Analysis of Ecotourism and Its Impact on Indigenous People and Environment: A Case of Dir Valley (Pakistan)

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Abstract

Tourism, particularly eco-tourism, promotes long-term development by supporting local economies while protecting ecosystems and culture. It also acts as a conservation catalyst, raising awareness about biodiversity and encouraging environmental stewardship. It promotes a greater understanding of nature through educational programs and programs, boosting support for conservation projects. This research investigates tourism's cultural, ecological, and socioeconomic ramifications from the viewpoint of the indigenous population in Dir, Khyber Pakhtunkhwa, Pakistan. A survey on ecotourism's socioeconomic impact involved 180 respondents across ten high-potential communities. Reliability was ensured using Cronbach's alpha coefficient. Varimax rotation clarified key findings: strong support (loading factor: .990) for population increase. Concerns included rising standard of living (loading factor: .776) and seasonal employment (loading factor: .819). Consensus (loading factor: .962) favored environmental conservation and community-based business opportunities. It also recommends robust policies, infrastructure investments, targeted marketing, community engagement, visitor facilitation, and hospitality among locals to promote tourist return visits.

Keywords: Ecotourism, Upper and Lower Dir, Potential Sites, Environment, People Perceptions, Varimax-rotated Matrix.

Introduction

Ecotourism is a responsible travel strategy that goes beyond simple discovery to fully engage visitors in the cultural diversity of the destinations (Oladi et al., 2010). This quality strongly emphasizes preserving biological and cultural diversity while aiming for sustainable biodiversity use that has the least negative effects on the environment and society (Ryngnga, 2008). According to the International Union for Conservation of Nature (IUCN), ecotourism travels to unspoiled natural settings, promoting conservation, biodiversity appreciation, and positive interactions with local people (Bunruamkaew & Maryam, 2011). Ecotourism, first defined by Ceballes-Lascuraine in 1987, focuses on visiting undeveloped regions to learn about local customs while enjoying the scenery and fauna (Ali et al., 2024a).

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Ecotourism is a multifaceted strategy that balances social advancement and environmental conservation by protecting biodiversity worldwide and promoting sustainable local development (Iqbal et al., 2010). In addition to drawing tourists to its environmental values, it represents sustainable growth and promises to reduce rural poverty (Budeanu, 2007; Campbell, 1999; Honey, 2008; Gurung & Seeland, 2008). By encouraging visitation to underdeveloped areas and responsible use of biodiversity, ecotourism plays a crucial role in both national and global economic growth (Khan et al., 2015; Ali et al., 2024; Guimaraes & Silva, 2016; Rehman et al., 2018; Sharma & Nayak, 2019). Its goals are to strengthen the economy and social structure of the host countries, as well as the well-being of the local populace (Brida & Risso, 2009; Tang & Tan, 2013; Manzoor et al., 2019).

The sustainable success of tourism, particularly in regional hotspots, depends on local community involvement (Adnan et al., 2013; Baloch, 2007; Khalil et al., 2007; Rana, 2015; Goleldner et al., 2000). Academic Scholars (Ahn et al., 2002; McCool et al., 2001; Twining-Ward & Butler, 2002) stressed the significance of considering residents' viewpoints on environmental, social, and cultural implications for tourist expansion. To promote tourism in the area, consider the residents' opinions regarding how the environment, socioeconomics, and culture affect them.

Khyber Pakhtunkhwa (KP) province in Pakistan's District of Dir is well known for its dynamic cultural tourism and stunning scenery. With a diverse population in terms of language, culture, and ethnicity, Dir's beauty draws visitors from near and far. However, this increase in tourism has also brought new difficulties. Issues like noise pollution, traffic congestion, and environmental deterioration are pressuring local resources like water and electricity. These problems have become more widespread. Researchers examining the tourism industry have identified both positive and negative effects, underscoring the necessity of cautious and sustainable management strategies.

A diverse range of traditions and practices are also reflected in Dir's multicultural environment, which is influenced by several sects. The increase in visitors has started undermining some of these regional customs despite the community's vast cultural diversity, endangering its cultural legacy. Our study attempts to comprehend how the local community views tourism's social, environmental, and cultural effects in light of these difficulties. We also aim to assess the level of community involvement in the growth of Dir's tourism sector. We aim to offer information that will help policymakers create sustainable tourism strategies for Dir by embracing locals' viewpoints and considering their input during the tourist development process. Ultimately, we hope our research will contribute to expanding Dir's tourism, sustainability, and hospitality industries while protecting the environment and local culture.

Literature Review

Scholars have offered a variety of definitions and criteria for ecotourism over time, reflecting its changing character. Ceballos-Lascuráin coined the term ecotourism in 1987, defining it as travels to pristine natural places for study, admiration, and enjoyment. In 2015, the International Ecotourism Society (IES) revised the term, emphasizing responsible tourism that benefits the environment and local communities (Ali et al., 2024b; TIES, 2015). Ecotourism, a type of sustainable tourism, has grown fast, encouraging environmentally friendly visits and socioeconomic growth (Butcher, 2005; Hussain, 2022; Bausch et al., 2024; Liu, 2003).

According to Butcher (2005) and Hussain (2022), ecotourism, a type of sustainable tourism, is a rapidly increasing segment of the tourist business that promotes environmentally friendly trips to encourage social and economic development. According to Bausch et al. (2024) and Liu (2003), sustainable tourism can boost local economies while minimizing negative environmental impacts.

Ecotourism, which has received academic interest since the mid-1980s, represents a nature-based tourism strategy to protect the environment while delivering enriching experiences for guests and helping local people (Xu et al., 2023). Its multidimensional strategy includes long-term sustainable development goals such as education, resource conservation, income production, and social infrastructure improvements (Oladeji et al., 2022; Valdivieso et al., 2015). Ecotourism, particularly in developing nations, is a promising option for alleviating poverty and rural revenue generation (Snyman, 2017; Zhong & Liu, 2017).

