

## Residents' Perception of Impact of Mass Tourism on Mountain Environment in Gilgit-Baltistan, Pakistan

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**Abstract:** This study seeks to explore and explain the perception of residents about the environmental impact of mountain mass tourism in three tourist destinations in Gilgit-Baltistan. This study is based on quantitative and qualitative data collected through a survey and group discussions with residents of three tourist destinations. Results revealed that the residents of the study area are highly concerned about the environmental impact of mass tourism. They highlighted air pollution, traffic congestion, pressure on land use change and infrastructure, and degradation of mountain ecosystem services. The study also found that communities in these tourist places expect governmental and non-governmental organizations to come up with a better plan for the management of mountain tourism on a sustainable basis. Reflecting critically on the perceptions of stakeholders about tourism impact, it is important to develop linkages between governmental and non-governmental organizations for environmental protection and sustainable quality tourism in the region while taking communities on board.

**Keywords:** Mountain development, tourism, environmental degradation, community, Gilgit-Baltistan.

### Introduction

In recent times, tourism development is more pronounced in Gilgit-Baltistan Pakistan (Ali, 2020) as the number of tourists' arrivals has been increasing significantly over the last few years (Ali and Yousuf, 2019). The increasing inflow of tourists although positive economic benefits to mountain communities (Karim et al., 2021) but at the same time, it has serious environmental consequences on the fragile ecosystem services. An increase in tourism flow is considered blessings in shaping positive economic outcomes especially in the gross domestic product (GDP) and employment opportunities (Manzoor et al., 2019), while on the other hand uncontrolled conventional tourism possess threats to the natural areas increasing pollution, soil erosion, solid waste, habitat loss and increased pressure on the endangered species and biodiversity (Goossling, 2002; Sunlu, 2003) and socio-cultural environment. According to a study, deforestation, loss of biodiversity, generation of solid waste, water, air, and noise pollution, damage to cultural and heritage sites are the main environmental issues caused by tourism activities in Gilgit-Baltistan (Saqib et al., 2019).

The perception of native residents about the environmental impact of tourism varies across regions and times. Scholars have found mixed results i.e. positive and negative environmental impact of tourism in their regions (Ali, 2020; Andereck and Nyaupane,

2011; Korca, 1996; Andereck et al., 2005; Yoon, et al., 2001; Liu and Var, 1986; Liu et al., 1987; Amuquandoh, 2010; Chin et al., 2017). Liu and Li, (2018) found that tourism preserves natural resources and it improves the physical appearance of the host city. These results are also lined with the results of studies in different contexts such as Andereck and Nyaupane, (2011), Korca, (1996), Andereck et al. (2005) and Perdu et. al., (1987). Further, Sharma et al., (2016) argued that residents perceive the benefits of tourism in terms of protection of the physical environment, increased environmental awareness programs, and conservation of woodland. Hunt et al., (2015) found that ecotourism sensitizes the native community to environmental issues and it contributes to conservation and supports for protected areas. However, in many other contexts, scholars have argued that native communities perceive the negative impact of tourism on the local environment. The major concerns of tourism raised by native residents are waste and pollution (Andereck et al., 2005; Choi and Sirakaya, 2005; Liu et al., 1987; Sharma et. al., 2016; Lankford and Howard, 1994), overcrowding (Andereck and Nyaupane, 2011; Yoon et. al. 2001; Liu et. al., 1987), increased in noise (Sharma et. al., 2016)], loss of local species diversity (Hunt et al., 2015) degradation of natural resources and damaged seashores and agglomeration in public facilities and resources (Bestard and Nadal, 2007; Lindberg and Johnson, 1997).

This paper is aimed to explore the emerging environmental impacts of tourism in Gilgit-Pakistan with a special focus on the key stakeholders' perceptions from the tourist hot spot districts such as Hunza, Ghizar, and Gilgit. The objectives of this study are:

1. To examine the stakeholders' perception of environmental impact tourism in three urbanized districts of Gilgit-Baltistan Pakistan.
2. To investigate whether there is any difference between males' and females' perceptions toward the environmental impact of tourism.

