicts with tourists, and reduced visitor satisfaction leading to reduced revisit intention, driving away high spending and experienced travelers (Barbhuiya, 2020).

The phenomenon of over-tourism has been an area of academic interest in recent years (Ruck, 2020) (Capocchi, 2019) (Butler, 2019) (Milano C, 2019) (Perkumienè, 2019). Over-tourism is defined as “the impact of tourism on a destination, or parts thereof, that excessively influences the perceived quality of life of citizens and/or quality of visitor experiences in a negative way” UNWTO (UNWTO, 2018). Authors in recent times have studied challenges faced by specific destinations, their impacts, and future strategies (Koens, 2018). Various scholars have focused on different approaches such as “local tourist relations” (Doxey, 1975), “Tourism Area Life Cycle” (Butler R. , 1980), and “tourist carrying capacity” (O’Reilly, 1986) to gauge over-tourism in destinations. Over-tourism today is a global phenomenon ranging from ultra-developed Europe (Venice, Budapest, Hamburg) to developing South America and Asia (Milano C. , 2019) (Visenti, 2019) (Canada, 2019) (Canosa, 2019) (Abe, 2019).

The tourism industry is a prime driver of economic and social development and therefore the governments, and local populations of tourist destinations in developing countries are making and executing strategies for its growth despite detrimental effects on the destinations. Consistently high tourist numbers can lead to permanent damage to the environment, local culture, and demography. The impacts of over-tourism are more pronounced in destinations that have less scope for expansion due to geographical limitations and limited resources, such as hill stations, lake destinations, etc. (Barbhuiya, 2020). “The most vulnerable destinations are not necessarily cities, but rather coastal areas, islands, hill stations, and rural heritage sites” (Peeters, 2018).

As discussed earlier, the number of tourists traveling to India has also gone up leading to

overcrowding of the destinations and especially so hill stations (Barbhuiya, 2020) (Badar, 2020). In the recent past, when the pandemic eased and the lockdown restrictions were removed there was a rush of tourists towards the hill stations in Northern India leading to huge traffic jams on the arteries to these places and overcrowding forcing the Government to step in to regulate tourist numbers. Therefore, there is a need to study over-tourism in hill stations of Northern India.

II. LITERATURE REVIEW

Tourist destinations and their unique features make a destination attractive to visitors (Carballo, 2020). Hall (2008), stated that mass tourism began in 1960 when various world destinations experienced increased tourism. The early conceptualization of over-tourism was termed “visitor overkill” by (Rosenow JE, 1980). He found the phenomenon to be complex and pluralistic. Academic literature has been growing rapidly but the actual assessment of over-tourism in each specific, unique destination is still in the nascent stage (Pasquinelli, 2020). Many studies on “over-tourism” have been published in recent times (Peeters, 2018) (UNWTO, 2018), however, over-tourism remains a work in progress (Milano, 2019). Over-tourism literature has discussed some important concepts like carrying capacity, sustainable tourism, and responsible tourism (Koens, 2018) (Muler, 2018).

“Tourism Carrying capacity” (TCC), was introduced in the 1980s and signifies the load-carrying capacity of tourism destinations. The TCC is a unification of visitor attributes like the number of visitors, behaviors, itineraries, and socio, cultural, economic, and environmental impacts (McCool, 2001) (O’Reilly, 1986) (Manning, 2007), physical capacity, infrastructure, perceptual capacity (Coccosis, 2001), visitor spread, activities, and infrastructures (Milano, 2019), technological limits, health and safety issues (Dodds, 2019), environment, social sensitivity, policy and management methods and connecting local communities (Buckley, 2012) (Ruhanen, 2015).

The TCC has also been termed “over-tourism” in recent times (Wall, 2020). In the 1980s, another dimension was studied as Responsible Tourism (Burrai, 2019) (Goodwin, 2019). It looked at subjective perspective, focusing on various stakeholders such as visitors, residents, local operators, and governmental agencies (Burrai, 2019) (George R., 2010). The latest in the field is the term “tourist phobia”, first used by the Spanish anthropologist Delgado in 2008 (Egresi, 2018) (Mantecón, 2018). It discussed a mixture of rejection, distrust, and loathing towards tourists (Peeters, 2018) and is defined as a “very strong aversion to tourists and tourism” (Milano, 2019). “Over-tourism suggests unsustainable tourism” (Mihalic, 2021), however, we have not been able to pay attention to complexity and practice sustainability (Hunter, 1997) (Garrod. B, 1998). The concept of Sustainable tourism seems to be forgotten for economic gain (M. Ghoochani, 2020). The unsustainable tourism practices are leading to damage in urban, rural, and coastal areas resulting in “tourist phobia” (Milano, 2019). All these terms of mass tourism, sustainable tourism, over-tourism, and tourist phobia are used interchangeably, though they do not have the same meaning. Popular tourist destinations severely affected by over-tourism across the world are Iceland, Baku (Azerbaijan), Cozumel (Mexico), Muskoka (Canada), Dubrovnik (Croatia), Great Barrier Reef (Australia), Munich, Juist (Germany), Santorini (Greece), Vienna (Austria), Lombok (Indonesia), Barcelona (Spain), Rigi (Switzerland), Angkorwat (Cambodia), Amsterdam (Netherlands), Machu Picchu (Peru), Kasane (Botswana), Soweto (South Africa), and Venice (Italy) (Canada, 2019) (Alexis, 2017). In India, hill destinations affected by over-tourism are Shimla, Mussoorie, Nainital, Ooty, Darjeeling, of which the most affected ones are the hill stations in northern India.

