

# Community Perspective for Sustainable Development at Tourism Destinations in Pakistan: The Case Study from Swat Valley

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## Abstract

*Tourism has grown gradually globally and in Pakistan, affecting a mass population. It is universally accepted that tourism has led to economic development. However, tourism has social, cultural, and environmental effects beyond the economic effects. The importance of sustainability in the communities, particularly in the tourism sector, must be understood and critically analyzed. This study examines tourism's economic, social, cultural, and environmental impacts on local communities. Using primary data from 140 households in the Swat district (Bahrain, Madyan, Kalam, and Mingora), Pakistan, data was collected through a structured questionnaire to capture these multifaceted impacts. The community's perception revealed that tourism has positive and significant economic and cultural impacts, with 70% of the population directly linked to tourism for their livelihood. Nearly 59% of respondents, primarily involved in business, reported earning an average monthly income of PKR 40,000–60,000. However, occupations like agriculture and transportation are relatively low-paying. Tourism's social impacts showed adverse effects, with 54% reporting overcrowding and congestion as significant issues, while 73% acknowledged inflation as a primary concern. Environmentally, 75% of respondents reported traffic congestion, 67% mentioned crowd-related issues, and 50% highlighted litter and sewage disposal as significant problems. In contrast, deforestation and wildlife disruption were less affected. Cultural impacts were mixed, with 55% believing tourism has not significantly altered local traditions, while 45% thought otherwise. Security improvements were a major driver for increased tourism (64%), followed by infrastructure development (18%). Job creation was predominantly attributed to the hotel and restaurant sectors (60%), while private investment accounted for 87% of local development. This study underscores the complex interplay of tourism's economic, social, cultural, and environmental dimensions, emphasizing the need for sustainable practices to balance benefits with challenges.*

**Keywords:** Tourism, Sustainable Development, Social Development, Ecotourism.

## Introduction

Every sector of the economy plays a compelling part in any country's sustainable development, exclusively tourism nowadays. The tourism industry is an imperative state sector with direct and indirect economic impacts. The tourism industry is responsible for many socio-economic impacts: economic, environmental, social, and cultural effects. Tourism is not only one of the most attractive sectors for foreign direct investment. However, it is also considered an engine of

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community and national development with numerous employment opportunities, which further leads to a better standard of living for local people and reduced poverty.

Countries that focus on and encourage tourism development in their states aim to reduce local and global poverty. In developing countries, the target of high economic growth and poverty reduction can be achieved by strengthening the tourism sector, as this sector is considered one of the significant money trade-offs from rich nations to poor economies (Mitchell & Ashley, 2009). Economic gains like job creation, revenue for the state, and platform for new business in the hotel and restaurant industry can be obtained by bolstering the travel and tourism industry. All these factors boost the economic development (Hye & Khan, 2013; Goldner et al., 2000; Khalil et al., 2007). Jucan and Jucan (2013) reported that many students, retirees, and senior citizens benefited from this industry through handsome earnings.

Other environmental, cultural, and social factors are also crucial for sustainable community development and economic gains from tourism. A number of experts and scholars hold tourism responsible for environmental blight and pollution creation (noise, water, air, crowd, etc.). Today, communities have realized that tourism can stimulate sustainable community development and benefit social, cultural and economic aspects. It also affects the environment, so there is a close link between tourism and community activities (Beeton, 2006; Richards & Hall, 2000).

Ma et al. (2018) conduct a case study on natural tourism communities in China, highlighting the significance of livelihood assets in sustainable income generation within communities (Abukhalifeh et al., 2019). Discuss the contributions of community-based tourism to the socio-economic well-being of local communities, emphasizing the role of stakeholder participation in sustainable tourism development. Furthermore, (Fang et al., 2020) present a case study on developing collective leadership capacity to drive sustainable practices in tourism destinations, underscoring the importance of stakeholder engagement in achieving sustainable outcomes. Pasanchay et al. (2021) focus on the capacity of community-based tourism homestays to advance Sustainable Development Goals through a holistic, sustainable livelihood perspective (Jaafar et al., 2021). Explore the training modules for community-based tourism enterprise development in rural areas, highlighting the importance of practical training in promoting sustainable tourism initiatives. Tong et al. (2024) emphasized the role of tourism empowerment and community participation in rural tourism development, recommending strategies such as creating interest linkage mechanisms, introducing oversight mechanisms for tourism enterprises, and strengthening community participation through educational and informational support. Overall, the literature underscores the critical role of community perspective in sustainable development at tourism destinations, as demonstrated in various case studies and research findings.

Several studies have been conducted about community perceptions and participation in tourism development and its impacts throughout the globe (Teye et al., 2002; Upchurch & Teivane, 2000; Andereck et al., 2005; Choi & Sirakaya, 2005). Little literature on this topic can also be observed in Pakistan. This study attempts to evaluate the effect of tourism development on sustainable community development in the region. The present study attempts to answer the questions related to community development through tourism: Does tourism lead to community development? Whether the development is sustainable in the community? Does the local community favour tourism and contribute to development? Finally, is the government contributing to and promoting sustainable tourism in the region?

With its multiple effects on the economy, job creation, increase in revenues, and recuperation in the country's balance of payments, tourism is considered the main driver of development and

growth. This study's main objectives are to evaluate tourism's economic, social, and cultural impacts and analyze the environmental sustainability in the region of Swat.

## Literature Review

Past studies have provided a framework that will be followed in the present study. Although this study is unique, the methodologies have been adapted by profoundly analyzing the following literature.

### Tourism and Economic Development:

There is a universal perception that tourism development has led to economic development and growth. Several scholars have investigated the association between tourism and economic development and growth. Samimi et al. (2011), Fayissa et al. (2007), Akan et al. (2008), Zortuk (2009), and Kreishan (2010) found a positive and significant impact of tourism on economic growth. Briedenhann and Wickens (2004) revealed that opportunities for the development of small-scale indigenous tourism projects may be achieved with local community participation with the support of the private and public sectors, which ultimately spur higher economic growth in the region.

