

The Highs and Lows of Tourism in Pokhara: A Community and Environmental Impact Assessment

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ABSTRACT

Tourism development produces both beneficial and adverse effects on host destinations, necessitating comprehensive impact assessments to ensure long-term industry sustainability. While such evaluations are crucial, they remain notably scarce in Nepal's context. This study examines the economic, social, and environmental costs and benefits of tourism in Pokhara - the nation's premier tourism hub renowned as an iconic destination for both domestic and international visitors. Utilizing a mixed-methods approach incorporating questionnaire surveys, focus group discussions, and personal interviews, data were collected on various impact dimensions, which were subsequently analyzed through a Leopold matrix framework. The findings demonstrate that while tourism generates significant socioeconomic benefits for the local community, the cumulative negative impacts threaten to outweigh these advantages. These results underscore the urgent need for innovative policy interventions to effectively mitigate tourism's detrimental effects while preserving its valuable contributions.

Keywords: Economy, urban tourism, sustainable tourism, tourism impact

INTRODUCTION

Tourism, one of the world's largest and fastest-growing labor-intensive industries (Zurick, 1992), is often regarded as an economic foundation in many nations due to its multiplier effects (Mayer & Vogt, 2016; Ridderstaat et al., 2013). While it brings significant benefits to destinations (Almeida-García et al., 2015; Dyer et al., 2007; Hernandez et al., 1996; Tsundoda & Mendlinger, 2009), it also poses considerable challenges for local communities (Haralambopoulos & Pizam, 1996; Ko & Stewart, 2002; Sequeira & Nunes, 2008; Tsundoda & Mendlinger, 2009). Indeed, the net impact of tourism—whether positive or negative—depends on various intrinsic factors (e.g., level of tourism development, local reliance on

tourism, residents' proximity to tourist sites, and types of tourism) as well as extrinsic factors (e.g., visitor behavior, perceptions, government policies) (Allen et al., 1988; Diedrich & García-Buades, 2009). Additionally, these effects can vary across time and space (Besculides et al., 2002; Dyer et al., 2007; Haralambopoulos & Pizam, 1996; Mathieson & Wall, 1982). Previous research highlights that neglecting tourism's adverse effects can jeopardize its long-term sustainability. Thus, policymakers and stakeholders must carefully evaluate tourism's overall impact before developing or expanding expanding/establishing tourism to a particular destination.

In recent years, Nepal has experienced rapid growth in both domestic and international

tourism (MoTCA, 2019). As a result, stakeholders—including private businesses, local communities, NGOs, and government bodies at all levels—have intensified efforts to expand existing tourism infrastructure and develop new destinations. While this surge in tourism promises economic and social benefits, it also risks generating adverse effects for local communities. Thus, a thorough assessment of tourism's net impact is essential to determine whether it is a suitable industry for a given destination (Dwyer & Forsyth, 1993).

Globally, numerous studies have assessed the net impacts of tourism (Allen et al., 1988; Almeida-García et al., 2015, 2021; Balaguer and Cantavella-Jordá, 2002; Besculides et al., 2002; Nunkoo and Gursoy, 2012; Pickering et al., 2018; Shih and Do, 2016; Truong et al., 2014; Tsundoda and Mendlinger, 2009). However, such research remains limited in the Nepalese context (Baral et al., 2023; Baral & Rijal, 2022). This gap underscores the need for a comprehensive evaluation of tourism impacts in Nepal. A thorough study would not only determine whether tourism is a viable industry for specific destinations but also provide critical insights for shaping sustainable tourism policies.

In recent days, the government and private sector both have considered tourism as a highly lucrative sustainable industry that would play a key in resolving the current unemployment problem and uplifting the economy of the country. Accordingly, the government of Nepal promulgated several plans and policies to establish tourism as a sustainable industry. The tourism policy of Government of Nepal (2065 BS) aims at increasing employment opportunity for livelihood, increasing productivity and living standard of general public, and increasing economic growth by augmenting the magnitude of tourism activities via reinforcing Nepal as an attractive, beautiful

