

# Religious tourism and climate change: a qualitative study on India's sinking Himalayan town

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*Religion serves as an identifier that goes beyond national boundaries, and, as a result, it has an impact on numerous environmentally significant actions. Therefore, understanding its influence is crucial in addressing climate change-related issues that are inherently transboundary. To comprehend the cultural aspects of climate change, it is essential to acknowledge its religious dimensions. Given that climate change is interwoven with human activities, it is also intertwined with religion's influence on human behavior and lifestyle. In light of this, the present study is designed to explore the factors that are responsible for the climate- and environment-related issues in the Himalayan town of Joshimath from the religious perspective. This study adopts a qualitative approach, involving semi-structured interviews conducted with local residents. To attain the study's objectives, thematic and content analysis was used to examine the data via NVivo 12. The study identifies four factors intertwined with religion that are leading to climate change, namely: (1) perception and faith; (2) consumption patterns; (3) willingness to take action; and (4) geographical location. Analysis also revealed that religion influences numerous facets of lifestyle that impact the environment. The findings from this study will provide valuable assistance to policy makers in creating a suitable framework to sustain the destination. Furthermore, the research contributes theoretically by examining the overarching connection between religion and climate change.*

**Keywords:** religion, climate change, tourism, Himalayas, India, qualitative analysis

## 1 INTRODUCTION

Climate change ranks amongst the foremost challenges for humankind. It is a prominent issue in the public consciousness, and it competes with other environmental, social, political and economic problems (Stehrl and Von, 1995). For the last two centuries human activities have been the main drivers of climate change (Hamilton et al., 2005). The United Nations Intergovernmental Panel on Climate Change (IPCC), in its 2023 report, also indicated that human-induced climate

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change has affected all regions of the world. Human behavior is influenced by factors including work, growth, and development (Perrow and Pulver, 2015), and proves to be a dominant factor in carbon emissions through energy use, urbanization, and land use changes (Karl and Trenberth, 2003). All these human activities lead to climate change (Dale, 1997). The impact of global climate change can also be seen in biodiversity and functioning of the ecosystem (McCarty, 2001; Thomas, 2010; Walther et al., 2002).

Tourism also contributes to climate change and is equally susceptible to it. Many destinations witness changes in seasonal conditions and face the loss of attractiveness in natural resources due to climate change (Wall and Badke, 1994; Elsasser and Burki, 2002). These destinations thus face challenges in attracting tourists (Amelung et al., 2007). Various tourist activities rely on weather conditions, so climate change affects the supply and demand components of destinations (Hein et al., 2009) and impacts their tourist flows (Amelung and Nicholls, 2014; Scott et al., 2012).

In recent times it has been observed that climate change is impacting the distribution of vegetation and monsoon season patterns in the Himalayan region due to increased tourism activities (Rashid et al., 2015; Nyaupane and Chhetri, 2009). The whole Himalayan region has immense religious and spiritual significance for Hindus, and includes important centers of their holy faith (Sati, 2015). Religious tourism has been rigorously promoted by the region, which attracts large gatherings in a limited space, and infrastructural development in fragile areas can lead to potential disaster (Joshi and Bagri, 2019). Religious tourism in Himalayan regions employs modern means of transportation and other activities which are facilitating mass tourism and leading to crowding in fragile mountainous areas and contributing to climate change (Bleie, 2023).

Joshimath, a popular religious, adventure, and leisure tourism destination in the Indian Himalayan state of Uttarakhand, is among destinations facing the brunt of climate change (Mey et al., 2023). Increased human activity and poorly planned settlements, coupled with climate change, is harming the town (Negi et al., 2022; Chand, 2014; Pinakana and Prakash, 2023). As a result, this whole region is experiencing more avalanches, landslides, floods, and other natural hazards that are destroying tourism-related infrastructure such as roads, bridges, trails, resorts, and so on (Ghosh et al., 2016). Also, religious tourism in these regions is having severe environmental impacts in the form of land degradation, forest depletion, and environmental pollution (see Figures 1 and 2). Consequently, Joshimath has become one of the most hazardous places in the Himalayan region, and is on the verge of sinking (Shrestha and Champati ray, 2007; Maurya et al., 2017).