The tourist industry emerges as a crucial engine of global economic growth because of its rapid growth (CREST, 2018; Kangai et al., 2024). Providing jobs and money is critical to a country's economic growth (Andereck & Nyaupane, 2011). Tourism makes a substantial contribution to economic development and poverty alleviation efforts. Furthermore, it generates significant foreign exchange profits, as governments frequently target tourists from locations with higher currency values (Lee & Chang, 2008). Locally, tourism generates job possibilities in various industries, including tour guiding, hospitality, and transportation, encouraging self-employment and industrial expansion (Ghani, 2020).

Gohary et al. (2020) and Brida et al. (2016) predicted a considerable contribution from the tourism and travel sector in 2018, totaling US$8.8 trillion, representing 10.4% of world GDP. Furthermore, it employed around 319 million people, accounting for 10% of the world's workforce. Tourist spending has benefitted various industries, including hotels, tour operators, retail stores, transportation, and tourist sites (both natural and cultural). Furthermore, tourism was a stimulant for tax revenue, job creation, and other income streams.

Purcell et al. (2021) reported that the tourist industry's economic development rate was 3.9% between 2017 and 2018, exceeding the world GDP growth rate of 3.2% for the eighth year consecutively. According to projections, international tourists will number roughly 1.8 billion by 2030, with the tourism industry supporting approximately 421 million employees worldwide. However, given current developmental tendencies, these estimations may be conservative. Furthermore, the World Tourism Organization predicts that by 2025, the tourism and travel industry will contribute around US$11 trillion to the world economy. According to Mbaiwa (2012), sustainable tourism, a cornerstone of ecotourism, preserves the natural environment, reduces negative consequences, and directs economic advantages to local populations.

According to Khan et al. (2022), ecotourism contributes significantly to global GDP and jobs while promoting cultural exchange. The United Nations World Tourism Organisation (UNWTO) recognizes ecotourism as providing various financial benefits to communities worldwide. Developing countries, such as South Asian countries, confront both obstacles and opportunities in using ecotourism to boost economic growth. Pakistan's unique topography and cultural legacy offer enormous potential for ecotourism, particularly in its northern regions (Rana, 2015). Despite infrastructure limits and security concerns, Pakistan's ecotourism industry presents excellent opportunities for long-term development (Israr et al., 2009).

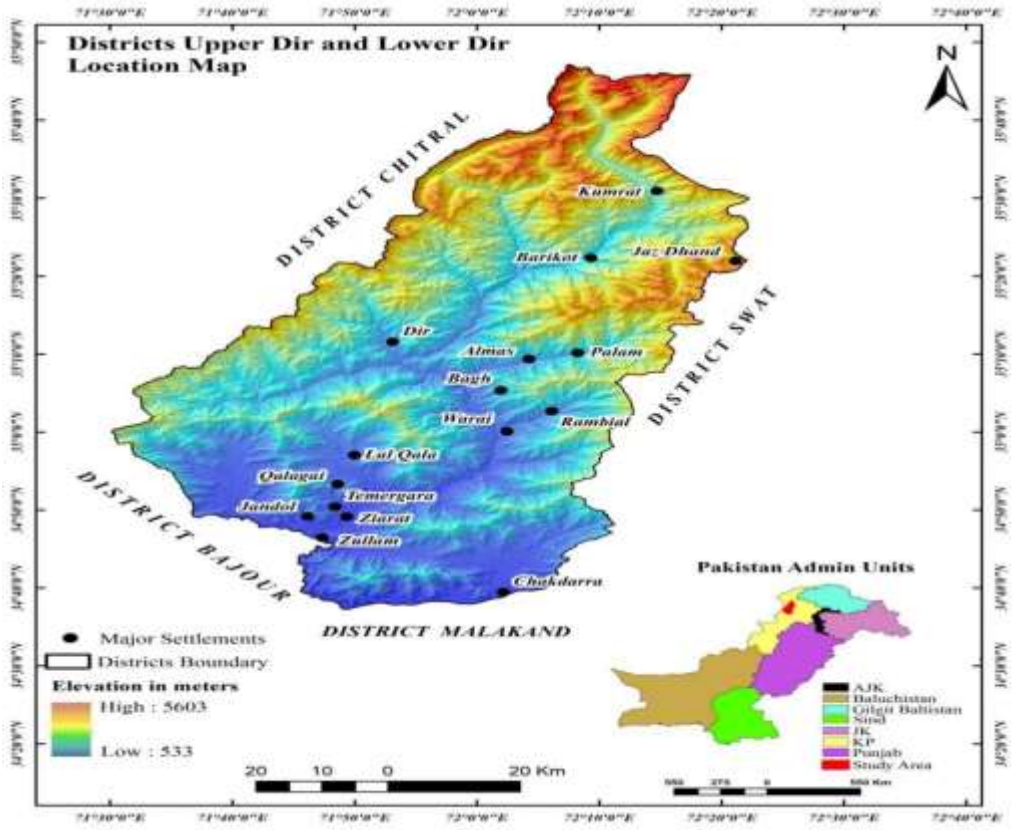
Area of Study

In Pakistan's Khyber Pakhtunkhwa region, Dir Valley is a picturesque valley renowned for its breathtaking scenery, abundant greenery, and peaceful environment. The valley is ideal for nature lovers, adventurers, and those looking for a relaxing vacation. The research region includes the Dir Valley in Pakistan's northwest, which is around 180 km from the capital city of Islamabad. Its geographical location ranges from 35°46′32″ to 35°46′33″ North latitude and 71°22′65″ to 71°22′66″ East longitude, bounded by district the Chitral region to the north and northwest, the

Swat valley to the southeast, to the east, Afghanistan to the southwest, and the Panjkora River to the south. The Pakistan Tehreek-e-Insaf (PTI) administration created the Central Dir District in 2022, dividing the Dir Valley into three districts: Lower Dir, Upper Dir, and Central Dir. The administrative center of the Upper Dir District is located in the city of Dir, while the Lower Dir District is centered in Timergara City (Ali et al., 2024b).