and safe destination in the international tourism map. Accordingly, in recent years, there has been rapid increase of tourism activities in Pokhara. This indicates that tourism activities in Pokhara is likely imposing several negative impacts. However, in the context of Nepalese tourism, the impact is often viewed only from the positive perspective while the negative impacts of tourism are often overlooked and have never been the matter of discussion among the stakeholders. This indicates that for the long run sustainability of tourism industry, there is need for a comprehensive evaluation of tourism from both perspectives. This study aims to assess the net impact of tourism in Pokhara, both globally and locally renowned tourism destination of Nepal which has recently been declared as the tourism capital of the country. Here, the following specific questions were addressed: (i) Does tourism generate net benefits/costs to the destination? (ii) if the net impact of tourism is positive, what are the major benefits and are the benefits equitable to the wider community of the destination? and if (iii) the net impact is negative, what are the major social, environmental, and economic costs of tourism to the destination community?

MATERIALS AND METHODS

Study site

The study was conducted in Pokhara Metropolitan city, Gandaki province, Nepal. Pokhara, the capital of Gandaki Province, is the second largest city after the capital city (Kathmandu) of Nepal. It is located at an elevation of *ca* 850 m from the sea level. Situated at the centre of Nepal, the city is situated 200 km west from Kathmandu and 186 km north from Sunauli (one of the border towns between Nepal and India). The city is connected by two major highways (Prithvi highway-a highway from Pokhara to Kathmandu via Naubise;

and Siddhartha highway – a highway from Pokhara to Sunauli). Currently, Pokhara is only connected to Kathmandu via air route, while an international airport is still not fully operated. The city is the only entry point for famous trekking routes such as Annapurna circuit, Annapurna Base Camp (ABC), Machhapuchhre Base Camp (MBC), Poonhill-Ghorepani trek and many mountainous adventure tourisms. The city has several natural and cultural attractions. Notable natural attractions of Pokhara include the presence nine shimmering lakes within a very small area. Phewa Lake stands out as the largest and most iconic, nestled in the heart of the city. Its crystal-clear waters reflect the majestic Mt. Machhapuchhre (Fishtail), creating a breathtaking natural spectacle. Other unique features of Pokhara include: backdrop of one of the most dramatic sceneries in the world: a 140 km of Panorama made up of towering Himalayan ranges is seen close enough to be touched on a clear day, the only valley in the world with the view of mountains above 8000 meters from a close proximity, two famous caves (Mahendra cave and Gupteshor cave), Patale Chhago (Davis Fall), Seti Gorge etc. Likewise, Pokhara harbours several famous pilgrimage sites such as World Peace Pagoda (Stupa), Bindyabasini temple, Talbarahi temple, and other uncountable temples and monuments. This place is regarded as one of the best destinations for the adventurous tourism that includes paragliding, ultra-light flights, jip-flying, white water rafting, hiking, horse riding, trekking mountaineering etc. Just northwest of Pokhara lies Sarangkot, a prime destination for paragliding and Jeep-flying adventures (PTC, 2008). Thus, Pokhara is often regarded as a gateway to the world of adventure (Tripathi, 2008). Moreover, Pokhara harbours the multi-ethnic blend of Brahmin, Chhetri, Gurung, Magar, Thakali, Newar, and others which mark

Pokhara as one of the culturally famous tourist destinations in Nepal. All these features have made Pokhara as naturally diverse, culturally vibrant and adventurously unique tourism destination; often been regarded as the natural paradise on (K.C., 2008; S. K. Nepal et al., 2002; Tripathi, 2008)