The over-tourism is not only about the tourist numbers but also about the infrastructure that is available to support it. The tourist inflow in a region is often associated with improved access,

transportation, accommodation, tourist activities, and infrastructure developments such as roads, health facilities, and service sectors as a path to economic benefit (Oklevik, 2019). Although, the growth of tourism contributes to economic and societal improvements, yet, popular tourist destinations are suffering from overload (Harald Pechlaner, 2019). The issue of overcrowding at tourist destinations has been discussed in the social context too in recent years. Many researchers brought out that overcrowding is linked to individual perceptions (Stokols, 1972) (Jurado, 2013), perspectives of residents (Koens, 2018) (Harald Pechlaner, 2019) (Perdue, 1999) (Sun, 2015), personal demographic characteristics (Rasoolimanesh SM., 2016) (Zehrer, 2016), local communities’ interaction (Rasoolimanesh SM., 2016), environmental characteristics (Peeters, 2018) (Klanjšček, 2018), and nationality & cultural backgrounds (Li, 2017). Conflicting the economic and environmental interests of the local stakeholders creates a challenge for sustainable development (Dwyer, 2018).

Overcrowding at tourist destinations severely affects the natural environment (Vaske, 1996). It results in trampling, littering, environmental degradation, gradual loss of natural resources, loss of the tourist attraction of the region (Carballo, 2020), shortage of water and electricity, water pollution (Koens, 2018), heavier traffic and associated air pollution, and inflation at the regional level (Oklevik, 2019), crowding of the city (Capocchi, 2019), congestion in settlements like pedestrian zones, lines in shops, and public communications, waste management and the increasing security concerns of the public are other related problems. However, overcrowding is considered a matter of sensibility which is not similarly perceived by all tourists, especially when the destination’s popularity rises (Eliasson, 2018).

Life without tourism is being perceived as worse than life with over-tourism for many tourist destinations facing economic loss from COVID-19, domestically and internationally. Predictions indicate that tourism will resurface

the moment COVID restrictions are removed (Assaf, 2020). Post-COVID or revenge tourism may be experienced in the aftermath of the pandemic (Fotiadis, 2020), and initial studies have attempted to measure its effect on destination (Karabulut, 2020) (Uğur, 2020). Some aspects studied post-COVID were “tourists’ psyche, health threats, perceptions of security” (Kock, 2020), “perceived risks” (Sanchez, 2020), and “travel fear”, “protective and cautious travel behaviors” of future travelers, “intention to revisit” (Bakri, 2021). The tourists preferred private transport over public transport and showed a preference to pay for increased health security and reduced risk (Li, 2017). For reestablishing the tourism in Post COVID times the marketing strategy needs to be redesigned as per current requirements (Sanchez, 2020) (Scott, 2014), Destination promotion, media management, and technology adaptation were suggested by (Gretzel, 2020) (Sigala, 2020), and reassurance is required in terms of the physical, health, and emotional safety of tourists during situations of crisis (Hang, 2020).

Public debates about over-tourism have created uproar in the tourism industry (Oklevik, 2019). Some of the enablers of over-tourism are the endlessly growing world population, increased middle- and upper-income individuals, discretionary time, and money to spend on leisure and tourism (Milano, 2019) (Butler R. D., 2019). There is an increased interest in self-organized or self-financed low-cost holidays in domestic and international regions, improved transportation capacities with low-cost airlines across the globe like Southwest in the USA, Ryanair, EasyJet, and Wizz in Europe, and Vistara, Air Asia, Spice Jet, Indigo, and GoAir are expanding their wings in India, Asian and African countries. Faster air travel and cruise ships have revolutionized travel for expanding the tourism market. Technology development and internet expansion have assisted in instant online accommodation and travel reservations and allied services. The Internet has also removed the ambiguity and role of tourist intermediaries (Gössling, 2018). Specific

locations, and destinations used in movies, and TV/Net series along with those mentioned on social media rapidly become highly popular (Gretzel, 2020). This leads to a host of challenges for the destination and residents to combat with. Travel is an important element of the social media-based identity. At times, it is used to influence others or also creates social envy. Social media has the advantage of presenting the latest information including ratings, reviews, and photographs at the click of a button and smoothening the decision-making processes. Most destinations though are struggling to maintain existing infrastructure for residents and tourists equally (C Aldao, 2021). Economy sharing accommodation models, trailer camps, and long staycations have reduced the cost significantly making the market very competitive (Nunkoo, 2019). Various studies have identified the following adverse effects of over-tourism such as “congestion, infrastructure inadequacy, excessive demand of energy and water, pollution, tourists’ behavior, environmental crisis, historical sites and monuments degradation, loss of identity and authenticity, gentrification, increase in living and real estate costs and inequality among residents” (Barbhuiya, 2020) (Peeters, 2018) (Goodwin, 2019). The second important aspect of over-tourism as identified in the previous studies is the infrastructural capacity of the destination in terms of accommodation, connectivity, public utilities, medical, commercial facilities, etc. (Barbhuiya, 2020) (Butler R. D., 2019) (Ruck, 2020) (Badar, 2020). Destinations placing limits on tourist numbers are on the verge of reconsidering their decision (Hall, 2008) (Nyaupane, 2010) (Gössling S. &., 2002). Three major aspects that affect tourist perspectives on controlling tourist numbers at tourist destinations are adverse effects on the travel experience, excessive use of natural resources (Koens, 2018), and the need to regulate the number of tourists at a given time by the destination authorities (Ruck, 2020) (RW Butler, 2022). The strategies to increase the

tourist numbers are being questioned in the current context (Hall, 2008).

(Saarinen, 2006) stated that there is a “need for alternative and more environment and host-friendly practices in development, planning, and policies” for rapidly growing economies. The Government along with the local authorities, residents and tourists become responsible to put a check on this rapidly growing tourism and its impact on the destinations holistically. Although, governments adopt sustainable tourism policies but pay lip service to sustainable development practices (Mihalic T. , 2016). The current government policies have often shifted the focus from problems without targeting the real reasons (Milano, 2019). The public authorities relentlessly pursue policies toward tourism growth with new products regardless of their effect on tourism sustainability (Bianchi, 2004). Additionally, there is a lack of integration of tourism policies along with other stakeholders’ well-being.