Kumrat Valley, Jahaz Banda, Sharingal, Sumat Shahi, Hatan Darra, Lawari Top, Daubando Pass, Namcharr Usherai, and Zakhina are a few of the well-liked tourist destinations in Dir Valley. Hiking, camping, photography, and discovering the customs and culture of the area are among the enjoyable activities available to visitors. The Gandharan Civilization was likewise concentrated in the Dir region, and a fine and distinctive collection of Gandharan art may be found at the Dir Museum in Chakdara. Upper Dir district does not have any protected wildlife areas; however, the following species are protected in the district's protected forests: Eurasian otters, monkeys, barking deer, snow leopard, langur, monkeys, Himalayan blue sheep, Himalayan snow cock, monal pheasant, koalas pheasant, chakra, snow partridges, Himalayan snow cock, Marco Polo sheep, and yellow-throated martin.

Figure 1: Location map showing potential natural sites in district Dir



Data Collection

A questionnaire was administered using a mall-intercept sampling strategy. The data were randomly divided into two groups using the SPSS computer program function. To determine the number of factors, a factor analysis with varimax rotation was performed on the total number of respondents (Henri et al., 2017; Lee & Jan, 2018; Patti, 2013). The study methodology includes

qualitative and quantitative approaches, with the latter emphasizing behaviors and motives through content analysis, interviews, and focus groups. For a more thorough knowledge of ecotourism and its effects, we have opted for a qualitative approach that enables the investigation of complex viewpoints and impressions. We seek a thorough investigation and significant insights into our subject topic through qualitative approaches such as ethnographic research, interviews, observation, and focus group discussions (Moriarty, 2011).

Sample Selection

The study sample comprised residents from rural and urban areas of Dir, aged 19 years or older. A sample size of 180 respondents was chosen through purposive quota sampling based on occupational status to guarantee representativeness. Ten communities were selected for field surveys to gauge community opinions about ecotourism's socioeconomic and environmental

Table 1: Showing the characteristics of the selected villages

No.	Sample Settlements	X	Y	Tourism Potential	Sample size
1	Zullam	71.7894	34.7742	Scenic sites	18
2	Balamba	71.8069	34.8407	Scenic beauty, dense forests	18
3	Hasar	71.8143	34.6274	Handy craft, largest Urban center	18
4	Kandao	71.8320	34.8088	Lakes, wildlife and Scenic beauty	18
5	Nagram	71.9007	34.6481	Scenic beauty	18
1	Lawarai Pass	71.8000	35.3500	Scenic beauty	18
2	Gor Shahi	72.1513	35.7096	Historical and archaeological sites	18
3	Batot	72.1890	35.5747	Scenic beauty	18
4	Kumrat	72.2453	35.5159	Lakes and Scenic beauty, wildlife	18
5	Kund Shai	72.2862	35.4477	Lakes and Scenic beauty	18

effects. These villages were chosen to represent a range of viewpoints on tourism's perceived economic, socio-cultural, and environmental effects (Lai & Nepal, 2006). They were chosen from regions with recognized ecotourism potential, including urban and rural areas.

Survey Instrument

Three sections of a self-administered survey questionnaire were used to gather data. In the first portion, community members' demographic information was collected, and in the second, respondents' agreement with statements about ecotourism was gauged using a 5-point Likert scale (Patti et al., 2013). The Likert scale made it easier to gather quantitative data for statistical analysis, measuring perceptions in a methodical way and facilitating comparisons within the study.

Factor Analysis and Validation

The reliability of survey items was guaranteed by several statistical tools: Higher numbers (range: 0-1) indicated more agreement in Cronbach's alpha coefficient (Christmann, 2006), which evaluated measurement accuracy. Factor analysis appropriateness of questionnaires was assessed using descriptive statistics such as Kaiser Meyer Olkin (KMO) and Bartlett's Test. KMO (Shrestha, N. 2021) evaluated the common variance among the variables (ideal range: 0.6+), and Bartlett's Test determined the deviation from the identity matrix, suggesting significant correlations between the variables (p-value 0.05). Clarity in item correlations was improved by the

varimax rotation matrix, which revealed significant factors influencing ecotourism perceptions after reliability testing (Malczewski, 2004).

Data Collection Timeline

The research team stayed in Swat for two weeks, from June 21, 2023, to July 9, 2023.

Secondary Data Acquisition

Secondary sources such as literature, research articles, magazine articles, local newspapers, VCDs, and official records (such as written reports, maps, and village layouts) were employed in addition to primary data collection. These secondary sources completed the qualitative data collected through primary approaches by providing more details regarding ecotourism management operations, resources, and attractions.

Focus Group Discussion (FGD)

The researcher organized eleven (9) focus group sessions. On average, each FGD lasted an hour and a half. Each focus group comprised five participants with the same experience, professional qualifications, and interests (Moriarty, J. (2011). Furthermore, the open area where interviews were conducted helped to reduce doubts about the study's purpose, particularly among senior respondents, ensuring that abundant and high-quality data was acquired (Hyun, H. 2014).

Demographic Profile (Respondents)

Table 2 analyses the respondents' demographic attributes, including age, gender, educational attainment, place of residence, and monthly income. It presents the respondents' distribution among several categories within each demographic category in terms of both frequency counts and percentages. Table 2 shows that 71% of responders are men and 29% are women. 31% of the participants were from different cities in Pakistan, such as Abbottabad, Attock, Nowshera, Peshawar, Islamabad, Lahore, Mardan, Multan, Karak, Okara, and Quetta.

Table 2: Demographic profile of district Dir ecotourism respondents

Demographics	Profile	Frequency	Percentage
Gender	Male	126	71%
	Female	54	29%
Age of the Respondents	Between 18 and 25	71	39%
	Between 26 and 40	83	46%
	Between 41and 60	24	13%
	60 and above	2	.01%
Education	Illiterate	76	42%
	Matric	48	26%
	Inter	35	19%
	Graduate	13	.07%
	Master	6	.03%
	M.Phil./PhD	2	.01%
Residency	Local	124	68%
	visitor	56	31%
Monthly income	Below 40 k	130	72%
	41 k–60 k	21	11%
	61 k–80 k	16	.08%
	81 k–100 k	9	.05%
	Above 101 k	4	.02%

Source: Survey data 2023.