In the last decade, a growing body of social scientific investigation has focused on the connection between tourism and climate change. Some previous studies in the Himalayan religious context were carried out relating to pilgrimage tourism, planning and promotion of tourism, and the socio-cultural and environmental implications of tourism; but very few studies have looked at Joshimath. The primary focus of the present research is to assess the relationship between religious tourism and climate change in Joshimath as a study area. Through a qualitative study on the perception of local residents, it aims to investigate the perceived impact of religious tourism on climate change of this Indian Himalayan town. This study will contribute to academic knowledge, and its results could help in developing better understanding of the nature of religious tourism in Himalayan towns – not only in India but also in other countries – so that proactive steps can be taken to minimize its negative impact on climate change.



Source: Google Maps.

Figure 1 Map of Joshimath, Uttarakhand, India



Source: Athrady (2023).

Figure 2 High-density building in an area of Joshimath affected by subsidence, 26 January 2023

The remainder of this paper is organized as follows: Section 2 reviews the existing literature concerning religious tourism and its various facets in the modern world, and Section 3 then delineates the research methodology, methods of analysis, and the ensuing results. After showcasing the outcomes of this investigation, the findings are discussed prior to reaching a conclusion. Finally, limitations and areas for future

research are outlined. This study is beneficial for charting out future courses of action in religious tourism and climate change. It also adds to the existing research by identifying four important themes that should be considered in tourism planning in the future.

## 2 LITERATURE REVIEW

Studies related to the impact of climate change on tourism have been widely covered in the last few decades. Recent investigations have addressed a range of facets concerning the repercussions of climate change on tourism, and vice versa. These include essential adaptations, the susceptibility of the tourism industry, tourist behaviors, responses to changing demands due to climate shifts, efforts to reduce carbon emissions within the tourism sector, and so on (Fang et al., 2018). A range of literature provides evidence of climate change's impact on tourism flows; a few other studies comprehensively examine the chain of transmission; and some focus on the environmental impacts of climate change and how it impacts the tourism industry (Arabadzhyan et al., 2021).

Climate change poses significant threats to species' survival, the availability of fresh water, health risks, wildfires, heatwaves, and so forth, and its negative implications can also deter travelers from visiting attractive destinations (Siddiqui and Imran, 2022). Apart from the physical impacts, significant perceived impacts of climate change are also visible on food self-sufficiency, crop quality, water resources, and social bonds (Shukla et al., 2019).

Himalayan regions have faced various negative consequences of climate change (Xu et al., 2009; Shekhar et al., 2010). The literature highlights the vulnerability of Jshimath to climate change and the resultant environmental hazards (Mey et al., 2023; Shrestha and Champati ray, 2007; Maurya et al., 2017; Pinakana and Prakash, 2023). Past studies underscore the importance of addressing both the impacts of climate change and uncontrolled human activities on the region's ecosystem (Chand, 2014).

Tourism is one of the industries least prepared for the risks posed by climate change, so addressing it is a prerequisite for sustainable development of the industry (Scott, 2011). These problems have also raised serious questions about the possibility of religious and other tourism activities in destinations in the long run. Residents in religious tourism destinations perceive that the huge numbers of religious tourists put pressure on specific sites as well as on destinations as a whole, and that policy makers are failing to implement firm spatial planning to manage the situation (Alipour et al., 2017). It is therefore crucial to develop knowledge about the adaptive capacities of destinations against climate change and other related factors (Hall, 2008; Burns and Bibbings, 2009).

Since the last decade, a novel theme centered on sustainable adaptation has emerged, capturing the interest of scholars in the field of tourism research (Njoroge, 2015). Understanding people's perceptions of climate and incorporating local knowledge into climate change mitigation strategies are also essential for decision-making, as frameworks should consider cultural perspectives and ways of seeing, knowing, and valuing the world (Vedwan and Rhoades, 2001). Tourism practitioners, academicians, and researchers must address the environmental degradation resulting from tourism activities, the conservation of endangered species, and the wellbeing of local communities affected by climate change (Shani and Arad, 2014).