The integrative interpretative framework in Figure 1 connects the online media debate on Twitter and issues in COVID-19 literature and over-tourism knowledge (Pasquinelli C. &, 2020). (Peeters, 2018) proposed a conceptual model (Figure 2) that attempts to connect all aspects of over-tourism. In the context of Indian tourism, Barbhuiya has proposed a matrix of over-tourism in Nainital (Figure 3) including the reasons, impacts, and strategies to overcome over-tourism (Barbhuiya, 2020).

Online media debate on Twitter	Emerging issues in the COVID-19 agenda	Overtourism knowledge
Socio-economic impacts	Economic loss (jobs and income); social costs; effects on the real estate market	Analytical dimension – factual
Travellers’ attitude	Travelling intention, risk aversion, changing transport preferences, protective behaviour, loyalty towards reputable “responsible” destinations	Analytical dimension – behavioural
Travel risks	Fears, negative feelings for crowding perceptions and crowded environments, residents’ fear and willing to pay for risk reduction	Analytical dimension – perceptual
Subsidies and rescue packages	Stimulus package, incentives, subsidies	Actions – regulation
Management and technology	None	Actions – management
Marketing (promotion)	Recovery marketing, destination media profiling, post-crisis risk communication	Actions – marketing
Recovery	Mitigation of impacts on the tourism system (to bounce back), recovery approach	Tourism development model – conservative
Reform	“Prepare for tomorrow”, “holistic and innovative mindset”, transformational opportunity, reform approach; sustainable, ethical, responsible tourism	Tourism development model – radical/ reformative

Figure 1- Online media debate on Twitter

1. Main Reasons for Overtourism	Overtourism Matrix of Nainital City	5. Reasons for not Finding Sustainable Solutions
Geographical Location & its Characteristics Mountain Annual Temp Annual Precipitation National Parks World Heritage Sites Culture	Overtourism is also known as Tourism Phobia Tourism Decrowding	Communication Gap Stakeholders’ Participation Lack of Sustainable Tourism Development Plan
Adventure Wildlife Leisure Shopping Summer Retreat Boarding School High Court Important and Unavoidable Institutions	4. Problems Faced by Local Community Privacy Conflict Over Pricing Housing Shortage	6. Measuring Tourism Intensity Tourist Arrivals Destination Area Carrying Capacity
Overall Growth and Development Affordability Better Quality of Roads Technology Social Media Weak Law Enforcement	3. Tourist Characteristics Day travellers Budget travellers Non Eco-friendly Desired - Educated Visitors Nature Sensitive Experienced Tourist	Tourist Arrivals Hotel Beds Hotel Rooms Number of Overnights
2. Negative Impacts of Overtourism Destination Image Environmental Degradation Declining Tourism Flows Tourist Dissatisfaction Repeat Intention Intention to Recommend	7. Solution for Overtourism Optimisation of Tourist Activities Visas Restriction Restricting Day Visitors City Taxes Toll Taxes Price Differentiation Better Law Waste Management Tourism Sensitisation Community Involvement	

Figure 3 – Overtourism Nainital

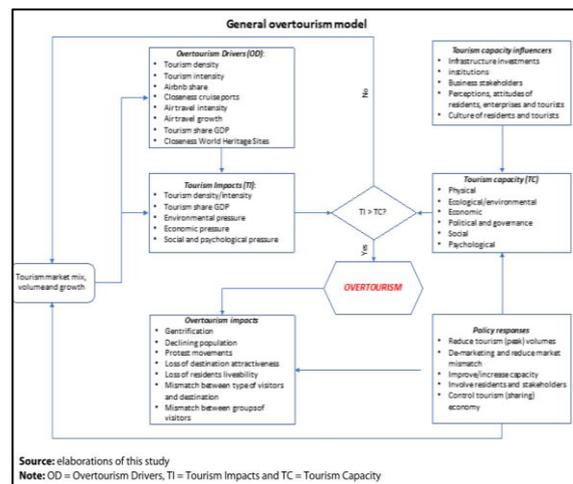


Figure 2 - Conceptual Model for Overtourism

Contrary to the popular belief that increasing tourist numbers lead to over-tourism and locals are averse to increased tourist numbers, various studies express that tourism congestion is not only about tourist numbers but about the capacity to manage them (UNWTO, 2018). Certain studies also quote instances where the government and stakeholders’ decisions to control tourist numbers have been forced to be reversed or reconsidered by the local community (RW Butler R. D., 2022). The existing literature on the subject shows a distinct gap in empirical studies on over-tourism in Indian destinations, though there are a few theoretical studies on the aspect.

III. RESEARCH HYPOTHESES

H₁- Adequate infrastructure exists in hill stations to meet the requirements of tourists in peak season.

H₂- There are no socio-cultural effects on the destination population due to high tourist numbers in peak season.

H₃- There is no correlation between the infrastructural capacity of the destination and the effects of over-tourism.

IV. RESEARCH METHODOLOGY

This is an empirical study to assess the adequacy of infrastructure at tourist destinations to support the tourist numbers in peak season and the socio-cultural effects of over-tourism in hill stations. It is based on the perceptions of tourists who have traveled to hill stations in Northern India i.e., Mussoorie, Nainital, and Shimla. The destinations were chosen because of their popularity in Northern India, connectivity by road/air and high tourist numbers in peak season. All these being hill stations, they have limited scope for expansion, but both Shimla (Narkanda, Naldhera, and Kufri) and Nainital (Naukuchia Tal, Bhimtal, etc) have few other hill stations in the near vicinity. All these destinations are very popular for short trips by all demographic groups. These three hill stations also cover the entire spectrum of Northern India, except Jammu and Kashmir, as Nainital is a lake destination, Shimla is a state capital and urbanized, while Mussoorie is a small hill station approachable by a short drive from the plains.