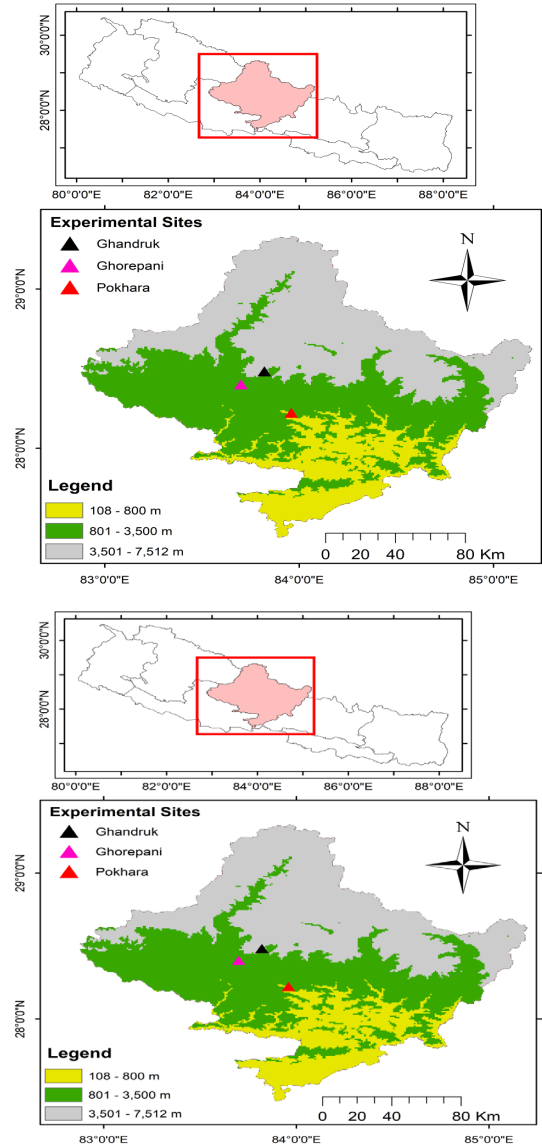


Figure 1: Study site along with two other popular tourism destinations of Gandaki province. Red triangle indicates the current study site.

Ethical Consideration

The required permission for the field survey were obtained from the concerned local bodies and stakeholders. Moreover, before conducting surveys, a free, prior and informed consent (FPIC) was taken from all the respondents. All the respondents were informed that the collected information would be used only for this research and they were also assured that their identity would not be disclosed anywhere.

Research design and method of data collection

The present research was based on the both primary and secondary data. In depth unstructured questionnaire survey and observational approach were used to collect the data. The primary data were collected via field visit's observation, group discussion, personal interview, and questionnaire survey with the various groups of respondents. The respondents were categorized into three groups: local governmental bodies, entrepreneurs and employee of the tourism industry, and local residents. Provincial and local governmental bodies (Pokhara Metropolitan and ward office of the respective study site) were considered as the first type of respondent. The entrepreneurs (owners) of tourism industry (hotels, restaurants, and other tourism related business), and the employees of the tourism industry were considered as the second type of respondents. Residents of Pokhara not directly involved in tourism business were considered as the third type of respondents.

In this study, the costs-benefits were categorized into three groups: The economic, social, and environmental costs and benefits. The economic costs and benefits were estimated based on the (i) Costs and benefits of the government sector. Here, the revenue generated from the tax and user fee were considered as the economic

benefits while the expenses of the government (the expenses on repair and renovation of physical infrastructures, and the expenses on the promotion, security, and health) were considered as the costs, and (ii) Cost and benefits for the stakeholders (such as entrepreneurs and employees of tourism business). For the stakeholders, jobs, service, trade, and revenue generated from the tourism were considered as the benefits while the equity depreciation, job seasonality, and inflation were considered as the cost. The social costs and benefits were analysed based on the costs and benefits for the society (residents of the study area and its physical surroundings). For this, the overall development (physical, cultural, cognitive) of the society, opportunity for health and security, and opportunity for recreation were considered as the benefit while problems emerged in the society due to tourism (degradation of language, culture, education, religion, and environment, and the loss of traditional knowledge and skill) were considered as the costs. The environmental benefits and costs were analysed based on the positive and negative impacts on the environment generated from tourism activity. Here, degradation of environment, pollution, forest fire, solid waste accumulation, loss of biodiversity due to tourism activity were considered as the costs while the opportunity generated for the conservation of environment due to the impact of tourism were considered as the benefits. Finally, the overall impact (costs/benefits) was evaluated based on the differences between the costs and benefits of tourism at the study sites.

The study uses both random and purposive sampling procedure for selecting the respondents. The first group of respondents, the local governmental body, was selected by purposive sampling while the respondents from the second and third category were selected

by random sampling. Three different set of in-depth questionnaires consisting of both open-ended and closed ended questions were asked for the three different groups of respondents. To ensure that better understanding of key issues of tourism could be obtained from the respondents, all the respondents were informed that the collected information will be used only for this research and they were also assured that their identity will not be disclosed anywhere. To make the interview comfortable, the interviews were taken in the local language (questionnaires were prepared/translated into Nepali) at the interviewee's work place/ home. All the respondents were asked to evaluate the strength of impacts on each category on a range of -10 to 10 where scores from 1 to 10 represent the benefits with 1 the least benefit and 10 the most, while scores from -1 to -10 represent the cost of tourism with -1 the least effect and -10 the devastating effect. We considered tourism activities as the predictor of various impacts tourism generates on the study site. The data were collected from March through October in 2024.