Recent updates and concerns from environmentalists, scientists, and administrators underscore the urgency of addressing these issues to mitigate future disasters. Few studies have been carried out to understand the environmental impact of mass religious tourism, but it was found that local residents in religious destinations perceive it to have negative impact on the environment (Alipour et al., 2017). Other studies have also been conducted keeping the focus on sustainability of religious tourism, and have found that sustainable benefits can be maximized by understanding religious tourists and their intentions (Alhothali et al., 2022). Previous studies advocate for incorporating cultural and religious perspectives into the study of sustainability in pilgrim towns, stressing the importance of engaging religious institutions in discussions to enhance local and regional pilgrimage and religious tourism development (Shinde and Olsen, 2022). Studies have also been conducted on the Himalayan region to analyze the impact of tourism on climate change, and vice versa, from different perspectives. However the present study aims to examine the perspectives of local residents to analyze the impact of religious tourism on climate change in the Indian Himalayan town of Joshimath. Although numerous studies have examined the different aspects of tourism and climate change there is paucity of research specifically assessing the pattern of religious tourism with a focus on Joshimath. The study will help researchers understand the relationship between religion and tourism and resultant impacts on Himalayan towns.

### 3 RESEARCH METHODOLOGY

This study primarily focused on exploring the factors that are responsible for the climate- and environment-related issues in the Himalayan town of Joshimath from the religious perspective. In pursuit of this goal, qualitative research methodology was employed to provide insights such as individual opinions, principles, convictions, sentiments, emotions, and viewpoints that cannot be expressed and understood using statistics (Berkwits and Inui, 1998; Abdelhadi et al., 2013). The objective of the study and its exploratory nature can support the rationale for using a qualitative technique. The respondents were engaged in semi-structured interviews spanning January to July 2023. Semi-structured questionnaires promote two-way contact, allow for open-ended responses from participants, and provide detailed information. Some interviews took place in person, while others used a virtual format for the convenience of the respondents and due to time constraints. Semi-structured interviews were chosen for this study because they allow researchers to collect 'rich' data for specific research to highlight and examine the topic under inquiry (Babbie, 2007), while allowing for further detailed explanation if the responses are brief or vague (Carey, 2013). Around 35 people were initially approached as participants, and the final data was obtained from a sample of 27 respondents, 17 male and ten female.

A purposive snowball sampling technique was adopted to select respondents from different parts of the study area. First, through enquiries and field visits those people were identified who were engaged in tourism-related activities and had experienced the impacts of climate change due to excessive tourism-related activities. These were further shortlisted because of their destination knowledge and availability for the interviews. Snowball sampling also assisted in finding the most suitable respondents. Prior to conducting the interviews, all ethical standards were considered, and respondents' consent was obtained. All 27 respondents were

residents of Joshimath and were engaged in tourism-related activities as this made them better able to understand and answer the interview questions.

According to Hennink et al., (2017: 606), it is advisable to conduct at least 24 interviews with appropriate respondents in order to examine a problem in a 'richly textured' manner, whereas Guest et al., (2006: 64) suggested that the minimum number of interviews required for a qualitative study is six. Nevertheless, in qualitative studies the saturation point determines the study's sample size at the time of data collection. At this stage, it is not possible to derive any new patterns or information from the data. These respondents were carefully chosen, and came from diverse age groups and professional and cultural backgrounds. This ensured the representation of different perspectives within the community. Out of the 27 respondents, ten were in the 20–30 age group, ten were in the 31–40 group, four in the 41–50 group, and three were aged 51 and above.

Based on the available literature (Ghosh et al., 2016; Maurya et al., 2017), a semi-structured questionnaire was formulated to collect precise and pertinent information from the respondents. The questionnaire consisted of several open-ended questions, and focused on exploring the factors that are responsible for the climate- and environment-related issues in Joshimath from the religious perspective. Interviews were scheduled in advance with the respondents, conducted in Hindi and English, audio recorded, and translated into English as required in some cases. Transcripts of the interviews were created later for the data analysis. Transcribing is the process of converting the interviews into written text, and includes decisions about what level of detail to choose for data interpretation and representation (Bailey, 2008).