He and Zheng (2011) analyzed tourism as having impacted economic growth. He further argued that there is a need to enhance the tourism sector's development and promote economic health. The major problem during the tourism development process is the lack of a master plan by the governments. Lee and Chien (2008) and Kim et al. (2006) found interesting results. They revealed that economic shocks, international and cross-strait political fluctuations and lessening of some tourism policies would break the stability of the relationship between tourism development and economic growth. In the end, they argued that the development of Taiwan's tourism industry is linked to the economic development and political relationship between Taiwan and the People's Republic of China, also known as mainland China. In addition, Banday and Aneja (2015) found that international tourists were the primary source of foreign exchange. They also observed that tourism leads to environmental degradation. Tourism development and economic growth have no long-run relationship, whereas (Oh 2005; Durbarry 2004) confirmed the one-way causal relationship of economic-driven tourism growth.

Few studies have been conducted in Pakistan to assess the role of tourism in Pakistan's economic growth. By promoting tourism in the country, the government receives the revenues through tourism and new opportunities for employment are generated. Hence, boosting the tourism industry in the country ultimately leads to economic growth (Kakar & Khalil, 2011; Khalil et al., 2007). Ahad (2016) found the unidirectional relationship between tourists' arrival and economic growth. Also, a bidirectional relationship between tourists' expenditures and economic development was found in both the short and long run.

Furthermore, they found a long-term relationship between tourism and economic development, even in the presence of structural breaks. Baloch (2016) claimed that the tourism sector is one of the industries ignored in Pakistan. This is due to a lack of coordination among local, state, and provincial administrative authorities, which leads to mismanagement in the sector. In addition, the government's role in promoting tourism is very little or zero.

### Tourism and Socio-economic Factors

In this section, we discuss the impacts of tourism on socio-economic factors. Choi and Murray (2010) investigated the role and attitudes of residents in tourism development by using social

exchange theory, which revealed a perceived positive impact, such as economic gains. They observed that, along with other factors, future tourism development will be strongly affected by the positive perception of development and vice versa. In addition, outcomes confirmed that environmental sustainability will not affect tourism development. Finally, they argued that tourism development is positively linked to long-run tourism planning. Residents with strong community attachment had a negative association with the perceived negative impact of tourism. Taxes on goods and services, trade openness, physical capital, and human capital had a positive and significant impact.

Meanwhile, the real exchange rate distortion was negative and insignificant, and the manufacturing export share had a positive and negligible impact on growth. The findings of Hussin and Kunjuraman (2014) revealed that satisfaction of the national tourists with facilities has a positive effect on tourism. Liu (2010) examined the weaknesses of sustainable tourism. He claimed that the previous studies overlooked the six issues prevailing in the literature on sustainable tourism. These issues consist of the role of tourism demand, the imperative of intra-generational equity, the role of tourism in promoting socio-cultural progress, the nature of tourism resources, forms of sustainable development, and the measurement of sustainability. Ultimately, he concluded that an interdisciplinary approach and a systems perspective are essential to transform research on sustainable tourism to a scientific level.

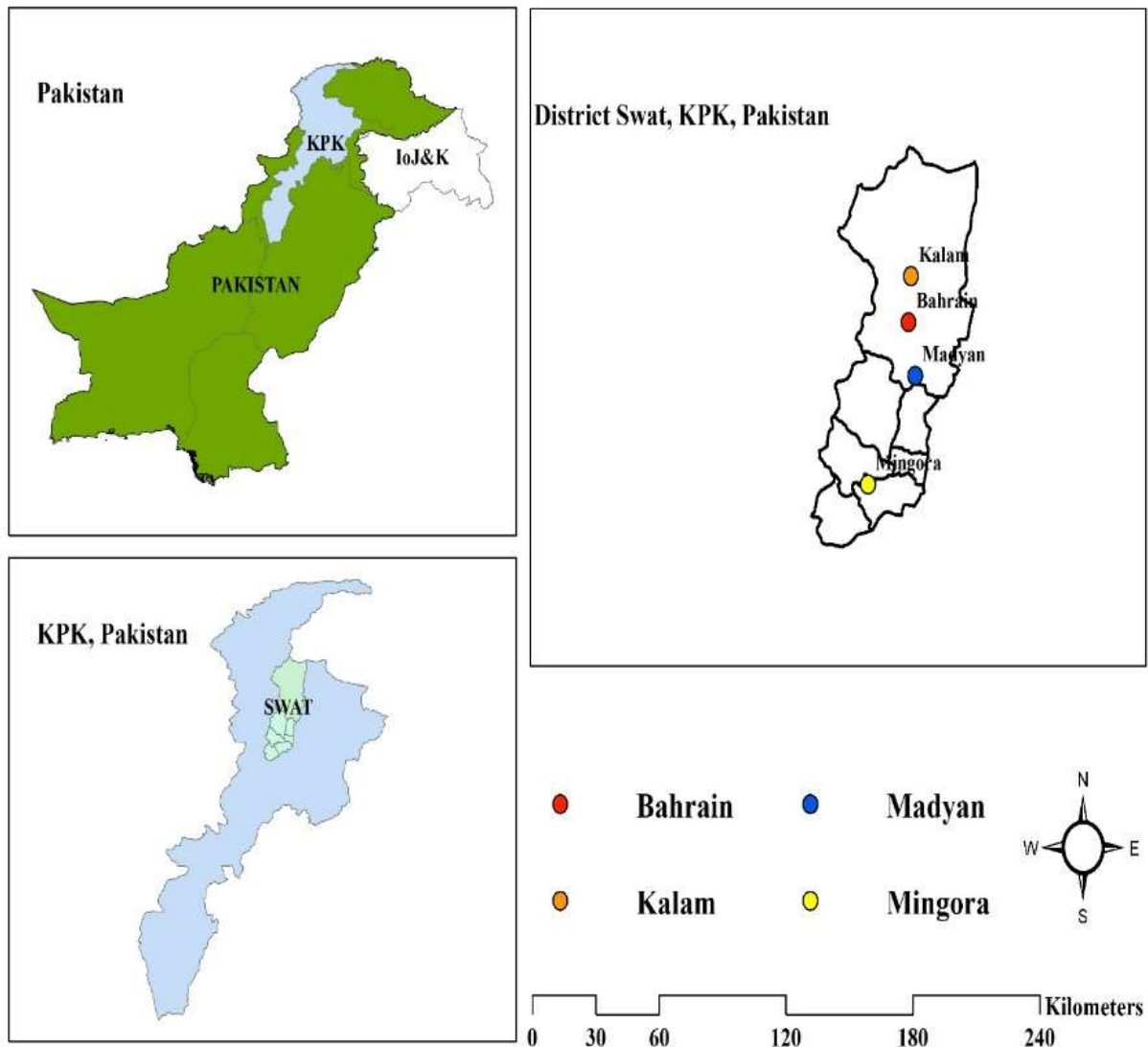
### **Tourism and Environmental Problems**