Results and Discussion

Tourism impacts economics, the environment, society, and culture (Almeida-García et al., 2016). Ecotourism encourages job creation, revenue production, and tax collection in the hotel business, making it an important driver of economic development, poverty alleviation, and foreign exchange earnings (Adnan et al., 2013; Baloch, 2020; Rana, 2015). Economic impact encompasses all monetary flows involved with ecotourism, direct or indirect. In contrast, social and cultural consequences include societal changes, customs and traditions, and emotional links to the local population. Environmental consequences include the depletion of natural resources (Shujahi & Hussain, 2016). Local inhabitants' perceptions heavily influence tourism's positive or negative elements, with economic consequences being viewed positively, but environmental and socioeconomic implications are perceived as both positive and bad (Harrill & Potts, 2003; Tosun, 2002).

Ecotourism in District Dir

In the district of Upper Dir, the sample communities are Lawarai Pass, Gor Shahi, Batot, Kumrat, and Kund Shai; in the district of Lower Dir, they are Zullam, Balamba, Hasar, Kandao, and Nagram. In each of the chosen communities, 180 people were surveyed.

Reliability Test and Descriptive Statistics

In order to verify the validity of the questionnaire for District Director Socioeconomic Impact, Cronbach's alphas were computed (Christmann, 2006). Table 3 shows that the questionnaire's 18 items had a Cronbach's alpha value of.906, indicating that the items are dependable and consistent and can be used for empirical assessment.

Table 3: Reliability statistics of field survey conducted in Dir district

Cronbach's Alpha	No of Items
.906	18

Source: Survey data 2023.

The common structures of the eighteen impacts are found using a varimax-rotated matrix. The KMO score of 0.684 shows that the sampling adequacy is appropriate. This suggests that the data might contain some related factors, which is advantageous for factor analysis (Silva et a., 2014). A p-value of less than 0.001 indicates a significant difference between the correlation and identity matrices in Bartlett's test, indicating that the variables are correlated and suitable for the factor analysis in table 4.

Table 4: Kaiser-Meyer-Olkin (KMO) and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.684
Bartlett's Test of Sphericity	Approx. Chi-Square	404.943
	df	136
	Sig.	.000

Source: Survey data 2023.

Result of the Varimax Rotation Matrix

Table 9 presents the rotated component matrix resulting from a principal component analysis (PCA) with varimax rotation and KMO.

Socioeconomic Impacts: This element could stand for socioeconomic effects linked to job trends, taxes, urbanization, conflicts, and contentment with the growth of the tourism industry. Factors like "Higher population density (990)," "Increases tax revenues (980)," "Helps other sectors (585)," and "Seasonality of employment (809)," are used to describe this component. The Upper Dir was where most people experienced the seasonally. The communities Kumrat, Batot, Lowari Pass, Kund Shai, and Jazz Banda were the ones from which the seasonality was reported. Every loading variable indicates that they all contribute to the same underlying factor and have a positive relationship with one another (Andereck & Nyaupane, 2011).

Economic Development: This element appears to encompass cultural preservation, environmental issues, and economic development, which may be interwoven in this setting. The following variables have a high loading: "Increase household income (884)"; "Increase the standard of living and house (778);" and "Increase land class conflict (759)." There has been economic growth in the Lowe Dir district. The area boasts modern infrastructure for all kinds of activities and medal-winning roads. Land conflicts, transportation congestion, and pollution due to advanced infrastructure were seen. High living standards and rising household incomes were also mentioned at Hasar, Kandao, and Nagram (figure 1).

Mixed Loadings: The loadings of these variables are mixed, indicating a mix of positive and negative relationships. It captures socioeconomic elements associated with labor relations, cultural heritage, and disputes. A few of the key factors that define this component are "Demand for female labor (-605)," "Increases employment opportunities (748)," "Awareness of cultural heritage & traditions (836)," and "Increase crime rate and unethical activities (680)." Because the residents of the Upper Dir were more conservative than those in the Lower Dir, Figure 2 shows a negative load on the demand for female labor in the Batot, Kumrat, and Jazz Banda areas. According to Alshuwaikhat (2005), the low level of life, low household income, inadequate infrastructure, and low educational ratio were the primary causes of the respondents' conservative behavior in the Upper Dir district.

Cultural Factors: This component accounts for cultural elements like community preferences, inflation, and participation. Both the upper and lower Dir made note of it. "Increase prices of goods and services (988)" and "Commercialization of tradition & customs (899)" were two variables that loaded highly on component 4. Figure 2 illustrates that the socio-economic status of locals will be boosted. However, the community is conservative about female labor as other sectors' standards of living, education, awareness, and commercialization await improvement.

Local Perception of Future Tourism

Three questions were tested to check the local people's perception of the future aspirations of tourism. The first question was, "Do you want to reduce ecotourism?". This issue was examined to see if people are predisposed towards negative traits such as environmental damage in selected places and cultural destruction, whether through tourism or otherwise. The findings reveal that individuals are more interested in the good aspects of tourism, such as economic rewards and constructive development. The results suggest a high load (876), and the people wanted to expand ecotourism in the Dir district. This finding was corroborated by (Linderová et al., 2021).