**Materials and Methods**

**Study Area**

This study is conducted in three valleys of three main tourist destinations (Hunza, Gilgit, and Gakhuch) of Gilgit Baltistan (figure 1) where tourism is more pronounced in recent years. Hunza valley is situated in the northern part of Gilgit-Baltistan bordering China. The region is unique in its topography/landscape, it has barren lofty mountains, snow-capped peaks, glaciers, gushing streams, rivers, alpine lakes, forests, pastures, and rangelands, as well as unique culture and hospitality of the local community, are the major sources of attraction for local/international tourists. The flow of tourists to this valley has been on an increasing trend over the past few years which in turn poses a serious threat to the fragile ecosystem services of the region. Gakhuch valley is the headquarter of district Ghizer and this valley is famous for its unique landscape, historical sites, and home to many high peaks and glaciers. The flow of domestic tourists has been increasing with time. Gilgit Valley is situated in the Gilgit District of Gilgit-Baltistan and administratively headquarter and is also central to all other valleys of Gilgit-Baltistan, Pakistan.

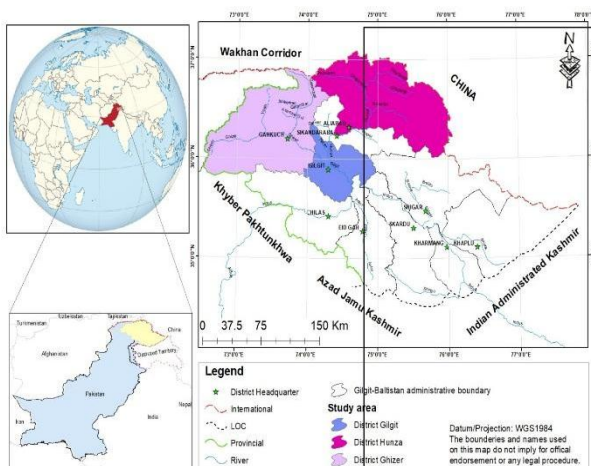


Fig. 1 Study area map.

**Data Collection**

A mixed-method research design was applied to explore the perceptions of stakeholders about the environmental impact of tourism in the selected valleys. The focused group consists of two community activists, two local organizations working on environmental conservation and protection and/or related to tourism, and two government line departments using the purposive criterion sampling technique. Thus, a purposive sampling technique was used to choose key stakeholders from these three districts of GB. The number of each focused group discussion (FGDs) was six to generate a healthy discussion on the research questions and gather relevant data without any domination of the researcher during the discussion. The final survey was done over 88 residents in Hunza, 42 residents in Gakhuch, and 15 residents in Gilgit valley. The survey was done using a systematic random sampling technique.

**Results and Discussion**

Out of 145 samples, a total of 80 male and 65 female stakeholders were selected as the participants of the study. It is evident from the table 1 that a total of 145 respondents have participated in the survey and a significant number of female. Age of the majority respondents fall under the age group of 31-45 and majority respondents are having masers level education (Table 1).

Table 1. Demography of the respondent.

Variable	Decryption	Frequency	Percentage
Gender	Male	80	55.17
	Female	65	44.83
	Total	145	100.00
Age	15-30	56	38.62
	31-45	69	47.59
	46-60	18	12.41
	61-70	2	1.38
	Total	145	100.00
Education	Middle	13	8.97
	Matric	20	13.79
	Intermediate	39	26.90
	Graduation	21	14.48
	Masters	52	35.86
	Total	145	100.00