Strategy

The study follows a mixed strategy- qualitative and quantitative. A literature review was carried out to identify the various constructs and attributes of the study. Subsequently, the research hypotheses were identified. Quantitative analysis of the data collected through questionnaires was carried out and subsequently, the qualitative aspects were used to crosscheck the results. This improves the accuracy, reliability, and validity of the research.

Sample and Data Collection

The identified population for the study was tourists who had visited at least one of the following destinations- Nainital, Shimla, and Mussoorie. The convenience sampling method was followed. A healthy mix of tourists across various demographic groups based on age, education, income, marital status, and gender

were approached. The sample selection across groups was done to check the uniformity of perceptions across the sample to enable the generalization of results later. As “online surveys are an effective data collection tool in evaluation/empirical studies, as they provide reliable results” (Saurabh Gupta, 2021) (H. Lindhejm, 2011), primary data on perceptions of tourists was collected through an online self-administered questionnaire. A total of 700 people were approached and 260 valid responses were received. The details of the sample are attached in Table 1.

Finalizations of Questionnaire: A structured questionnaire was prepared initially with 32 attributes, identified through a literature review. The questionnaire was put through a pilot survey, and based on the results a final questionnaire with 24 attributes, six demographic variables, and one rank order question was prepared. Two constructs- Infrastructure capacity and Socio-cultural effects were identified. Infrastructure capacity was measured on 10 measures- accommodation, electricity, water, roads, medical facilities, commercial facilities, open spaces, waste management, information centers, and public utilities. 11 socio-cultural effects of tourism were measured- pollution (air, water, noise), effect on personal lives of residents, effect on local culture, overloading public facilities, demographic changes, cost of living, environmental damage, and tourist behavior. Three questions on the effect of tourist numbers on the travel experience, regulation of tourist numbers, and utilization of natural resources were also framed. A rank order question on proposed strategies to tackle over-tourism to seek perspectives of the tourists was also included. The measurement was based on 5 points Likert scale. Table 2 shows the results of factor analysis.

Table 1- Sample Demographic Details

S No	Category	%	S No	Category	%
Age			Marital Status		
1.	Less than 30	2%	1.	Married with kids	70%
2.	30-50 years	69%	2.	Single	12%
3.	Above 50 years	29%	3.	Married w/o kids	18%
Education			Income		
1.	Above PG	40%	1.	Less than 5 lakhs	10%
2.	Post Graduate	40%	2.	5-10 lakhs	27%
3.	Graduate	16%	3.	10-15 lakhs	24%
4.	Class 12	4%	4.	15-20 lakhs	13%
Destination Visited			5.	Above 20 lakhs	26%
1.	Mussoorie	46%	Gender		
2.	Nainital	30%	1.	Male	52%
3.	Shimla	24%	2.	Female	48%

Table 2- Summary of Factor Analysis Results

Construct 1		Construct 2	
Variance Explained 61.075 %		Variance Explained 58.528%	
Factor Loading	Component 1	Factor Loading	Component 2
C1Q4	.874	C2Q4	.867
C1Q8	.847	C2Q7	.849
C1Q6	.845	C2Q9	.845
C1Q7	.835	C2Q8	.836
C1Q3	.802	C2Q3	.815
C1Q9	.791	C2Q10	.792
C1Q10	.748	C2Q11	.743
C1Q2	.711	C2Q2	.702
C1Q1	.696	C2Q1	.683
C1Q5	.630	C2Q6	.615
		C2Q5	.608

Sample Adequacy

Kaiser Meyer Olkin’s test for sample adequacy and Bartlett’s test for sphericity was carried out to check both constructs separately. The KMO values are well above .6 in all cases indicating that the sample is adequate. The significance values of Bartlett’s test indicate that correlation matrices in all cases are not unitary. Table 3 shows the results of KMO & Bartlett’s Test.

Reliability of Scale

The reliability of the scale was checked using the Cronbach Alpha value. The overall Cronbach values for all attributes together (.961), Construct 1 (.926), and Construct 2 (.921) are well above .6, therefore the scale is reliable.

Test for Normality

Shapiro Wilk’s test for Normality was carried out for both constructs and the results indicate that the data received is normal. Since the data is normal, parametric tests can be applied. Results are attached in Table 4.

Construct	KMO Value	Bartlett’s Test of Sphericity		
		Approx Chi-Square Value	df	Sig
Infrastructure_Availability	.932	1701.45	45	.000
Socio-Cultural Effects	.927	1842.98	55	.000

Table 3- KMO & Bartlett’s Test

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Infrastructure_Availability	.024	260	.200 [*]	.998	260	.967
Socio_Cultural_Effects	.040	260	.200 [*]	.992	260	.188

Table 4- Normality Test
One-Sample T-Test

One sample T-Test has been applied to test the first two hypotheses. The results show significant statistical evidence to reject the hypothesis in both cases. Hence, it is accepted that there is inadequate infrastructure at these destinations to deal with tourist numbers in peak season and there are adverse socio-cultural effects due to tourism. Results are attached in Table 5.

One Way ANOVA

One-way ANOVA tests were conducted out on both constructs to check the uniformity of perspectives across all demographic groups. Post hoc tests were also used to identify the non-uniform groups. The significance values of ANOVA tests show that the perspective of all demographic groups is uniform. The results

based on the destination visited are attached in Table 6.