The secondary data were collected from the state Ministry of Culture, Tourism and Civil Aviation, Nepal Tourism board, Ministry of tourism at Gandaki Province and other relevant organizations and local governmental and non-governmental organizations.

Data analysis

A Leopold matrix consisting of visitors' activities and various social, environmental, and economic factors on the two different axes as the cause-effect factors was developed to evaluate the costs and benefits of tourism for each parameter. The Leopold matrix is an interactive matrix originally designed to evaluate the environmental impact of a project/activity in a particular destination but is also frequently

used by researchers to evaluate cost and benefits of tourism and other industries (Baral et al., 2023; Baral & Rijal, 2022; Josimovic et al., 2014; Leopold et al., 1971; Snyder & Kaiser, 2009). The social, economic, and environmental costs/benefits were separately evaluated and finally, the net impact (costs/benefits) of tourism was evaluated based on the net benefits/costs to the social, economic and environmental factors.

RESULTS AND DISCUSSION

The result obtained from the questionnaire survey revealed that destination populations recognized only economic benefits in terms of service and job creation. They were not aware of any other benefits either economic/social that tourism has been generating in the destination. However, the study based on the one-to-one communication or group discussion with the local residents revealed several social and economic benefits and costs to the destination community. The air, water, soil, and noise pollution, over accumulation of non-biodegradable solid wastes (plastic bottles, metal cans, and glass bottles), contamination of lake water (Phewa, Begnas, Rupa), excessive invasion of water Hyacinth in the lakes, congestion were the major environmental impacts of tourism in Pokhara.

The quantification of the impact of tourism in Pokhara revealed that among the seventeen evaluated factors (Table 1), eight are positively impacted while nine are negatively impacted. The result reveals that the impact score for the positively impacted factors were in the upper range (≥ 5) while the score for all the nine negatively impacted factors were in the lower range (≤ -4). For the positive impact, tourism activity did not play significant role while negative impacts differed significantly among the three tourism activities. It was found that

the tourism activity related to adventure such as paragliding, jeep flying, bungee jumping generated the highest net impact (42.2% of the total impact). Likewise, tourism activities involving sightseeing and boating in the lakes also generated higher impact (36.1%) while the rest activities generated 21.7% impact. The

result showed that both socio-environmental factors and economic factors were positively impacted by tourism industry cumulating the net impact to 37.24%. Of the total benefits generated by tourism industry in Pokhara, the net economic impact was much higher (91.98%) than the socio-environmental impact (8.02%).

Table 1: Modified Leopold Matrix for assessing the net impacts of tourism in Pokhara

Visitors Action Cost-Benefit factors		Sightseeing/Boating in Lakes	Adventure (Paragliding/ Jeep flying/Bungee)	Walking along the trail/ vehicular transfer	Positive impact	Negative impact	Net impact on sub factors	Average impact on sub factors	Average impact on factors	Net impact of tourism	Net impact by factors (%)
Social and environmental costs and benefits	Culture	-3	-3	-4	0	3	-10	-3.34	0.534		14.34
	Language	-3	-3	-4	0	3	-10	-3.34			
	Education	-2	-3	-3	0	3	-8	-2.67			
	Traditional skill	-2	-3	-3	0	3	-8	-2.67			
	Life style	6	6	6	3	0	18	6			
	Religion	-4	-4	-3	0	3	-11	-3.67			
	Recreation	6	8	5	3	0	19	6.34			
	Infrastructure	7	6	6	3	0	19	6.34			
	Health and Security	8	7	7	3	0	22	7.34			
	Environment	-4	-5	-6	0	3	-15	-5			
Economic costs and benefits	Equity depreciation	-3	-3	-2	0	3	-8	-2.67	3.19	3.724	85.66
	Job creation	8	9	6	3	0	23	7.67			
	Job seasonality	-2	-1	-1	0	3	-4	-1.34			
	Service creation	7	9	5	3	0	21	7			
	Inflation	-2	-1	-2	0	3	-5	-1.67			
	Trade	6	8	6	3	0	20	6.67			
	Revenue generation	7	8	5	3	0	20	6.67			
Positive Impact		8	8	8	24						
Negative Impact		9	9	9		27					
Impact by Visitor's action		30	35	18							
Impact by Visitor's action (%)		36.1	42.2	21.7							