The tourism sector plays an imperative role in the sustainable development and growth of the community. On the same token, it is also held responsible for environmental damages such as air and water, noise pollution, and the destruction of forests due to the lack of proper gas facilities in tourist destinations. To study the environmental impacts of tourism, Gosling and Peeters (2015) examined tourism's global environmental impact from 1900 to 2050. They found that the worldwide tourism sector in 2010 may need C. 16700 Pj of energy, 62000 KM<sup>2</sup> of land, 39.4 Mt of food and 138 km<sup>2</sup> of fresh water, which also caused emissions of 1.12Gt CO<sub>2</sub>. They argued that the overall consumption of tourism resources may increase by 92 % (water) and 189% of the land between 2010 and 2050. Ultimately, they suggested that fast-growing resource inputs are required to maintain global tourism. Otherwise, the system will become progressively at risk due to disorders in resource resource flow. Othman et al. (2014) found the negative impact of tourism activities on environmental sustainability, such as the cleanliness of beaches and tourist destinations.

### **Data and Methodology**

Tourism has grown gradually globally and in Pakistan, affecting a mass population. It is universally accepted that tourism has led to economic development. However, tourism has social, cultural, and environmental impacts beyond the financial effects. The importance of sustainability in communities, particularly in the tourism sector, needs to be understood and critically analyzed. This study examines tourism's economic, social, cultural, and environmental impacts on local communities.

Swat was selected for this study due to its high tourism potential, rich cultural and social perspectives, and reputation as the "Switzerland of Pakistan." Using a multistage stratified sampling method, data were collected from 140 households in four prominent tourist destinations: Bahrain, Madyan, Kalam, and Mingora. The respondents, directly or indirectly involved in the tourism sector, were chosen through convenience sampling.

**Figure 1: Study area**

A structured questionnaire divided into five parts—economic, social, cultural, and environmental impacts, along with overall sustainability—was used for data collection. Data validity was ensured through Cronbach's Alpha, and indexes for different aspects were constructed using weighted values, as detailed in the appendix. Index values were converted to a standardized range of 0–100 using the formula:

$$\text{Index Percentage} = \frac{\text{value of the index} - \text{minimum}}{\text{Maximum} - \text{Minimum}} \times 100$$

Each index was designed to represent the summarized responses across various facets of sustainability. A combination of binary and Likert scale questions was used, with the Likert scale customized to the nature of the inquiry (e.g., a 1–5 scale for environmental impacts, where 1 represented a significant impact, and 5 denoted neutrality). The community's perception revealed that tourism has positive and significant economic and cultural impacts, with 70% of the

population directly linked to tourism for their livelihood. Nearly 59% of respondents, primarily involved in business, reported earning an average income of PKR 40,000–60,000 per month. However, occupations like agriculture and transportation are relatively low-paying. Tourism's social impacts showed negative effects, with 54% reporting overcrowding and congestion as significant issues, while 73% acknowledged inflation as a major concern.

Environmentally, 75% of respondents reported traffic congestion, 67% mentioned crowd-related issues, and 50% highlighted litter and sewage disposal as significant problems. In contrast, deforestation and wildlife disruption were less affected. Cultural impacts were mixed, with 55% believing tourism has not significantly altered local traditions, while 45% thought otherwise. Security improvements were seen as a major driver for increased tourism (64%), followed by infrastructure development (18%). Job creation was predominantly attributed to the hotel and restaurant sectors (60%), while private investment accounted for 87% of local development. This study underscores the complex interplay of tourism's economic, social, cultural, and environmental dimensions, emphasizing the need for sustainable practices to balance benefits with challenges. A copy of the questionnaire and detailed methodology is provided in the appendix for reference.

## Results and Discussion

This section reports about the descriptive analysis of the data. Record data was extracted from four locations of Swat valley, demonstrating mainly the income sources of the family of respondents. Below given contingency table reports regarding education and income resources

The examination of the relationship between education levels and income sources aligns with human capital theory, which posits that education enhances productivity and income potential. However, the data reveals that business owners with primary or matric education dominate the income landscape, reflecting the unique socio-economic context of Swat. This trend is explained by the resource-based view of entrepreneurship, where local knowledge and networks, rather than formal education, drive economic activities. Low-income occupations like agriculture and transportation further underscore structural challenges in diversifying income streams.

**Table 1: Education-Income Family Statistics**

|                          | Uneducated | Primary | Matric | graduate | Postgraduate | Total |
|--------------------------|------------|---------|--------|----------|--------------|-------|
| Private                  | 4          | 9       | 3      | 8        | 2            | 26    |
| Public                   | 2          | 2       | 4      | 11       | 4            | 23    |
| Business                 | 15         | 28      | 45     | 15       | 2            | 105   |
| Agriculture              | 5          | 0       | 2      | 0        | 1            | 8     |
| Rent Assets              | 2          | 2       | 2      | 1        | 0            | 7     |
| Transportation           | 7          | 3       | 4      | 1        | 1            | 16    |
| Hoteling and restaurants | 4          | 2       | 15     | 4        | 1            | 26    |
| Vendor                   | 2          | 2       | 4      | 0        | 0            | 8     |
| Foreign                  | 1          | 1       | 6      | 2        | 2            | 12    |
| Student                  | 0          | 26      | 35     | 18       | 11           | 90    |
| Housewife                | 1          | 2       | 1      | 0        | 1            | 5     |
| Retired/Unemployed       | 12         | 5       | 2      | 4        | 0            | 23    |
| Total                    | 69         | 82      | 123    | 64       | 25           | 349   |

*Source:* Own calculations based on field survey

According to table 1, almost 59% respondents are either primary or matric and are running their own businesses. They are directly or indirectly involved in the tourism and enjoy an average income of 40-60 thousand Which can be seen in the given table 2.