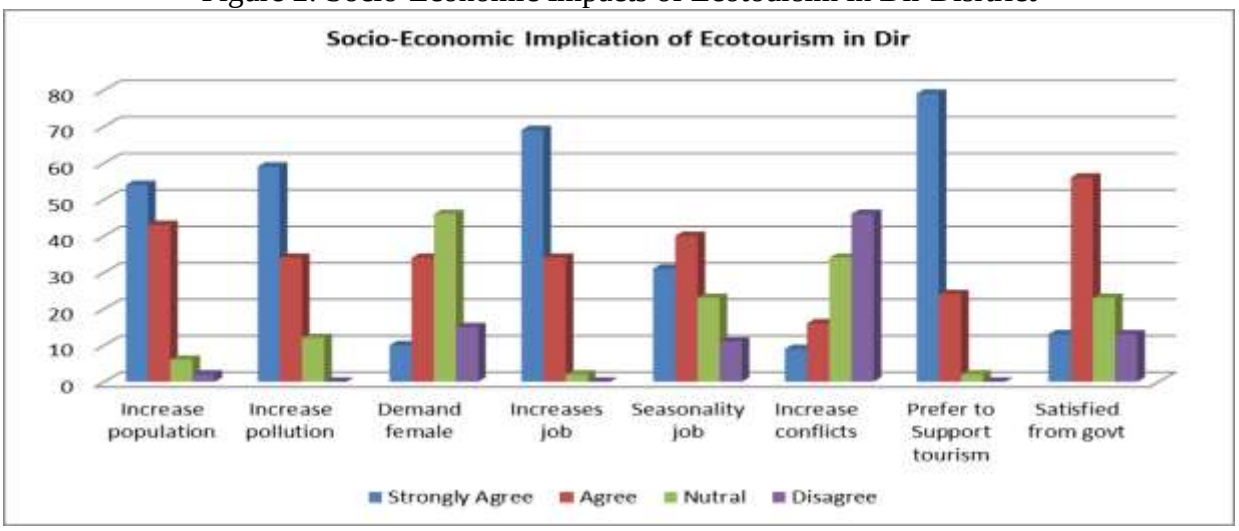
Table 5: District Dir result of ecotourism on rotated component matrix

Socioeconomic Impacts of Ecotourism	Descriptive Statistic		Loading Factors Components			
	N	Std.dv	1	2	3	4
Increase density of population	180	.396	.990	.106	.086	-.029
Increase pollution and gasses	180	.383	.356	.879	-.298	-.113
Increase standard of living and house	180	.804	-.604	.778	.169	-.035
Increase household income	180	.761	.387	.884	.255	-.065
Demand for female labour	180	.553	-.272	-.565	-.605	.491
Increase prices of goods and services	180	.358	.014	.022	.154	.988
Increases employment opportunities	180	.317	-.119	.587	.748	.285
Increases tax revenues	180	.734	.980	.126	.056	-.023
help other sectors	180	.439	.585	.371	.493	.527
Seasonality of employment	180	.658	.819	-.111	.322	.462
Commercialization of tradition & customs	180	.317	.255	.171	.313	.899
Awareness of cultural heritage & traditions	180	1.02	.354	.111	.836	.403
Increase land class conflict	180	.712	.334	.759	.298	.473
Increase crime and unethical activities	180	1.07	.255	.525	.680	.445
Increase conflicts resident b/w tourist	180	.357	.916	.340	-.087	.192
Prefer to Support the ecotourism	180	.618	-.054	-.246	.962	.109
Satisfied from development of tourism	180	.126	-.092	.965	-.045	.240
Prefer to engage local community	180	.351	.752	-.026	.560	.470

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization..
a. Rotation converged in 6 iterations

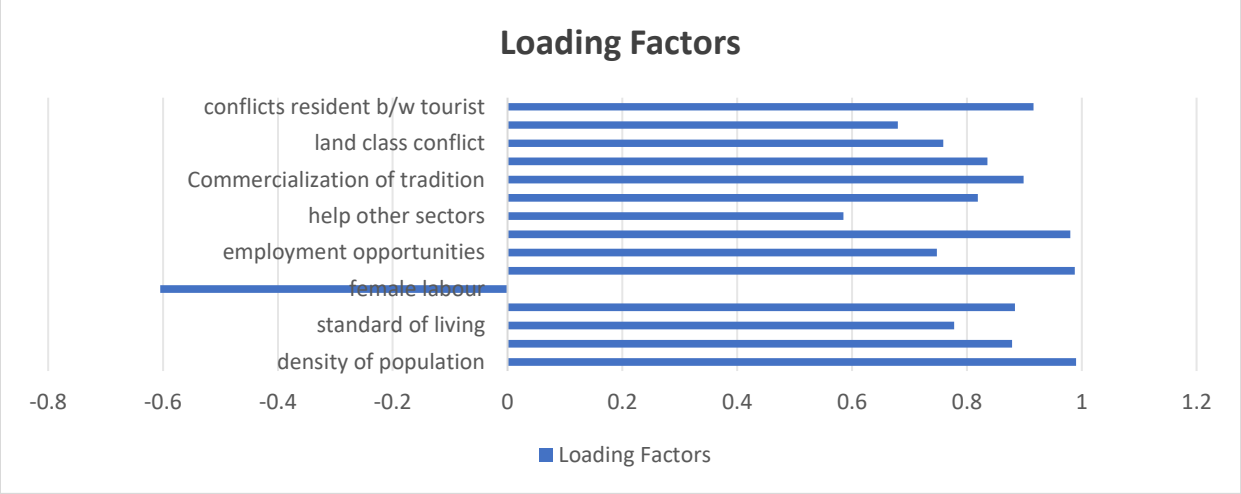
Source: Survey data 2023

Figure 2: Socio-Economic Impacts of Ecotoursim in Dir Disrtrict



Source: Survey data 2023

Figure 3: Illustration of Loading Factors Dir District

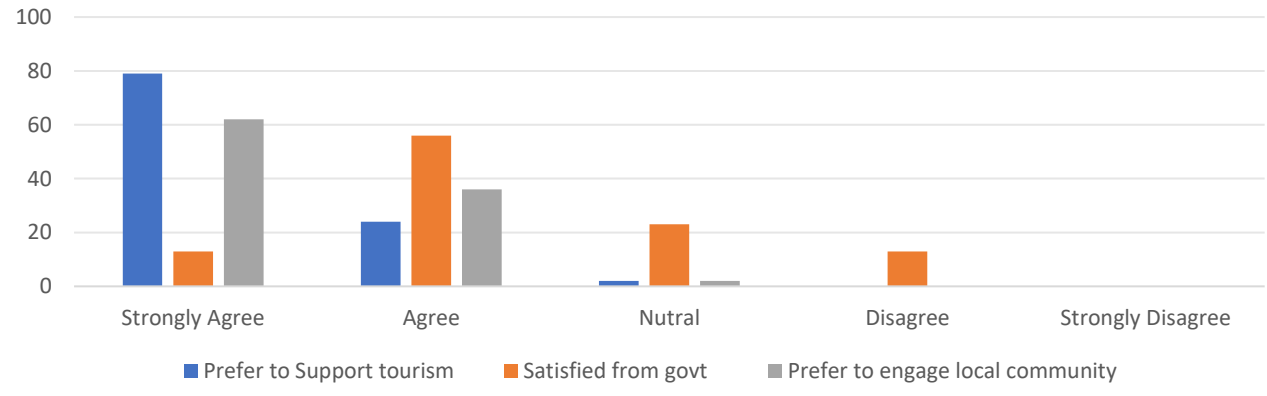


Source: Survey data 2023.