The study identified service creation and job generation as the most significant positive impacts of tourism in Pokhara. Additional benefits included revenue generation, enhanced trade opportunities, improved health and security services, recreational facilities, elevated living standards, and infrastructure development. Contrary to previous research findings, this study indicates that tourism impacts in Pokhara remain consistent across the community, unaffected by destination-specific intrinsic factors or demographic differences. Notably, all residents - regardless of their direct involvement in the tourism sector - recognized these benefits to their community. However, it was revealed that the tourism in Pokhara was found beneficial mainly to the stakeholders and entrepreneurs while local residents were not getting equitable benefits from the tourism industry. These findings are inconsistent with earlier findings in Ghorepani and Ghandruk, the other two most popular tourism destinations of the province (Baral et al., 2023; Baral & Rijal, 2022) while align with several global findings (Almeida-García et al., 2015; Haralambopoulos & Pizam, 1996; Tsundoda & Mendlinger, 2009). Therefore, this finding suggests that the impact of tourism in a community depends upon several external factors such as extent of tourism development, degree of dependency on tourism, resident's proximity to the site, type of tourism etc., and vary among the different groups within a community (Besculides et al., 2002; Haralambopoulos & Pizam, 1996; Mason & Cheyne, 2000). Generally, residents who are directly involved in tourism see the tourism beneficial and the rest of the residents perceive tourism negatively (Besculides et al., 2002; Haralambopoulos & Pizam, 1996; Mason & Cheyne, 2000). The inconsistency of current finding with the previous findings on Ghandruk and Ghorepani could likely be associated

with the difference in the extent of tourism development and degree of dependency on tourism among the three sites. In Ghandruk and Ghorepani, nearly entire residents are involved in tourism business while in Pokhara only a fraction of residents are involved in tourism activities. Furthermore, in Ghandruk and Ghorepani, because of almost entire involvement of residents upon tourism, it has been serving as the key industry of the village by generating a very high level of economic and social benefits with no any obvious negative impacts.

The result also reveals some potential / prevalent negative consequences of tourism in Pokhara. Loss of tranquillity, potentiality of loss of local language and culture, overexploitation of cultivable land for tourism activity, deterioration in community cohesiveness/ local patriotism, possible social and economic polarization of society are the major remarkable concerns of the local residents. In addition, respondent expressed their serious concern about the noise pollution, soil pollution, congestion, and the pollution, encroachment, and invasion in the Fewa and Begnas lake. If these issues are not resolved on time, it not only deteriorates the natural beauty of Pokhara but also likely to diminish the tourism activity of the city. Because of these potential negative consequences, majority of respondents show their little interest in tourism expansion. Moreover, most of the respondents show strong concern towards the increase pollution level in and around Phewa lake and water hyacinth invasion in the lake which they believe to be directly linked with the increased tourism activities beyond the thresholds. Therefore, the current results reveal that the negative impacts of tourism at Pokhara are almost beyond the threshold limit and thus indicate the need of immediate action to devise innovative

approaches for mitigating the negative impacts. It is suggested that the stakeholders are required to give a solemn thought in addressing the needs of host communities and resolving the current and anticipated anxiety of the local residents before expanding tourism and its allied activities in Pokhara.

CONCLUSIONS

The current findings reveal that tourism in Pokhara could serve as the key industry to enhance the socio-economic status of the province. It reveals that tourism industry of Pokhara not only serves as the source of foreign currency earning but also provides an alternative economic activity to the local resident and stakeholders, and thus forms a major basis to solve the unemployment problem of the province, and the entire country. Based on the current findings, it is suggested that Pokhara could be developed either as a short-haul or long-haul tourism destination with the adventure tourism and the culture and nature-based tourism as the main products. However, there is need to devise an innovative approach to mitigate the negative impacts so as to develop tourism as the sustainable industry.

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