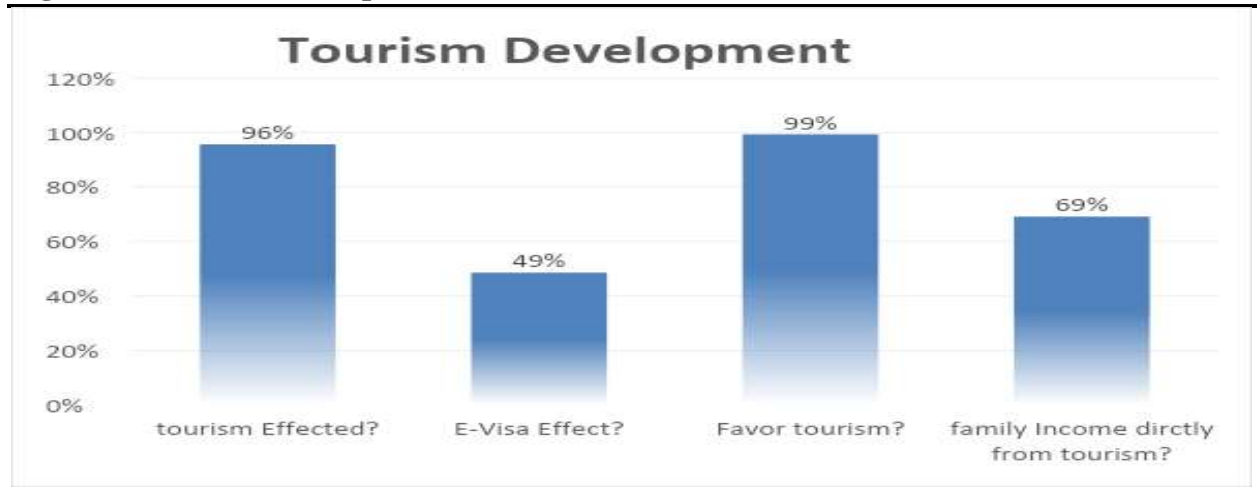
**Table 2: Occupation Income Stats**

|                          | <20000 | 20000-40000 | 41000-60000 | 61000-80000 | 81000-100000 | >100000 | Total |
|--------------------------|--------|-------------|-------------|-------------|--------------|---------|-------|
| Private                  | 9      | 9           | 5           | 1           | 0            | 0       | 24    |
| Public                   | 1      | 9           | 11          | 1           | 0            | 0       | 22    |
| Business                 | 15     | 44          | 31          | 4           | 1            | 5       | 100   |
| Agriculture              | 6      | 2           | 0           | 0           | 0            | 0       | 8     |
| Rent Assets              | 1      | 1           | 1           | 3           | 1            | 0       | 7     |
| Transportation           | 7      | 8           | 1           | 0           | 0            | 0       | 16    |
| Hoteling and restaurants | 5      | 14          | 2           | 0           | 1            | 2       | 24    |
| Vendor                   | 3      | 2           | 3           | 0           | 0            | 0       | 8     |
| Foreign                  | 0      | 3           | 5           | 3           | 0            | 1       | 12    |
| Total                    | 48     | 92          | 59          | 12          | 4            | 8       | 221   |

Source: Own calculations based on field survey

In contrast, occupations of agriculture or transportation are low paying professions, though expatriates are earning more than the major sectors. Moreover, the people linked with restaurants are earning differently, e.g. waiters are earning less than 40,000 PKR but skilled labor like chefs and investors are earning more than PKR 80,000. Finally, the table shows that the women aren't allowed to work due to the traditional customs.

**Figure 2: Tourism Development**



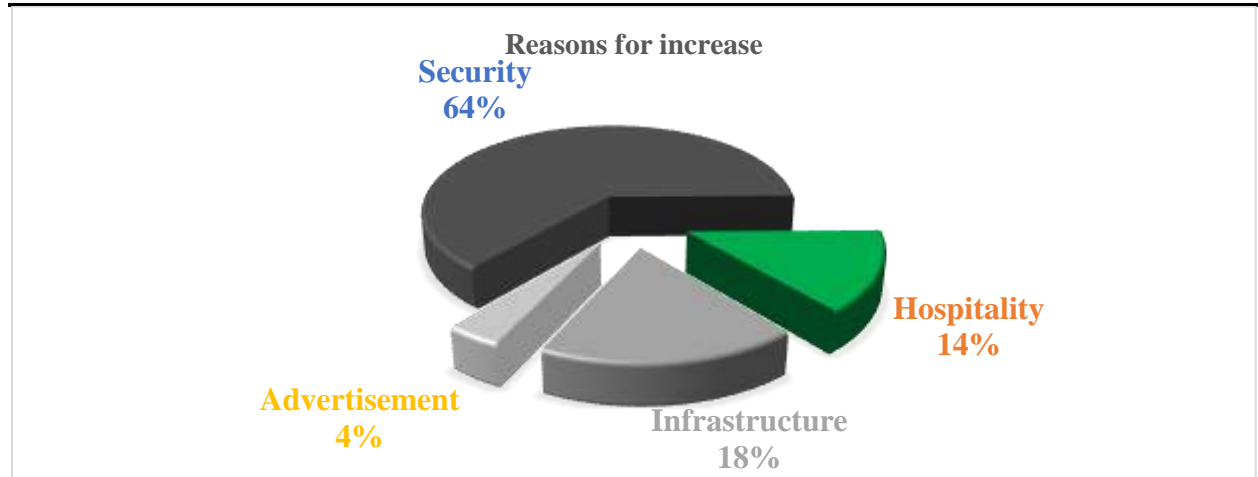
Source: Own calculations based on field survey

Figure 2 shows that there is significant effect of terrorism on the tourism development 96% people believed the terrorism has affected the tourism further they believe that the current government policies have benefited the tourism such as E-Visa policy. The entire population of swat showed

that they are in the favor of the tourism and almost 70 % of their population is directly linked the tourism and is the mean of earning.