Table 2 shows the perception of native residents about tourism impact in three highly urbanized regions in Gilgit-Baltistan Pakistan. Respondents were asked to rate their opinion about the given statements on a scale of 1 to 5 (1 strongly agree, 2 agree, 3 no idea, 4 disagree and 5 strongly disagree) and their responses are

analyzed using descriptive statistical tools. For the statement ‘tourism helps to protect the natural environment’, the values are 3.65 for District Hunza, 3.37 for District Ghizer, and 3.32 for District Gilgit which indicates that on average respondents tend to disagree with the narration that tourism helps to protect the environment. Similarly, for the statement ‘tourism increases environmental pollution’ the mean value is 1.62, 1.74, and 1.66 for District Hunza, Ghizer, and Gilgit respectively which show that the opinion rating of respondents remained between strongly agree to the statement. If we compare the opinion rating across districts, the mean value remained lowest for district Hunza (1.62) which indicates that people in Hunza are more concerned about mass tourism and that it causes environmental pollution which in the long term would be fatal for the whole region in many ways.

Table 2. Perception about tourism impact.

Tourism impact	Hunza		Ghizer		Gilgit	
	Mean	Std Dev	Mean	Std. Dev	Mean	Std. Dev
Tourism helps to protect the natural environment.	3.65	1.18	3.37	1.10	3.32	1.16
Tourism increased environmental pollution	1.62	0.69	1.74	0.86	1.66	0.81
The construction of hotels and other tourist facilities has destroyed the natural environment	1.68	0.89	2.42	1.08	1.85	1.12
Tourism has reduced the importance of historical and cultural places.	3.50	1.36	3.47	1.25	3.51	1.16
Tourism added more trash in the community.	1.67	0.86	2.03	1.17	2.15	1.12
Tourism causes overcrowding in the community.	1.85	0.97	1.92	1.02	1.89	1.34
Traffic congestion, air pollution, and noise pollution are the problems due to tourism	1.63	0.66	2.03	1.08	1.62	0.87
Tourism has spoiled infrastructure.	2.32	1.24	2.76	1.05	2.72	1.51
Tourism policies are in line with environmental policies.	3.08	1.11	3.16	0.97	3.38	0.95
Public facilities are kept at a better standard	2.62	0.88	2.58	1.08	2.60	1.31
Tourism harms the ecosystem.	1.98	1.02	2.71	1.18	2.47	1.47
Tourism has provided more chances to develop parks and recreational areas.	2.32	1.11	2.03	0.88	2.21	0.98
Tourism increased social issues.	1.93	0.88	2.45	1.03	2.02	1.21
Local people can protect the local environment from the tourism effect.	2.30	1.03	2.00	0.77	2.09	1.10
Government line departments, especially the tourism department can protect the local environment.	1.88	0.96	1.92	0.82	2.11	1.09
NGOs can protect natural beauty and ecology.	2.43	1.03	2.24	1.10	2.40	1.15
NGOs on environmental protection can better help biodiversity and ecology etc	2.23	1.05	1.92	0.85	2.32	1.07

1=strongly agree, 2=agree, 3=no idea, 4=disagree, 5=strongly disagree

Table 2 further shows that respondents are highly confident that local people can protect the local environment from the negative consequences of tourism and also they agreed that Government and NGOs can also play a significant role in protecting the local environment from tourism impact.

Table 3. The most affected District from tourism impact.

Impact	District	N	Percentage
Which part of GB is the most affected valley in terms of the effect of mass tourism on the local environment?	Hunza	88	60.68%
	Ghizer	42	28.96%
	Gilgit	15	10.35%
	Total	145	100.00%

Among three districts of GB, Hunza is found to be the most affected valley (Table 3). The percentage shows that 60.68% responded that Hunza has been greatly suffered due to mass tourism as compared to 28.96% responses from Ghizer and 10.35% responses from Gilgit. This shows that stakeholders need to think about effective planning for and management of the tourism industry and related sectors to ensure the environmental protection of the region. Studies show that effective planning and management of tourism and the environment along with other stakeholders can protect the environment and can promote quality tourism in the region.

During FGDs one of the male respondents aged 38 said:

“Mass tourism spoiled the neat and clean areas including roads and public places etc. some tourists without permission enter into private gardens, and protected places they used to throw garbage into water channels”.