In the next step, thematic analysis was utilized to analyze the prepared transcripts. Thematic analysis aims to find and explain themes or patterns of meaning in the qualitative information that the researcher has gathered (Braun and Clarke, 2006; Guest et al., 2012). The thematic analysis was performed with the help of NVivo 12 to attain the objective of the study. The transcripts were uploaded to NVivo to identify patterns and themes within the text. Furthermore, supplementary data for the study was gathered from a variety of pertinent research publications, books, articles, and reports.

#### 4 DATA ANALYSIS AND FINDINGS

The initial stage in thematic analysis of textual data involves open coding (Strauss, 1987), and the objective is to identify, categorize, and label the text obtained from the interview transcripts. These codes can pertain to a single line, a paragraph, or even the entire text. As shown in Table 1, similar text was grouped under single categories. This subsequent step is referred to as 'axial coding', during which the researcher endeavors to establish sub-categories. At this stage, the interconnected open codes were brought together to form provisional statements that describe relationships between phenomena (Tan et al., 2013). The final phase entails selective coding, which is abstract by nature. During this phase, all the sub-categories were integrated into core categories that possess significant analytical strength by enabling description and prediction (Strauss and Corbin, 1998). In this research, seven sub-categories emerged which were later regrouped into four themes, namely: faith and perception; consumption patterns; willingness to take action; and geographical location. These findings are presented in Table 1 as outcomes of the study.

Table 1 Synthesis of open coding, axial coding, and selective coding

Open coding (generated from data)	Axial coding (sub-category)	Selective coding (theme/category)
<p>In the last few years in Joshimath, I got the opportunity to understand how destruction of the environment disrupts the web of life. This had a huge impact on my point of view afterwards. (R2)</p> <p>Tourists keep on coming here to visit temples with their friends and family. I don't think the tourists should stop coming to religious places. Their faith is of utmost importance to them. (R5)</p> <p>Religious tourism is not just about visiting the destination. Our actions should reflect harmony with all living beings and the environment. (R12)</p>	<p>Footprint of religious tourism</p>	<p>Faith and perception</p>
<p>Within religious teachings, there's often a call for moderation and a focus on spiritual fulfillment rather than material excess. Unfortunately, we have failed to understand and apply this in religious destinations. (R4)</p> <p>Hinduism teaches detachment from material possessions and the pursuit of inner fulfillment. By focusing on these principles, we can reduce our impact on the environment. (R7)</p>	<p>Religious perception</p>	
<p>As a local business owner, I've seen how unchecked tourism growth can distort pricing and demand, making it difficult for small businesses to compete. Additionally, a focus on catering solely to tourists can erode the authentic local culture. (R15)</p> <p>Infrastructure development is leading to environmental degradation and loss of green spaces. The construction of dams, runnels, bridges, hotels, roads, and other facilities is disrupting local ecosystems and alter the natural landscape. (R3)</p>	<p>Unplanned development</p>	
<p>Rapid tourism development is putting immense pressure on natural resources and ecosystems. Increased construction, waste generation, and pollution is harming the delicate ecosystem of Joshimath. (R21)</p> <p>Absolutely, due to the influx of tourists the locals feel marginalized or priced out of their own neighborhoods. Additionally, the rapid growth of tourism is also affecting availability and prices of commodities and resources. (R22)</p>	<p>Shrinking natural resources</p>	<p>Consumption patterns</p>

(continued)

Table 1 Synthesis of open coding, axial coding, and selective coding (Continued)