One-Sample Test						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Infrastructure_Availability	-18.171	259	.000	-.93980	-1.0416	-.8380
Socio_Cultural_Effects	-17.486	259	.000	-.60314	-.6711	-.5352

Table 5- T-Test Results

Correlations ^b			
		Infrastructure_Availability	Socio_Cultural_Effects
Infrastructure_Availability	Pearson Correlation	1	.682**
	Sig. (2-tailed)		.000
Socio_Cultural_Effects	Pearson Correlation	.682**	1
	Sig. (2-tailed)	.000	

Table 7- Correlation Between Infrastructure Availability and Socio-Cultural Effects

Multiple Comparisons							
Tukey HSD							
Dependent Variable	(I) Destination	(J) Destination	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Infrastructure_Availability	MUSSORIE	NAINITAL	.07944	.12157	.791	-.2072	.3660
		SHIMLA	.16526	.13002	.413	-.1413	.4718
	NAINITAL	MUSSORIE	-.07944	.12157	.791	-.3660	.2072
		SHIMLA	.08582	.14136	.816	-.2474	.4191
	SHIMLA	MUSSORIE	-.16526	.13002	.413	-.4718	.1413
		NAINITAL	-.08582	.14136	.816	-.4191	.2474
Socio_Cultural_Effects	MUSSORIE	NAINITAL	-.03006	.08131	.927	-.2217	.1616
		SHIMLA	.00599	.08696	.997	-.1990	.2110
	NAINITAL	MUSSORIE	.03006	.08131	.927	-.1616	.2217
		SHIMLA	.03605	.09454	.923	-.1868	.2589
	SHIMLA	MUSSORIE	-.00599	.08696	.997	-.2110	.1990
		NAINITAL	-.03605	.09454	.923	-.2589	.1868

Table 6- One Way ANOVA Based on Destination Visited

Correlation Between Infrastructure Adequacy and Socio-Cultural Effects

Pearson’s Correlation was carried out to check the correlation between infrastructure adequacy and socio-cultural effects of over-tourism. The test results indicate a strong positive correlation between both aspects. It suggests that inadequate infrastructural capacity leads to greater adverse socio-cultural effects on the population of the destination. The result is attached in Table 7.

Descriptive Statistics

Three important questions regarding over-tourism were made part of the questionnaire, and analyzed using descriptive statistics. The results are attached below: -

- **Effect of Tourist Numbers on Travel Experience.** Maximum tourists feel that higher tourist numbers to destinations hurt their travel experience. A significant number are also responded, “Can’t Say.” Refer to Table 8.

- Regulation of Tourist Numbers to Destinations.** The largest number of tourists were not sure if regulating tourist

numbers to tourist destinations is the ideal strategy to control over-tourism. However, a considerable number were in favor of it. Refer to Table 9.

Table 8

The travel experience of tourists is negatively impacted by overcrowding.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	164	31.5	63.1	63.1
	NO	45	8.7	17.3	80.4
	CAN'T SAY	51	9.8	19.6	100.0
	Total	260	50.0	100.0	

Table 9

There is a need to regulate the tourist numbers in popular tourist destinations.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	98	18.8	37.7	37.7
	NO	54	10.4	20.8	58.5
	CAN'T SAY	108	20.8	41.5	100.0
	Total	260	50.0	100.0	

Overuse of Natural Resources of Destinations: The maximum number of tourists is not sure that there was an overuse of natural

resources in tourist destinations due to tourism. However, a considerable number agreed that there is overuse. Refer to Table 10.

Table -10

Tourism leads to overutilization of resources in tourist destinations.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	95	18.3	36.5	36.5
	NO	33	6.3	12.7	49.2
	CAN'T SAY	132	25.4	50.8	100.0
	Total	260	50.0	100.0	

Strategies to Deal with Tourism. Respondents were asked to rank order five proposed strategies namely regulating the number of tourists, imposing tourist tax, creating car parking facilities away from tourist areas, enforcing tourist routes to distribute traffic, and

increasing the tourist season. The most preferred strategy is regulating tourist numbers followed by enforcing tourist routes to regulate tourist traffic. The results are shown in Figure 4.

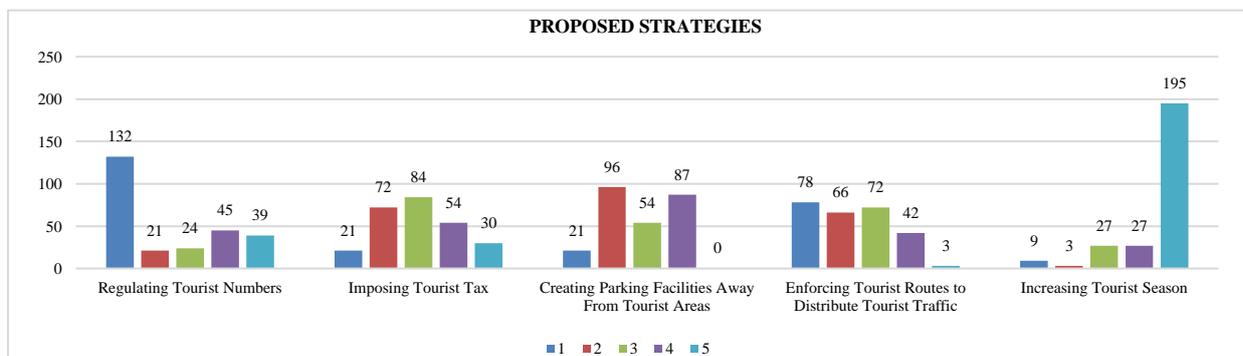


Figure 4- Strategies to Control Overtourism

V. DISCUSSION

1R - Rethink Destination Tourism: Existing research indicates that over-tourism being the major challenge to sustainable tourism has been subject to academic interest (Mihalic T. &, 2021). Over-tourism is a massive social issue and one solution will not fit all. It's time to shift from "3S (sea, sun, and sand)" or "3E (education, experience, entertainment)" tourism. It is a conflict between the tourist's right to travel and the locals' right to live (Koens, 2018) (Oklevik, 2019). The WTTC acknowledges that over-tourism leads to multiple challenges (Milano, 2019). In the post-pandemic times, the tourists' attitude towards medical risks, travel preferences, protection, etc. is guiding them towards more responsible destinations (Gupta, 2021). Hence, currently, popular destinations may be forced to rethink their strategies.