The data shows a strong correlation between improved security and tourism growth, supported by push and pull theory in tourism. Security serves as a "pull factor" attracting tourists, while previous instances of terrorism acted as a "push factor" driving tourists away. The recognition of infrastructure, hospitality, and advertising as growth drivers reflects the application of destination competitiveness theory, emphasizing how local attributes influence tourism dynamics.

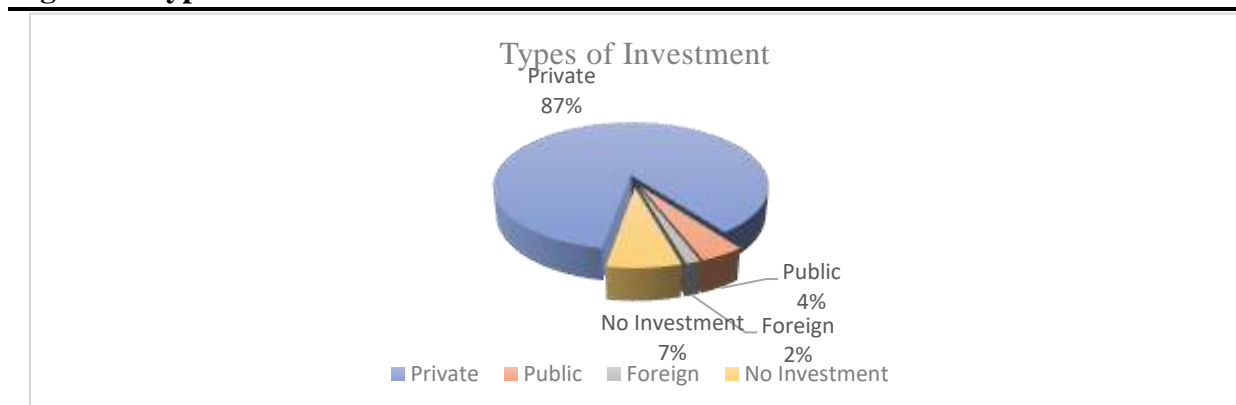
**Figure 2(a) Reasons for the increase**



*Source:* Own calculations based on field survey

Afterward, the figure 2a shows that 64% accepted that increment in the tourism is due to security reasons, 14 % said it's due to their hospitality, 18% said it's due to efficient infrastructure and only 4 % believed it's due to appropriate advertisement. Furthermore, 84% believed that tourism has decreased due to fear, 10% said it's because of accessibility issues, and the remaining 6% replied that an increase in the cost is the reason behind the decline in tourism in the selected destinations of this study.

**Figure 3: Types of Investment**



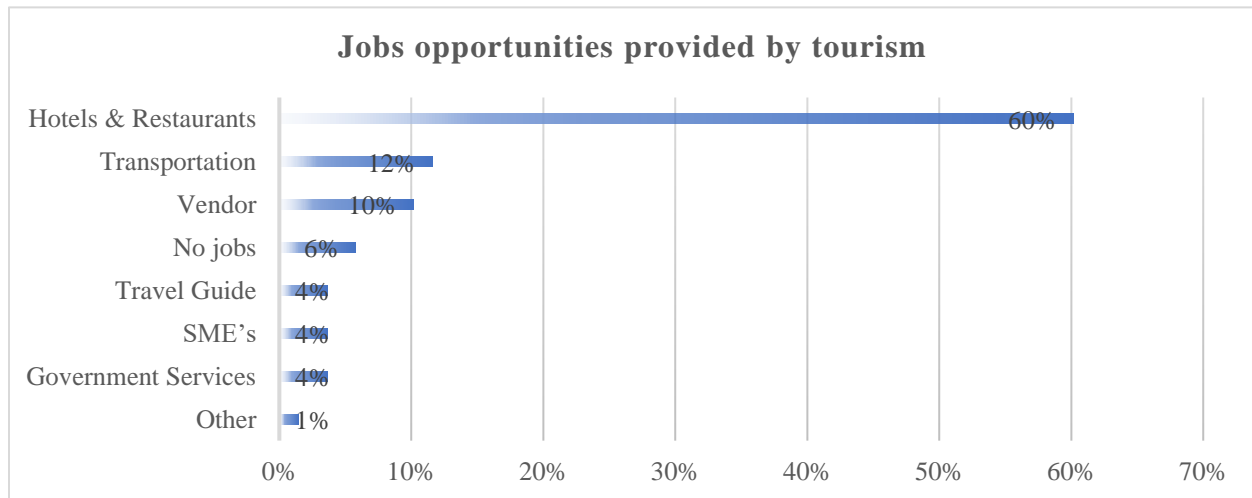
*Source:* Own calculations based on field survey



Figure 3 explains the types of increased investment in the area. 87% believe that private investments have been increased, 4 % believe in government investments however remaining 2% said there is no increment in the investments.

The dominance of private investment (87%) over government contributions reflects public-private partnership (PPP) theories, which suggest that private stakeholders often lead infrastructure and service improvements in tourism. The minimal role of government investments highlights the need for policy shifts to ensure equitable and sustainable growth.

**Figure 4: Jobs opportunities provided by tourism**



*Source:* Own calculations based on field survey

Figure 4 shows the perceptions of the people about the job opportunities provided by tourism development. The 60% of respondents answered that the hotels and restaurants are the providers of jobs, 12 % of them believed that transportation are the major job provider, 10% of respondents think that the people have employed in the vendor business mostly, 4% of respondents described that the SME's are the major provider of the employment, 4% of respondents said that the government services have led to job creation, and only 1% of the people have a mixed opinion on the job sectors.