The second question included "the satisfaction from the development of ecotourism" to find out how people felt about the government's reaction to tourism. The leading factor in District Swat is also considerable due to the improvement of society as well as the road network, but people must be cautious regarding disciplined tourism. The disciplined tourism involve guiding the tourists in a way that protects biodiversity, preserves heritage sites, respects local customs and culture, and, most importantly, avoids engaging in unlawful conduct. People seek to boost this form of tourism (Jehan et al., 2023).

The final question concerned local inhabitants' role in the growth of tourism. It is critical to understand if government or non-governmental institutions are involved in developmental decisions. 30% percent of respondents answered "yes" to the government involving local people in socioeconomic decisions, although factor loading is considerable (752).

Figure 4: People Perception Regarding Future Ecotourism



Source: Survey data 2023.

Findings

Research reveals that ecotourists can enjoy various natural and cultural features in the district Dir. Due to the low standard of life, road inaccessibility, and cold weather, the rate of joblessness is

significant in Dir. The breathtaking splendor of Komrat Valley and Lowari Pass offers serene hikes and picturesque photo ops amidst quaint landscapes and shimmering streams. In addition, Jaz Bhanda is a popular spot for camping and picnics since it is a lovely meadow surrounded by snow-capped peaks. On the other hand, the bustling Dir Bazaar acts as the district's commercial hub and lets visitors buy handcrafted items while discovering the rich customs of the area. The purpose of the questionnaire survey was to find out how respondents felt about the socioeconomic effects of ecotourism in the possible communities that were chosen. The conclusions drawn from the people's perceptions were as follows.

Employment Generation: In addition to producing jobs for locals, ecotourism has the potential to stimulate demand for services in a variety of industries, including handicrafts, hotels, transportation, and motels.

Income Generation: By raising spending on food, transportation, and leisure activities, tourism helps local communities economically. By generating income, poverty is lessened, and living standards are generally raised.

Cultural Preservation: Ecotourism encourages cultural and traditional preservation. Travelers impart their cultural inheritance through their interactions with indigenous people, fostering a deeper knowledge and appreciation.

Infrastructure Development: The construction of roads, bridges, parks, and other recreational activities not only improves the accessibility for tourists but also improves the lives of local inhabitants.

Conservation of Environment: Ecotourism that is sustainable places a high priority on protecting natural resources. Ecotourism contributes to the preservation of biodiversity and ecosystems by using initiatives like wildlife protection, habitat restoration, and natural resource management.

Female Empowerment and Community Engagement: The conservation and preservation of the natural and cultural environments are ensured by the involvement and engagement of the local people, particularly women, in tourist sector projects.

Future Direction: Further research is necessary to uncover the latent ecotourism potential in the impoverished district, assess the socioeconomic and environmental effects of ecotourism operations, and pinpoint potential future trends and challenges in the Pakistani Malakand division's ecotourism industry.

Discussions

There is much promise for tourism in the Komrat Valley, Lowari Pass, Jahaz Banda, and Dir Bazaar in the Dir District, which might offer ecotourists a range of experiences. The district is well-known for its picturesque views and lush valleys, making it a popular destination for photographers and nature enthusiasts. It is connected to the Chitral District through the well-known Lowari Pass. Despite its enormous potential, the ecotourism industry has remained underdeveloped, underscoring the need for sustainable development initiatives. Districts differ greatly in their potential for ecotourism, with Dir emerging as a major hub. From Komrat Valley to Jahaz Banda, the Dir district is a tapestry of natural and cultural treasures.

The district has significant natural and cultural landmarks and stunning natural features like Shahi Bagh, Kumrat, Jhaz Banda, and Zakhana. A captivating location such as Komrat Valley, which makes up around 13.89% of the district's total potential area, offers chances for leisurely hiking, photography, and excursions amidst its breathtaking beauty. In particular, Jahaz Banda attracts tourists with its picturesque meadows surrounded by snow-capped peaks. The best representation

of local life and culture is seen at Dir Bazaar, a commercial center where people may purchase handcrafted goods.

In Dir District, the tourism industry has beneficial and detrimental socioeconomic effects. In addition to boosting the economy and creating jobs, it also presents risks like population growth, cultural dilution, and environmental harm. The implementation of sustainable management practices is crucial in order to tackle these issues and guarantee the enduring prosperity of Dir's tourism sector. The local population is keen to support ecotourism, but there are obstacles to overcome, such as keeping an eye on the financial and environmental effects. Subsequent investigations should investigate the potential for latent ecotourism and find ways to address new issues. To safeguard the environment and cultural resources, policymakers and government organizations must work with local people and develop comprehensive, sustainable tourism policies.

Conclusion and Recommendations

Creating a master plan for ecotourism is a thorough process that pinpoints the historical sites and natural wonders that give a place its distinct identity. By drafting this plan, authorities can establish guidelines and policies that promote tourism-related activities while guaranteeing the preservation of the local environment and customs. Within these restrictions, it is critical to prioritize preserving natural habitats, cultural assets, and traditional customs. In addition, the plan should be cooperative, incorporating feedback from a range of stakeholders and tailored to local communities' needs and objectives.

Investing in tourism infrastructure maximizes positive environmental effects and facilitates better access to ecotourism destinations. This involves building highways, bridges, lodging facilities, and visitor centers, especially in tourist-heavy areas. Infrastructure development should also prioritize reducing environmental damage and traffic, for example, by implementing drainage systems and traffic management strategies.