Open coding (generated from data)	Axial coding (sub-category)	Selective coding (theme/category)
<p>Local communities want to be included in decision-making processes. Empowering residents to have a voice in tourism planning can help ensure that development aligns with cultural values and sustainable practices. (R8)</p> <p>Communities can leverage their influence to raise awareness and promote sustainable practices. By integrating environmental stewardship into religious teachings, we can inspire action. (R16)</p>	<p>Involvement of local community</p>	<p><i>Willingness to take action</i></p>
<p>Education plays a key role. Tourists should be informed about responsible travel and encouraged to respect local customs and the environment. (R18)</p> <p>Diversification of the economy is also important. Local people should explore opportunities beyond tourism to reduce vulnerability and promote economic resilience. (R9)</p>	<p>Creating awareness</p>	
<p>Joshimath is particularly sensitive to human activities and requires careful management to ensure their preservation. Cracks in walls of houses and roads are emerging every now and then. (R26)</p> <p>The town's subsidence is attributed to its geographical positioning atop a continuous ridge. The region experienced significant repercussions from the 2021 Uttarakhand flood and its subsequent aftermath. (R17)</p>	<p>Geography of destination</p>	<p><i>Geographical location</i></p>

## 5 DISCUSSION

The findings of the study revealed that religion influences a variety of lifestyle choices that have an impact on the environment. These include: daily choices; perceptions of whether human activity is causing climate change; consumption habits, which have an impact on the use of natural resources and greenhouse gas emissions; and willingness to take action to stop environmental degradation. While debating who benefits and who loses because of environmental degradation, resource scarcity, and global warming, it is crucial to take the religious aspects into account. We must identify those factors that are disproportionately responsible for environmental threats to address concerns about environmental justice.

### 5.1 Theme 1: faith and perception

The findings of the study indicate that religious beliefs are often intertwined with cultural norms and practices (R2, R5). Cultural factors can influence whether and how environmental concerns are prioritized within a religious community. For instance, a culture that places a strong emphasis on economic development may downplay environmental considerations. Different religious perspectives can lead to varying attitudes towards the environment (R12, R7). Some religions may emphasize human dominion over nature (anthropocentrism), while others prioritize the intrinsic value of all living beings (biocentrism). These differing perspectives can influence how believers perceive and interact with the environment (Vedwan and Rhoades, 2001; Mansfeld et al., 2016). Religious faith can contribute to an individual's ethical framework, affecting their decisions and behaviors related to the environment. Environmental concerns may align with broader moral and ethical principles derived from religious teachings.

### 5.2 Theme 2: consumption patterns

Unsustainable tourism practices – including overdevelopment, pollution, and habitat destruction – can lead to environmental degradation, hence impacting ecosystems, biodiversity, and natural beauty, as mentioned by respondents R21 and R22. Tourism and the consumption of natural resources are closely interconnected, and can have both positive and negative impacts on the environment and local communities (Gios et al., 2006; Hunter, 2012). Tourism often requires significant amounts of resources such as water, energy, and land. According to respondents R15 and R3, the construction and operation of hotels, transportation systems, and other tourist facilities is straining local resources. In some cases, tourism can also lead to the commodification and exploitation of local cultures, turning traditional practices and heritage into marketable products and eroding cultural authenticity.

### 5.3 Theme 3: willingness to take action

The willingness of locals to take action on nature conservation can be influenced by a variety of factors, including cultural values, economic considerations, education, awareness, and community engagement. According to respondents R8 and R16, the local community wants to be included in decision-making and intends to take

necessary action to save their sinking hometown. The cultural significance of nature and the environment can play a significant role in motivating locals to act for conservation (Liu et al., 2021). Traditional cultural beliefs that emphasize the interconnectedness of humans and nature often lead to a strong commitment to protect natural resources (Roxas et al., 2020). Governing bodies need to understand that engaging local communities in the decision-making process and involving them in planning and implementing conservation projects fosters a sense of responsibility and commitment.

#### **5.4 Theme 4: geographical location**

Hill stations or hilly areas are popular tourist destinations, renowned for their picturesque landscapes, pleasant climate, and natural beauty. They are typically located at higher elevations in mountainous regions, offering visitors respite from the heat and hustle of urban areas. However, due to the intervention of tourism and rapid development of the infrastructure their fragile ecosystems are often ignored by the authorities, as well as by local communities benefiting from tourism (Buckley, 2000). As mentioned by respondents R26 and R17, tourism activities and development have very serious visible impacts on Joshimath. Managing fragile hilly tourism destinations requires a comprehensive and sustainable approach that balances the economic benefits of tourism with the preservation of the delicate ecosystems and cultural heritage of these areas (Pinakana and Prakash, 2023). Sustainable management and conservation efforts are therefore essential to ensure the long-term viability of these popular tourist spots.