The employment statistics align with economic impact models of tourism, which assert that tourism generates direct, indirect, and induced employment opportunities. The hotel and restaurant sector emerges as a significant employer, consistent with findings in similar tourist economies. The data also highlights the absence of women in the workforce due to traditional customs, reflecting gender role theory and the socio-cultural constraints in the region.

**Table 3: Market Effects**

|                            | <b>Strongly agree</b> | <b>Agree</b> | <b>Neutral</b> | <b>Disagree</b> | <b>Strongly Disagree</b> |
|----------------------------|-----------------------|--------------|----------------|-----------------|--------------------------|
| Demand for local product   | 49%                   | 46%          | 4%             | 1%              | 0%                       |
| Exports of local product   | 30%                   | 41%          | 14%            | 12%             | 3%                       |
| Imports in local community | 30%                   | 41%          | 17%            | 7%              | 5%                       |
| Standard of living         | 70%                   | 28%          | 1%             | 0%              | 0%                       |
| Monthly earnings           | 73%                   | 25%          | 1%             | 0%              | 0%                       |
| Rises prices for locals?   | 48%                   | 20%          | 3%             | 22%             | 7%                       |

*Source:* Own calculations based on field survey

**Table 4: Infrastructure Development**

|  | <b>Yes</b> | <b>No</b> |
|--|------------|-----------|
| govt. has checked on safety and infrastructure         | 91%        | 9%        |
| improvement of electricity and telecommunication       | 88%        | 12%       |
| improvement of the supply of electricity gas and water | 73%        | 27%       |
| improvement in means of transportation                 | 97%        | 3%        |
| cost of traveling                                      | 70%        | 30%       |
| improvement of roads conditions                        | 80%        | 20%       |
| the need for more investment                           | 99%        | 1%        |

*Source:* Own calculations based on field survey

The table 4 shows that majority believed that tourism has supported the marketing. Table 4 includes the infrastructure improvement explaining that 91% of respondents speak for government but 9% speak against the government. Almost all people believe that the supply of electricity and telecommunications has been improved with tourism.

The market effects reported align with tourism-led growth hypotheses, which state that tourism stimulates demand for local products, exports, and services, subsequently raising living standards and monthly earnings. However, the inflationary pressures reported (48% agreement) echo findings from tourism area lifecycle models, where increased demand inflates local prices. The improvements in infrastructure, particularly electricity, telecommunication, and transportation, confirm the spillover effects of tourism investment, as theorized by the multiplier effect model. The near-universal agreement on the need for further investments suggests gaps in long-term planning and resource allocation.

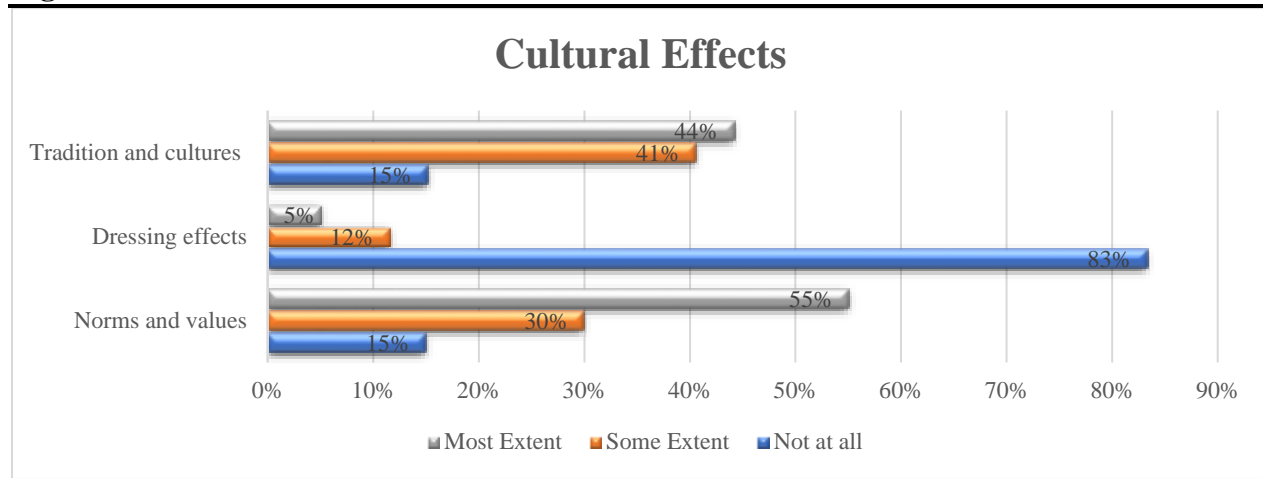
**Figure 5: Cultural effects**

Figure 5 shows that 55 % believe that tourism has not caused any change in cultural traditions while 45% said it is affecting the customs. Also 83% believe that there has been an inappropriate dressing of the tourists or it has not affected the locals while 17% find it another way. The mixed responses regarding cultural changes reflect the principles of acculturation theory, which explores how host cultures adapt to external influences. While most respondents believe traditions remain unaffected, concerns about inappropriate dressing by tourists indicate early signs of cultural commodification, as posited by the tourist gaze theory.