Attracting tourists to ecotourism sites is mostly dependent on marketing and promotion. Governments can expand services like cruises and adventure sports by working with the business sector and introducing new attractions. Through various media, marketing campaigns highlight the district's natural beauty and increase public awareness of ecotourism options.

The sustainable development of ecotourism necessitates the involvement and education of local communities. To achieve this, it is necessary to promote community members' involvement in decision-making processes, educate them—especially women—about environmental protection and heritage preservation, and plan awareness-raising events like seminars and educational tours.

To promote international tourism, organizing events and streamlining immigration procedures are necessary for facilitating foreign tourists. Creating tourist information centers improves tourists' experiences by offering support and information. Initiatives to increase capacity, such as training programs for hospitality staff and incorporating ecotourism into academic programs, guarantee that the local labor force is prepared to assist the tourism sector.

Enforcement mechanisms need to be reinforced to tackle illicit actions that threaten the environment and cultural heritage. Quick response systems backed by tourism police prevent environmental damage and encourage the preservation of cultural heritage. Lastly, sustainability and biodiversity protection are promoted by stakeholders' active participation in conservation efforts, which include government representatives, religious leaders, and international partners.

References

- Adnan, H., Q. M., & Ali, K. R. E. (2013). Tourism-led growth hypothesis: A case study of Pakistan. *Asia Pacific Journal of Tourism Research*, *18*(4), 303-313.
- Adnan, M. A., Nasir, M., & Khan, M. A. (2021). Socio-economic impacts of ecotourism: A case study of Naltar Valley, Gilgit-Baltistan, Pakistan. *Journal of Tourism, Heritage & Services Marketing*, *7*(1), 3-10.
- Ahn, B., Lee, B., & Shafer, C. S. (2002). Operationalizing sustainability in regional tourism planning: an application of the limits of acceptable change framework. *Tourism Management*, *23*(1), 1-15.
- Ali, Z., Nasir, M. J., & Iqbal, S. (2024). A Qualitative Study On Socio-Economic Implications Of Ecotourism In District Swat, KP: Perspectives From The Community. *Migration Letters*, *21*(S9), 185–201.
- Ali, Z., Nasir, M. J., & Iqbal, S. (2024). Assessment of Potential Ecotourism Sites using Multi-Influencing Factor and Geo-spatial Technique in District Swat, Pakistan. *CARC Research in Social Sciences*, *3*(1).
- Almeida-García, F., Pelaez-Fernandez, M. A., Balbuena-Vazquez, A., & Cortés-Macias, R. (2016). Residents' perceptions of tourism development in Benalmádena (Spain). *Tourism management*, *54*, 259-274.
- Alshuwaikhat, H. M. (2005). Strategic environmental assessment can help solve ecological impact assessment failures in developing countries. *Environmental impact assessment review*, *25*(4), 307-317.
- Andereck, K. L., & Nyaupane, G. P. (2011). Exploring the nature of tourism and quality of life perceptions among residents. *Journal of Travel Research*, *50*(3), 248-260.
- Baloch, Q. B., Irshad, M., Qamar, F. M., & Naseebullahshah, S. (2020). Development of the tourism sector in the face of a scarce economy. *The Discourse*, *6*(1), 75-96.
- Baloch, Q. B., Shah, S. N., Iqbal, N., Sheeraz, M., Asadullah, M., Mahar, S., & Khan, A. U. (2023). Impact of tourism development upon environmental sustainability: a suggested framework for sustainable ecotourism. *Environmental Science and Pollution Research*, *30*(3), 5917-5930.
- Bausch, T., Schröder, T., & Tauber, V. (2024). What is to be sustained? The polysemy of sustainability and sustainable tourism across languages and cultures. *Journal of Sustainable Tourism*, *32*(1), 108-131.
- Brida, J. G., Cortes-Jimenez, I., & Pulina, M. (2016). Has the tourism-led growth hypothesis been validated? A literature review. *Current Issues in Tourism*, *19*(5), 394-430.
- Budeanu, A. (2007). Sustainable tourist behavior–a discussion of opportunities for change. *International journal of consumer studies*, *31*(5), 499-508.
- Bunruamkaew, K., & Murayam, Y. (2011). Site suitability evaluation for ecotourism using GIS & AHP: A Surat Thani province, Thailand case study. *Procedia-Social and Behavioral Sciences*, *21*, 269-278.
- Butcher, J. (2005). The moral authority of ecotourism: A critique. *Current Issues in Tourism*, *8*(2-3), 114-124.
- Campbell, L. M. (1999). Ecotourism in rural developing communities. *Annals of tourism research*, *26*(3), 534-553.
- Christmann, A., & Van Aelst, S. (2006). Robust estimation of Cronbach's alpha. *Journal of Multivariate Analysis*, *97*(7), 1660-1674.
- Crest, K. (2018). The Case for Responsible Travel: *Trends and Statistics 2022*. Retrieved from https://www.responsibletravel.org
- Dang, T. K. P. (2023). Green Nature or Green Fantasies: Representations of Ecotourism in Vietnam. *Sustainability*, *15*(5), 4601.
- Ghani, B., Zada, M., Memon, K. R., Ullah, R., Khattak, A., Han, H., & Araya-Castillo, L. (2022). Challenges and strategies for employee retention in the hospitality industry: A review. *Sustainability*, *14*(5), 2885.