2R - Re-examining the Socio-Cultural and Economic Aspects: Destinations need to shift focus from the numbers of arrivals as a measure of tourism growth to other measures such as total income generated, yield, expenditure per night, or average length of stay, or resultant tourist experience and future visit intention. The available information about resources, tourist data, and human capital needs to flow freely so that the resources and workforce stay flexible and fast. The entrepreneurship-focused environment needs to be encouraged to foster value creation activities within the destinations. The government needs to improve educational skills and enhance training. The destinations in collaboration with stakeholders need to improve upon academic research and promote reliable data collection. It is important to conserve, preserve and protect the natural environment and heritage of the destinations and secure their value, visibility, and profitability.

The Tourists enjoy free access to public places and facilities, which are often paid for by the local taxpayers, like repair and maintenance costs of heritage and architectural sites, public utilities, garbage and waste disposal, etc. Residents are (passive) victims of over-tourism,

however, they play an active role as drivers of over-tourism. On one side the local stakeholders enjoy the income from sharing economy platforms on another side it leads to urban crisis, commercial conversion of cities, displacement of residents, change in demographic trends, lifestyle changes, consumption models, and mobility (Wachsmuth, 2018) (Koens, 2018), and insecurity (H. Fuller, 2014) (Peeters, 2018). Therefore, it's important to understand residents' attitudes, guest-resident relationships, or community antagonism (Doxey, 1975) (Muler, 2018) (Adie, 2019) and create alternative sources of employment and education to reduce the dependency on the tourism industry. To save the social fabric of destinations there is a need to delineate residential and tourist areas (Asunción Blanco-Romero, 2018).

3R - Remodel Infrastructure: All these reflect inadequate physical services and infrastructure, as well as a lack of controls and enforcement on tourist numbers and development at the local level. There is a need for a relook at current infrastructure development plans in development plans in destinations. The incorporation of Town Planning and Urban Development experts along with academicians for developing long-term development plans is essential for sustainable growth. Proper licensing of hotels and accommodations and development of allied services like water, electricity, sewerage, etc. should be checked stringently. Parking facilities to be created in the designated areas and movement within destinations to be carried out through electric public transport. The entire development should be based to meet a pre-decided tourist carrying capacity which should be enforced. There should be a control on the conversion of residential accommodation to economy shared accommodation to reduce infringement on residents' life. Rental and real estate price control measures need to be instituted to protect locals' rights. Strict control on the conversion of residential properties into tourist apartments

is exercised through a vigilant licensing policy and is strictly implemented by local authorities. Some propagate that the expansion of the accommodation, attractions, or services, should only take place in coordination with all other physical infrastructure.

4R - Regulating Policies and Stakeholders.

Policy Management. Management and planning of tourist destinations have been poorly handled by the elected representatives and administrators of the destinations. At times, senior politicians are not responsive to local concerns or the local authorities are not supportive of measures that constrain economic growth. The current situation can also be attributed to the failure to implement policies (Ryan Peterson, 2021). The need is for a “growth and balance-oriented tourism policy duly integrating the governments, and authorities at all levels from local to international (Peeters, 2018) (Goodwin, 2019)(Milano et. al. 2019). New Zealand demonstrated how a strong policy and its effective implementation can control visitation. An integrated global, national, and regional tourism policy is required to manage the tourist dispersion and match supply and demand. The tourism development plans and policies should be scrutinized to drive the tourism evolution through incentives, subsidies, and investments (Ioannides, 2020). A “recovery versus reform” ideation that can enable innovative tourism mindsets is suggested. There is also a need to integrate sustainable, ethical, and responsible tourism policies and extensive research to be carried out to support policymakers in framing future strategies. While improving travel experiences that boost tourism growth and income the political leaders should ensure the satisfaction of locals. (Hugues Séraphin, 2020) (Bianchi R. , 2018).

The Plurality of Stakeholders. Identification of various challenges leads us to the plurality of stakeholders and contributes to how over-tourism reshapes economic, physical, and social landscapes (UNWTO, 2018) (Milano, 2019). Being an active stakeholder, the government

lays down policies for tourism governance and mitigation of adverse effects of tourism (Novy, 2019). Governments at all levels were in denial of the phenomenon of over-tourism and hence did not facilitate research into its causes and impacts leading to unpreparedness to handle the situation (Peeters, 2018). No study mentions evaluation or monitoring programs for destination management, making measuring the effectiveness of the policy difficult to assess. Even the local stakeholders in terms of those earning a living from tourism or promoting tourism find the idea of reducing the number of visitors a constraint. Most importantly, an effective tourist policy must come from the local authority, as tourism-related conflicts can be avoided by adopting a local perspective, and should be agreed upon by all stakeholders.

Destination Management Organizations (DMOs). DMOs develop tourism-related strategies that are critical for the destination. They are required to build industry relations and provide for coordination, and networking functions between stakeholders. The DMOs are in charge of predicting capacities, increasing visitor spending, identifying technological change, adopting knowledge network management, monitoring internal processes, and recommending corrective actions. DMOs act as a catalyst for tourism development. The occurrence of over-tourism in destinations indicates the issue of control management, where DMOs act as mere governance bodies instead of those serving the industry’s needs. There is a need for a systems approach using the role of stakeholders, the impact of policies, and tourist behavior to effectively deal with the situation. It is also important to change the strategic behavior of authorities. Countering over-tourism can only be analyzed along the dimensions of policies, organizations, institutions, and behavior. DMOs need to engage in the existing governance processes. “Sensing allows DMOs to become stakeholder-centric and adopt a real-time service mentality”. DMOs can be the lynchpins in stakeholder management, smoothening distribution of

tourists, planning based on carrying capacities, and innovative product diversification.