## **6 CONCLUSION**

Religion can play a significant role in destination management, especially in areas with particular religious significance (pilgrimage sites) or cultural heritage. The interplay between religion and tourism can have both positive and challenging implications for managing destinations. By adopting a holistic and proactive approach that integrates environmental, social, and economic considerations, fragile religious tourism destinations can be managed in ways that ensure their sustainability, protect their unique attributes, and benefit both visitors and local communities. For example, the Extinction Rebellion Muslims, a global coalition of Muslim advocates, organized ‘Green Ramadan’ seminars and initiatives to combat environmental degradation. They partnered with scientists and other religious communities, addressing issues such as the potential threat to Nairobi National Park in Kenya posed by a luxury tourist resort (Omolere, 2023). In Lithuania, green pilgrimage tourism includes spiritual tourism, religious tourism, and sacral tourism. Lithuania has a successful ecotourism industry and is considered one of the world’s most ethical destinations. The country offers hot-air ballooning (especially in Vilnius and Trakai) and themed routes through historical and nature sites, resulting in minimum impact on the environment (Navickiene et al., 2019).

Destination managers should also be culturally sensitive and respect local religious practices. Tourism activities should be designed to minimize disruption to religious ceremonies and daily life, and tourists should be educated about appropriate behavior at religious sites. The Green Pilgrimage Network, an alliance of cities and sacred sites worldwide, aims to make pilgrimage more environmentally friendly by promoting green transport, accommodation, and food and waste management (Singh, 2016).

Engaging local religious communities in destination management can lead to successful outcomes. Collaboration can help ensure that religious practices are respected, community concerns are addressed, and benefits from tourism are fairly distributed. Hence, incorporating religious considerations into destination management requires a delicate balance between promoting tourism, preserving cultural and religious heritage, and respecting the needs and sensitivities of local communities and visitors. Effective management strategies should be inclusive, sustainable, and culturally sensitive.

## 7 PRACTICAL IMPLICATIONS AND RECOMMENDATIONS

The findings of this study can guide policy interventions and support mechanisms to formulate policies, strategies, and practices for managing and mitigating the environmental effects of tourism on the natural environment. Governments and relevant authorities can use these findings to formulate policies and regulations that encourage sustainable tourism practices and discourage activities that harm the environment. Moreover, developing contingency plans and crisis management strategies is vital to address environmental challenges, such as natural disasters or extreme weather events, that may affect religious tourism destinations. Local authorities can develop educational programs for tourists and religious pilgrims to raise awareness about the environmental impact of their visits, and encouraging responsible behaviors can contribute to sustainable tourism. By incorporating these practical implications, stakeholders can work towards ensuring that religious tourism aligns with environmental sustainability goals, contributing to a more harmonious coexistence between pilgrimage activities and the preservation of the natural environment.

Hence, through active involvement in environmental initiatives, tourists and local communities can showcase their dedication to fundamental values, principles, and a genuine respect for diversity and pluralism. Simultaneously, local communities have the potential to question prevailing paradigms of consumerism, individualism, and materialism that play a role in both ecological deterioration and social inequality.

## 8 LIMITATIONS AND FUTURE RESEARCH

This study has some methodological and theoretical limitations. First, there is a lack of available literature and theories exploring the research area of religion and climate change. Moreover, quantitative methodology or a mixed-methodology approach and involving tourists in the study might give a better perspective in this case. It is unclear exactly how a rise in religious relevance might affect climate policy and the course of the climate system in the future. The results of our study cannot be generalized to all religious tourism destinations. Subsequent studies could center on comprehending the dynamic transformation of the global religious landscape in tandem with environmental shifts. This is essential as religion can shape the effectiveness and credibility of policies. In addition, there will probably be increasing focus on the ethical aspects of climate change, namely how various religious traditions disproportionately contribute to or are affected by it. It will be crucial for resolving future global environmental difficulties to find efficient methods of conveying environmental concerns and hazards within religious traditions as well as to promote interfaith and religious–non-religious cooperation.

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