- Gohary, A., Pourazizi, L., Madani, F., & Chan, E. Y. (2020). Examining Iranian tourists' memorable experiences on destination satisfaction and behavioral intentions. *Current Issues in Tourism*, *23*(2), 131-136.
- Guimarães, C. R. F. F., & Silva, J. R. (2016). Pay gap by gender in the tourism industry of Brazil. *Tourism Management*, *52*, 440-450.
- Gurung, D. B., & Seeland, K. (2008). Ecotourism in Bhutan: Extending its benefits to rural communities. *Annals of Tourism research*, *35*(2), 489-508.
- Harrill, R., & Potts, T. D. (2003). Tourism planning in historic districts: Attitudes toward tourism development in Charleston. *Journal of the American Planning Association*, *69*(3), 233-244.
- Henri, H., Hakim, L., & Batoro, J. (2017). Ecotourism development strategy of pelawan forest in central bangka, bangka belitung. *Journal of Indonesian Tourism and Development Studies*, *5*(3), 145-154.
- Honey, M. (1999). Ecotourism and sustainable development. Who owns paradise? (pp. x+-405).
- Hussain, I. (2022). An overview of ecotourism. *IJNRD-International Journal of Novel Research and Development*, *7*(3), 471-481.
- Hyun, H. (2014). *How to design and evaluate research in education*. Mcgraw-hill Education-Europe.
- Iacono, J., Brown, A., & Holtham, C. (2009). Research methods—A case example of participant observation. *Electronic journal of business research methods*, *7*(1), pp39-46.
- Iqball, M. S., Salequzzaman, M., Haque, S. E., Islam, M. R., & Ahmed, M. S. (2010). Ecotourism in the Sundarbans and its surrounding–a possible sustainable option for alternative livelihood development. *Bangladesh Res Pub J*, *4*(3), 244-253.
- Israr, M., Shafi, M. M., Ahmad, N., Khan, N., Baig, S., & Khan, Z. H. (2009). Eco tourism in Northern Pakistan and challenges perspective of stakeholders. *Sarhad J. Agric*, *25*(1), 113-120.
- Jehan, Y., Batool, M., Hayat, N., & Hussain, D. (2023). Socio-Economic and environmental impacts of tourism on local community in Gilgit Baltistan, Pakistan: A local community prospective. *Journal of the Knowledge Economy*, *14*(1), 180-199.
- Kangai, D., Aman, E. E., & Papp-Váry, Á. F. (2024). Ecotourism Practices, Perspectives, and Consumer Preferences, Attitudes, and Expectations: Post-COVID-19 Review. In *Tourist Behaviour and the New Normal, Volume II: Implications for Sustainable Tourism Development* (pp. 151-169). Cham: Springer Nature Switzerland.
- Khalil, S., Kakar, M. K., Waliullah, & Malik, A. (2007). Role of tourism in economic growth: Empirical evidence from Pakistan economy [with comments]. *The Pakistan Development Review*, 985-995.
- Khan, J., Ali, A., Zada, M., Saeed, I., & Zada, S. (2022). *Pakistan's Tourism Industry: Full of potential, but still lagging behind.*
- Khan, J., Shah, M., Khan, B. T., Naeem, M., Ismail, M., Abbasi, A., & Khan, S. A. (2015). A survey of adult and larval mosquito fauna in Tehsil Daggar and Gagra of District Buner, Khyber Pakhtunkhwa, Pakistan. *Int J Mosq Res*, *2*(3), 170-4.
- Lai, P. H., & Nepal, S. K. (2006). Local perspectives of ecotourism development in Tawushan Nature Reserve, Taiwan. *Tourism Management*, *27*(6), 1117-1129.
- Lee, C. C., & Chang, C. P. (2008). Tourism development and economic growth: A closer look at panels. *Tourism management*, *29*(1), 180-192.
- Lee, T. H., & Jan, F. H. (2018). Development and validation of the ecotourism behavior scale. *International Journal of Tourism Research*, *20*(2), 191-203.
- Linderová, I., Scholz, P., & Almeida, N. (2021). Attitudes of local population towards the impacts of tourism development: Evidence from Czechia. *Frontiers in Psychology*, *12*, 684773.
- Oladi, J., & Bozorgnia, D. (2010, October). Evaluating the ecotourism potentials of Naharkhoran area in Gorgan using remote sen
- Patti, S. E. (2013). Sustainability and support for the ecotourism within Etna Park Area. *American Journal of Tourism Research*, *2*(1), 124-129.

- Purcell, W. M., Burns, O. S., & Voss, A. (2021). COVID-19 and sustainable tourism. In *COVID-19: Paving the Way for a More Sustainable World* (pp. 163-184). Cham: Springer International Publishing.
- Rana, A. U. R. (2015). Promotion of tourism in Pakistan. *Background Paper*.
- Rehman, A., Ma, H., Irfan, M., Ahmad, M., & Traore, O. (2020). Investigating the influence of international tourism in Pakistan and its linkage to economic growth: evidence from ARDL approach. *SAGE open*, *10*(2), 2158244020932525.
- Ryngnga, P. K. (2008). Ecotourism prioritization: a geographic information system approach. *South Asian journal of tourism and heritage*, *1*(1), 49-56.
- Sharma, P., & Nayak, J. K. (2019). Understanding memorable tourism experiences as the determinants of tourists' behaviour. *International Journal of Tourism Research*, *21*(4), 504-518.
- Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics*, *9*(1), 4-11.
- Shujahi, A. H., & Hussain, A. (2016). Economic and environmental costs of tourism: Evidence from District Abbottabad. *Islamabad: Pakistan Institute of Development Economics (PIDE)*.
- Twining-Ward, L., & Butler, R. (2002). Implementing STD on a small island: Development and use of sustainable tourism development indicators in Samoa. *Journal of sustainable tourism*, *10*(5), 363-387.
- United Nations World Tourism Organization (UNWTO), Blomberg-Nygard, A., & Anderson, C. K. (2016). United Nations world tourism organization study on online guest reviews and hotel classification systems: an integrated approach. *Service Science*, *8*(2), 139-151.
- Valdivieso, J. C., Eagles, P. F., & Gil, J. C. (2015). Efficient management capacity evaluation of tourism in protected areas. *Journal of Environmental Planning and Management*, *58*(9), 1544-1561.
- Xu, L., Ao, C., Liu, B., & Cai, Z. (2023). Ecotourism and sustainable development: a scientometric review of global research trends. *Environment, Development and Sustainability*, *25*(4), 2977-3003.
- Zhong LinSheng, Z. L., & Liu LiMin, L. L. (2017). *Ecotourism development in China: achievements, problems and strategies.*