Collaboration: Future tourism models should incorporate reform, sustainable, ethical, and responsible tourism. The stakeholders should collaborate in information sharing towards a common knowledge bank that can guide well-planned actions leading to competitive advantage (Constantoglou, 2020). The national government occupies the central and active role and can drive the top-down approach while the local government and private actors can drive the bottom-up approach through tourism management projects. The two will have to collaborate to regulate policies (Freya Higgins-Desbiolles, 2021) (Pasquinelli C. , 2020). Degrowth imperative points to tourism and local development integration, community engagement and happiness (Postma, 2017), and a healthy atmosphere for a better tourist experience (Hugues Séraphin, 2020) all essential for successful tourism. The lack of integration between the stakeholders has been identified as the most important reason for failure to control over-tourism, a systems approach using strategic level technology incorporating public-private-consumer partnerships should provide innovative tourism models to tackle the situation. (Gretzel U. &., 2015) (Milano, 2019).

5R - Resource Management for Tourism:

Managing resources mean assessing the resources, capacities, and interests of local and other stakeholders and their efficient utilization. There is a need to facilitate and coordinate the resource's demand and supply. Over-tourism as a concept itself is not the actual problem; the problem is the way tourism is planned and managed. UNWTO and World Travel and Tourism Council, both deny that the problem of over-tourism is numbers (UNWTO, 2018). However, certain challenges will always have to be looked into like environmental pressure, climate control taxes on aviation fuel, limits on additional construction, infrastructure improvements to reduce tourist pressure, increased traffic and congestion, parking woes,

and pollution levels concerning air, water and noise, garbage disposal and waste management (Koens, 2018) (Ryan Peterson, 2021). There is a need to create new sustainable itineraries which encourage walking and cycling to reduce congestion and pollution. Resources like water and electricity should be charged on actual consumption. Visitor limit or time limit for viewing should be set for tour groups to specific buildings, heritage sites, galleries, and exhibitions to reduce the "Monalisa effect". Such guidelines should be well-publicized, transparent, equitable, and fairly enforced and not result in people being turned away on arrival at a destination. The safety and security of tourists hold prime importance for any destination. Special attention should be paid to newly emerged challenges post-pandemic like risk aversion, hygiene, and sanitation, public utility facilities, changed transport preferences from public to personalized transport, and loyalty towards reputable "responsible" destinations (Gupta, 2021). Low-cost airlines tend to fly to popular destinations thus there is a need to connect more destinations which will help the spread of tourists to other destinations too. A step towards this had been initiated by the Government of India under UDAAN (Ude Desh Ka Aam Nagrik) scheme connecting places that are remote and unexplored. This should be continued and supported further.

6R - Redefining Marketing Approach

Marketing Strategy: In the backdrop of economic slowdown due to the pandemic all countries are looking at the tourism industry for swift economic revival. Aggressive marketing campaigns to attract tourists are being undertaken with the hope that the pandemic period was only an aberration, due to restrictions on mobility. Based on the studies, the over-tourism scenario is likely to recur soon. Therefore, there is a need to redefine and rebrand destinations to meet the tourism requirements. To prevent over-tourism many researchers have advised de-promoting the most effective destinations to control tourist numbers (Insch, 2019). Overused sites once removed

from tourist maps saw a marked reduction in tourist numbers (Hall, 2008). There is also a need to carry out tourist segmentation and target the most appropriate segment for the best results (Insch, 2019). Post pandemic the marketing strategy should highlight the availability of medical services, quarantine requirements, and safety provisions in the destinations (Gupta, 2021). There is a need to reorient the current mindset and create innovative models to meet the new challenges in tourism (Freya Higgins-Desbiolles, 2021) (Koens, 2018).

Adaptation of Technology: Tourist behavior can be effectively shaped by harnessing the latest technology, digital and social media. The World Travel and Tourism Council (2018) recommends the use of real-time technology, virtual tourism (augmented reality), travel cards, prebooking to destinations, Dynamic pricing strategies, big data analysis for tourist and traffic dispersal, and tourist education and alternate sites promotion through social media for tackling congestion (Font, 2017). Smartphones can improve tourist experiences by providing the latest information on tourist offerings, rules, and regulations, live traffic and crowd situations, etc. to travelers. Despite their potential, technology has not been used to radically alter tourism (Gretzel U. F., 2020). Use technology for real-time monitoring of tourist traffic using sensors and CCTVs as artificial intelligence for regulating traffic through a system of lights or guides.

Explore Social Media: Social media marketing can be effectively utilized to share post-pandemic tourism communication, rebrand destinations, and build positive residents-tourist relationships. User-generated content (photographs, reviews, stories, etc.) is more effective in building trust in the destination and making purchase decisions than professionally created content due to its perceived authenticity. Social media accounts and websites can be used as part of social marketing strategy. Stories stick to mind, so short stories, videos, blogs, and vlogs can be used to connect with the target audience. In this digital era, the

destination image can be created, modified, and virtually destroyed. Only places with truly iconic features and heritage attractions and a strong social media presence are likely to retain their image and popularity. Settings limits to the number of visitors by manipulating the image of a destination is not recommended. Due to its vast reach across generations, online media marketing, and social platforms can be effectively used towards reorienting destination development. This medium should be effectively used to spread the adverse effects of irresponsible tourism on destinations.

7R - Retracing Tourist Expectations, Awareness, and Behaviour

Tourist Expectations: The quantity vs quality aspect of tourists needs to be encouraged. Discouraging low spending tourists would lead to their replacement by higher spending tourists with different expectations, which would require up-gradation/ modification expenditure. These expectations guide designing of experiences and the creation of products that meet the preferences of both tourists and locals. A clear description of what the destination has to offer will enable the travelers to choose their destination wisely and promote better satisfaction and tourist segmentation.