**Table 5a: Social Impacts of Tourism**

| Variables                 | To Most extent | To some Extent | Not at all | Got Worse |
|---------------------------|----------------|----------------|------------|-----------|
| Health service            | 36%            | 37%            | 20%        | 7%        |
| Education Services        | 51%            | 31%            | 13%        | 4%        |
| Shopping facilities       | 51%            | 44%            | 4%         | 0%        |
| Entertainment facilities  | 9%             | 35%            | 54%        | 1%        |
| Information Technologies. | 49%            | 36%            | 14%        | 1%        |
| Processed food.           | 20%            | 49%            | 30%        | 1%        |
| Commercialization         | 17%            | 39%            | 41%        | 4%        |

Source: Own calculations based on field survey

**Table 5b: Negative Social Aspects**

| Variables                               | Strongly agree | Agree | Neutral | Disagree | Strongly Disagree |
|---|----------------|-------|---------|----------|-------------------|
| Drug Abuse                              | 5%             | 13%   | 12%     | 45%      | 25%               |
| Alcoholism                              | 3%             | 8%    | 13%     | 51%      | 25%               |
| pollution. (Garbage, Solid Waste, etc.) | 27%            | 30%   | 6%      | 21%      | 17%               |
| corruption                              | 1%             | 7%    | 19%     | 49%      | 25%               |
| smuggling, gambling etc.                | 1%             | 4%    | 7%      | 63%      | 25%               |
| loss of moral values.                   | 1%             | 17%   | 13%     | 45%      | 23%               |
| adoption of westernized dress.          | 8%             | 20%   | 20%     | 30%      | 22%               |
| overcrowding and congestion             | 54%            | 29%   | 3%      | 9%       | 5%                |
| Inflation                               | 28%            | 38%   | 9%      | 17%      | 8%                |
| security threats                        | 11%            | 7%    | 5%      | 48%      | 29%               |

Source: Own calculations based on field survey

Table 5b shows the people perceptions about the negative social aspects of tourism. People were asked about drug use, alcoholism, corruption, and Smuggling & Gambling. 70 to 75 % denied while 12 to 13 % responded in the neutral. The positive impacts on health, education, shopping, and IT services align with the social exchange theory, where locals perceive the benefits of tourism to outweigh the costs. Conversely, concerns about drug abuse, pollution, and inflation reflect the challenges of managing tourism's negative externalities, consistent with carrying capacity theory.

**Table 6: Environmental Effects**

|                            | <b>Significant Impact</b> | <b>Some Impact</b> | <b>Little Impact</b> | <b>No Impact</b> | <b>I Don't Know</b> |
|----------------------------|---------------------------|--------------------|----------------------|------------------|---------------------|
| Deforestation              | 13%                       | 27%                | 20%                  | 38%              | 3%                  |
| Soil Erosion               | 4%                        | 25%                | 22%                  | 44%              | 5%                  |
| Water Pollution            | 43%                       | 25%                | 11%                  | 20%              | 1%                  |
| Vegetation Loss            | 4%                        | 21%                | 28%                  | 45%              | 3%                  |
| Disruption for Wildlife    | 6%                        | 10%                | 30%                  | 48%              | 6%                  |
| Wilderness                 | 19%                       | 22%                | 20%                  | 36%              | 4%                  |
| Air pollution              | 31%                       | 27%                | 14%                  | 27%              | 1%                  |
| Tenting and Digging        | 10%                       | 30%                | 26%                  | 33%              | 1%                  |
| Energy overuse             | 54%                       | 22%                | 6%                   | 17%              | 1%                  |
| Litter & sewerage Disposal | 50%                       | 22%                | 6%                   | 21%              | 1%                  |
| Crowd problem              | 67%                       | 19%                | 9%                   | 5%               | 0%                  |
| Traffic Congestion         | 75%                       | 20%                | 1%                   | 4%               | 0%                  |

*Source:* Own calculations based on field survey

Table 6 shows that the respondent found a significant effect of tourism on air pollution, water pollution, litter disposal, crowd problem, and energy overuse. However, deforestation and wilderness are less affected by tourism. While soil erosion, disruption of wildlife and vegetation are less affected by tourism. The significant impacts of tourism on air and water pollution, crowding, and traffic congestion align with the environmental Kuznets curve, which suggests that environmental degradation often accompanies early stages of economic development. However, the limited effects on deforestation and wildlife disruption highlight the unique environmental resilience or management practices in Swat.

## Conclusion and Recommendations

The findings of this study provide a comprehensive understanding of the socio-economic, cultural, and environmental impacts of tourism in Swat Valley. Tourism plays a pivotal role in shaping local livelihoods, infrastructure development, and market dynamics, while also revealing challenges that demand policy attention. Economically, tourism has significantly improved income levels and created employment opportunities, particularly in the business and hospitality sectors. However, traditional occupations like agriculture and transportation remain low-income sources, and the predominance of private investment over government contributions underscores the need for greater public-sector involvement to ensure equitable growth. Socially, tourism has led to notable improvements in health, education, shopping, and IT services, reflecting its broader socio-economic benefits. However, gender exclusion, cultural shifts, and issues like drug abuse and inflation necessitate targeted interventions to manage tourism's social impacts effectively.

Culturally, while most respondents believe tourism has not drastically altered local traditions, concerns about inappropriate dressing and cultural commodification indicate early signs of change. This highlights the importance of strategies to preserve cultural heritage alongside tourism growth. Environmentally, tourism has resulted in challenges such as air and water pollution, energy overuse, and crowding, although its impact on deforestation and wildlife remains limited, suggesting some resilience or effective management practices. These findings emphasize the need for sustainable tourism policies focused on environmental conservation. Furthermore, the correlation between improved security and tourism growth underlines the importance of a stable environment for fostering tourism. Initiatives like the e-visa policy have positively impacted tourism, but addressing structural barriers is essential for long-term development.

Overall, the study underscores the necessity of a balanced approach that integrates public and private investments, promotes gender inclusion, preserves cultural heritage, and mitigates environmental degradation. Collaborative efforts involving local communities, private stakeholders, and government agencies are crucial for sustainable tourism development in Swat Valley. Tourism has emerged as a transformative force in the region, offering substantial socio-economic benefits while posing cultural and environmental challenges. Strategic planning and policy interventions are vital to harness its full potential and ensure sustainable growth for the region.