A female respondent aged 31 in Hunza valley expressed her views in these words, “I found many tourists coming in big vehicles and cars into our gardens/fields and without permission and plugging the fruits on trees in the gardens and throwing all garbage there.”

Indicating the major issues local community face due to the current pattern of tourism, one of the male respondents aged 29 argued that

“We face many problems walking on roads because of these tourists... crowded roads, smoke, and dust on the road, they do not care about using dustbins for plastic bags with rubbish rather they throw them on the road which makes the roads very dirty. These tourists are good for hoteliers and shopkeepers as they get benefits and we get smoke and dust”.

Discussing the possible ways forward for a cleaner environment, respondents shared their views on how to protect the environment. A male respondent aged 42 expressed his views,

On the other hand, one of the government line department representatives expressed his views that

“Government has its policies for environmental protection but mass tourism is one of the challenges that government cannot fully implement these policies to make sure environmental protection”

Similarly, one of the NGO representatives expressed her views that

“Hunza Environmental Protection has installed dustbins in Bazar and crowded areas including some common points in a residential area but its maintenance has been a challenge. We have now established a collaboration with the local government and now they collect the garbage regularly”.

This study reveals that tourism appeared to be a hindering factor to protecting the natural environment of GB. A majority of respondents from Hunza, Ghizer, and Gilgit tend to disagree with the statement that ‘*tourism helps to protect the environment*’. Similarly, for the statement ‘*tourism increases environmental pollution*’. This shows that people in Hunza, as compared to other districts, are more concerned about mass tourism and its role in increasing environmental pollution. This reflects that stakeholders need to think about how to protect the environment from pollution and other problems as a result of mass tourism. Local people must be given awareness on how to protect their environment and use culturally acceptable ways to keep the environment clean. Moreover, government line departments such as environment and tourism need to run a campaign and enforce rules and regulations by sensitizing both native people and tourists to protect the environment. Perhaps, engaging all stakeholders in a collaborative and participatory manner can bring a positive change in the protection of the local environment, public places, parks/public gardens as well as private fields/gardens, etc.

The respondents’ (both female and male) views about the impact of tourism seem to be negative. They believe that mass tourism has negatively impacted their society as a whole; however, a few of them think that it has a financial contribution to people associated with the tourism industry. Studies also argued that tourism is highly associated with economic returns but it may have some negative impacts on society directly or indirectly in many ways (Ali, 2020; Manzoor et al., 2019; Shujahi and Hussain, 2016). Thus, it is hard to gauge tourism as a blessing for everyone by looking at some of the economic returns to a particular class of people engaged with it. On the other hand, local people seem to have a

lot of expectations from the government and NGOs to come forward and play their critical role to protect the natural environment and they feel the current role of these stakeholders is limited and needs to be expanded. Similarly, local people want all stakeholders to contribute collaboratively to protect the environment and increase opportunities for quality tourism.

## Conclusion

This study explores the perceptions of residents of mountain communities about the environmental impact of mountain mass tourism in three highly urbanized valleys such as Hunza, Ghizer, and Gilgit in GB. This study revealed that a majority of the study participants have a clear understanding of the negative impact of tourism, especially on environmental degradation due to mass tourism in the region. Respondents indicated that environmental pollution, destruction of natural landscape due to ill-planned and haphazard construction of hotels, camping sites, and resorts and traffic congestion on roads are some of the major challenges that local communities are currently facing. However, respondents also highlighted some positive impacts of tourism such as an increase in economic activities in the region which directly and indirectly change the socio-economic conditions of the people living in these mountainous regions of Gilgit-Baltistan. An inclusive yet integrated approach through collaborative teamwork to look at the environmental impacts of mountain mass tourism and come up with effective planning appears to be the need of the time to protect the environment and boost up quality sustainable tourism in the region. This could be one of the patterns setting for other similar geographical locations in Pakistan to protect their environment and enhance quality tourism in the future and reduce negative impacts.

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