Tourist Behavior: As per (Koens, 2018) , “over-tourism is an accumulation of impacts and perceptions relating to tourist behavior and their encounters with stakeholders”. Tourist behavior by the 3Es (Economy, Employment, and Experiences) is acceptable in some developing destinations but may not be acceptable in developed ones leading to friction with locals. The tourists must be advised to respect the right to life of the locals. and penalties for throwing waste/ garbage in an inappropriate place, misbehavior, etc. should be instituted. The “Enjoy, Respect” campaign for Amsterdam tourism is a very good example. The guides and public markings should encourage the tourists to behave responsibly. The local population should also be encouraged to participate in ensuring proper visitor behavior.

Educating Tourists: As a long-term strategy, there is a need to educate tourists regarding the destinations including the layout, customs, and culture of local communities, sustainable tourism practices, public services, rules, and regulations, etc. which can aid better travel experience, mitigate tourism effects and spread benefits of tourism equally to all stakeholders. Digital and social media can play a key role in attracting vast audiences through influencers or gamification of information on the adverse effects of over-tourism. Reorienting and reducing the marketing of the destination can also help in modifying the tourist behavior e.g., the “Enjoy, Respect” campaign of Amsterdam and “Enjoy Respect Valenzia” of Venice convey everybody is welcome to the city but not at cost of the livability of locals (Gerritsma, 2019). Tourist guide fees should be included in attraction tickets to ensure only guided tours, which give holistic information about attractions, are allowed. Guides will also act as tourist behavior monitors during visits.

8R - Reconsidering Pricing Strategy. This is one of the least equitable ways to preserve the exclusivity of the destination by making it too expensive for mass tourists. The exorbitant pricing may be due to the high cost of access, accommodation, exclusive shopping areas, etc. Such destinations provide a high degree of personal privacy, car-free zones, ultra-expensive shops, exclusive restaurants, and other services eg- Davos in Switzerland. These are ideal for high-level conferences and film shoots and out of range for a common traveler. Just for preserving the exclusivity of the destination, this practice may be unethical but it may be appropriate to preserve some threatened structures. Proposal to introduce higher taxes for day travelers and progressively lower for tourists as per the length of stay can be considered to control tourists. Commodity pricing needs to be controlled to maintain the cost of living for residents. Without robbing the mass tourists of the opportunity to see the destination, differential pricing per season can be effective in controlling tourist numbers (RW

Butler, 2022). Promotion of off-season experiences through events, offers, etc. can provide year-wise earnings to locals and remove pressure from peak time. Booking for attractions and visits to the destination with dynamic pricing strategies can help control tourist numbers and discourage day and unplanned travelers. Based on the carrying capacity of attractions, jump the queue offers should be offered online with discounts to ease congestion.

9R - Revisiting the Spread of Visitors. As discussed earlier, congestion is not a city-wide phenomenon and hence equitable spread of visitors to under-visited areas can relieve choke points. Development of attractions and tourist sites should be such that it leads to the distribution of tourists away from city centers. There are multiple examples worldwide that face the challenge of congestion, mobility, and traffic woes in peak tourist seasons like Santorini, London, Venice, etc. Development of alternative tourism products (Peeters, 2018) (UNWTO, 2018), tourist flow optimization (Oklevik, 2019), and smoothening imbalances of visitor arrivals over time can be used to manage situations. Facilities can be set up in surrounding areas to promote visitation and stay there eg- Naukuchia Tal and Bhim Tal for Naini Tal, Naldhera, and Narkanda for Shimla. Hosting events/festivals in lesser-visited areas will relieve pressure on prime attractions. The creation of luxury accommodation/resorts away from city limits with a good system of transport can attract higher-paying tourists, looking for serene getaways, away from the city center. Develop new tourist circuits which are promoted at entry points with virtual reality applications to attract tourists away from known attractions. Create specific drop-off and parking zones on edge of city limits with a comfortable system of local transport and travel cards. Timings of attractions should be staggered from local peak times to ease congestion.

Proposed 9R Model



Proposed 9R Model: (Postma, 2017) busted the seven myths associated with over-tourism. (Milano C. , 2018) then proposed a 5D model (decentralization, deseasonalization, decongestion, diversification, and deluxe tourism) to overcome the problems of over-tourism. After our study, we can summarise our discussion points in a 9 R model (Rethink destination tourism, Re-examine socio, cultural and economic impacts, Remodel Infrastructure, Regulate policies and stakeholders, Resource management, Redefining marketing approach, Retracing tourist expectations, awareness and behaviour, Reconsider pricing, Revisit visitor spread) to combat over-tourism in the current scenario. The model is attached in Figure 5.

VI. CONCLUSION

Over-tourism is not a recent phenomenon and has been discussed in the tourism and academic circles since the 1980s under different names. As seen in the literature review substantial literature is available on the subject in the academic arena, however, recommendations have still not been implemented on the ground for various reasons. The debate has primarily been reduced to a demand and supply problem wherein tourist spaces are inadequate to meet ever-increasing tourist numbers. However, this simplistic interpretation of a complex problem is not adequate to meet this challenge. A systems approach to study this phenomenon is

essential as small individual situation reactive actions are not very effective.

The effects blamed on over-tourism are not due to tourism numbers alone but are more about the infrastructure available to support both tourist and local population numbers and the implementation of rules and regulations in force to mitigate the socio-cultural adverse effects. There is a need for introspective studies by each destination to study their capacities for framing policies as there is “no one size fits all” solution. The major lacunae in this pursuit are a lack of reliable data to pursue effective research and also a lack of political will to give up the economic gain from tourism by implementing tough recommendations. Planning methods, governance issues, stakeholders’ participative and collective processes, organizational and managerial factors, and, consequently, quality standards, can all reduce negative tourism impacts on a destination.

In-depth studies are also required in the field of visitor analysis, cities and their needs, residents and their needs, and resources and their management. Future research on the subject should be aimed at framing analytical frameworks to establish the actual capacities of tourist that can be handled by destination and approaching the subject using other domains such as town planning, urban development, psychology, etc. Integration of 3 Is (institutes, industry, and intellectuals) in research will lead to improved quality and implementable recommendations as all stakeholders will be represented.

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