### Policy Implications

- For the sustainability in the tourism, the government should have to take the following steps to cope with the social and environmental issues.
- Providing Health and Entertainment Facilities in the areas. For this, they have to establish small medical centers with emergency facilities.
- Regularity authorities have to be established, to regularize the quality and price of the goods and services in the area.
- There has to be a clear ban on the cutting of the trees and have to regularize the area to protect it from the deforestation and the wilderness.
- There is need to provide the supply of Gas or an alternative to the locals to restrict them from the cutting of the trees.
- The People Suggested that there is a more need of investment in the infrastructure especially in provision and extension of roads, new buildings and Banks.
- There is need of proper dumping and sewerage system to cope with effect of littering and water pollution.
- The government have to establish parking spaces to overcome the problem of traffic congestion.

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## Appendix

**Table 7: Post Estimation Test**

|                         | Model 1 | Model 2 | Model 3 | Model 4 |
|-------------------------|---------|---------|---------|---------|
| Ramsey Test             | 0.6823  | 0.2093  | 0.5472  | 0.2675  |
| Heteroskedasticity Test | 0.762   | 0.437   | 0.9099  | 0.3487  |
| Multicollinearity test  | 1.10    | 1.42    | 1.09    | 1.38    |

**Table 8: Cronbach's Alpha Test**

|                               |          |
|-------------------------------|----------|
| Average interitem covariance  | .0271192 |
| Number of items in the scale  | 77       |
| Scale reliability coefficient | 0.7511   |

**Table 9: Tourism Indicators**

| Variable               | Categories     | Index value | Variable                     | Categories          | Index value |
|------------------------|----------------|-------------|------------------------------|---------------------|-------------|
| Total tourists/monthly | 20000          | 0.1         | Reasons for the decrease     | Fear                | -1          |
|                        | 40000          | 0.2         |                              | Accessibility       | -0.5        |
|                        | 60000          | 0.3         |                              | Cost                | -0.25       |
|                        | 80000          | 0.4         |                              | Cultural difference | -0.25       |
|                        | 100000         | 0.5         |                              |                     |             |
|                        | 120000         | 0.6         |                              |                     |             |
|                        | 140000         | 0.7         |                              |                     |             |
|                        | 160000         | 0.8         |                              |                     |             |
|                        | 180000         | 0.9         |                              |                     |             |
| 200000                 | 1.0            |             |                              |                     |             |
| What effect            | Increased      | 1           | Favor tourism                | Yes                 | 1           |
|                        | Decreased      | 0           |                              | No                  | 0           |
| How much               | 25%            | 0.375       | Income directly from tourism | Yes                 | 1           |
|                        | 50%            | 0.625       |                              | No                  | 0           |
|                        | 75%            | 0.875       |                              |                     |             |
|                        | 100%           | 1           |                              |                     |             |
| Reasons for increase   | Security       | 1           | E-visa effect                | Yes                 | 1           |
|                        | Infrastructure | 0.5         |                              | No                  | 0           |
|                        | Hospitality    | 0.25        |                              |                     |             |
|                        | Advertisement  | 0.25        |                              |                     |             |

**Table 10: Economic Indicators**

| Variable                       | Categories     | Index value | Variable                               | Categories | Index value |
|--------------------------------|----------------|-------------|--|------------|-------------|
| Investment opportunities       | Yes            | 1           | Improvement in means of transportation | Yes        | 1           |
|                                | No             | 0           |  | No         | 0           |
| Job creation                   | Yes            | 1           | Improvement of roads conditions        | Yes        | 1           |
|                                | No             | 0           |  | No         | 0           |
| Demand for local product       | Strongly agree | 1           | Most used means of transportation      | Public     | 0.25        |
|                                | Agree          | 0.75        |  | Private    | 0.5         |
| Exports of local product       | Neutral        | 0.25        |  | Own        | 0.75        |
| Imports in the local community | Disagree       | 0           |  |            |             |



|                    |          |   |                         |                   |      |
|--------------------|----------|---|-------------------------|-------------------|------|
| Standard of living | Strongly |   |                         |                   |      |
| Monthly earnings   | disagree |   |                         |                   |      |
| Cost of traveling  | Yes      | 0 | Years after Maintenance | One year          | 1    |
|                    | No       | 1 | of road happens         | 2-3 years         | 0.75 |
|                    |          |   |                         | 4-5 years         | 0.5  |
|                    |          |   |                         | More than 5 years | 0.25 |

**Table 11: Cultural Indicators**

| Variable                                 | Categories     | Index value |
|--|----------------|-------------|
| Meeting tourist a valuable experience    | At most extent | 1           |
| Tourism effects the norms and values     | At some extent | 0.5         |
| Tourism changes tradition and cultures   | Not at all     | 0           |
| Tourism has led new cultural attractions |                |             |
| Inappropriate dressing effects the youth |                |             |

**Table 12: Social Indicators**

| Variable                               | Categories        | Index value |
|--|-------------------|-------------|
| Health services                        | To most extent    | 1           |
| Education services                     | To some extent    | 0.5         |
| Shopping facilities                    | Not at all        | 0           |
| Entertainment facilities               | Got worse         | -0.5        |
| Use of information technologies        |                   |             |
| Use of processed food                  |                   |             |
| Commercialization in community         |                   |             |
| Increased drug abuse                   | Strongly agree    | -1          |
| Increased habit of alcoholism          | Agree             | -0.5        |
| Increased pollution                    | Neutral           | 0           |
| Increased corruption                   | Disagree          | 0.5         |
| Increased illegal practices            | Strongly disagree | 1           |
| Loss of moral values                   |                   |             |
| Adoption of the westernized dress      |                   |             |
| Overcrowding and congestion            |                   |             |
| The increased in the prices/ inflation |                   |             |
| Security threat                        |                   |             |

**Table 13: Environment Indicators**

| Variable                                     | Categories         | Index value |
|--|--------------------|-------------|
| Deforestation                                | Significant effect | 1           |
| Soil erosion                                 | Some impact        | 0.5         |
| Water pollution                              | Little impact      | 0.25        |
| Vegetation loss                              | No impact          | 0           |
| Disruption for wildlife                      | I don't know       | 0.25        |
| Wilderness                                   |                    |             |
| Air pollution                                |                    |             |
| Tenting and digging                          |                    |             |
| Energy overuse                               |                    |             |
| Litter & sewerage disposal and Crowd problem |                    |             |