



Journal of Tourism and Himalayan Adventures

An International Research Journal



June 2023, Vol. 5, ISSN: 2717-5030 (Print) 2738-9642 (Online)

Nexus between Tourism Industry and Economic Growth of Nepal

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DOI: <http://doi.org/10.3126/jtha.v5i01.56187>

Abstract

The tourism sector is essential to economic growth and has the capacity to stimulate the economy. The aim of this paper to assess the relationship between tourism industry and its economic growth. The gross domestic product (GDP) indicates the economic growth and tourism industry development relates to tourist arrivals, length of stay, and gross foreign exchange earnings from tourism. This study is grounded on secondary data collected from the Economic Survey of Nepal and the Nepal Tourism Statistics from 2000 to 2021. The study finds short and long-term causality between tourism industry and economic growth. The tourism development indicators include arrivals of tourist, length of stay, and gross foreign exchange from tourism. The unidirectional causality of economic growth to the length of stay of tourists and tourism to gross foreign exchange earnings were observed in the study. Adequate government strategies for the tourism sector can accelerate economic growth. The policymakers should give adequate attention to diversifying the tourism services, improving infrastructure, encouraging local communities, promoting sustainable tourism, enhancing marketing efforts, and promoting collaborations between the public, commercial sectors and local communities to support tourism industry for the sustained in Nepal.

Keywords: economic growth, sustainable tourism, tourist arrivals, the tourism industry

Introduction

Tourism is a significant economic driver in the world economy (Ekeocha et al., 2021; Jucan & Jucan, 2013; Rogerson, 2002). It is one of the fast growing industries helping to generate significant income, support economic growth, and create jobs (Dwyer et al., 2009; Zadeh Bazargani & Kiliç, 2021). Global tourism is growing due to rising money and improved air connections (Campante & Yanagizawa-Drott, 2018). This industry can boost the GDP, output, foreign exchange, social and cultural development, investment, and other elements (Usmani et al., 2021). Tourism creates a new avenue for global trade, ultimately impacting the GDP (Fayissa et al., 2008; Manzoor et al., 2019).

One of Nepal's primary economic drivers is tourism. It is a substantial source of income and foreign currency. Nepal is a popular destination for mountaineers, rock climbers, and adventure seekers because eight of the world's top ten mountains are in Nepal. The country of Nepal's Hindu, Buddhist, and other cultural heritage sites, as well as its year-round pleasant

weather, are also major draws (MFFA, 2022). Due to the abundance of natural and historical monuments, Nepal has great potential for developing tourism (Acharya & Halpenny, 2013; Bhattarai & Karmacharya, 2022).

Additionally, Nepal has a diverse population regarding religion, culture, and biodiversity. Nepal has a distinct and rich cultural legacy, both material and immaterial. These factors combine to make Nepal a desirable travel destination (Ghimire, 2019; Pradhan et al., 2022). Only after 1962, when the country's first tourism statistics were kept track of, were foreign visitors to Nepal officially documented (Stevens, 1988). As per the tourism statistics 2021, tourist arrival in 1962 was 6,179, which reached 41.25 times higher (254,885) in 1990 and 1,812.14 times higher (1,119,191) in 2019. The global travel and tourism industry has been significantly impacted by COVID 19. As a result, tourist arrivals in Nepal were 230,085 and 150,962, respectively, in 2020 and 2021. It was almost 80.78% less in 2020 and 34.3% less than the previous year. The tourist arrivals in Nepal from five major countries are India (42.8%), the USA (15.13%), the U.K. (5.7%), China (4.1%), and Bangladesh (3.3%), respectively. Of the total international arrivals, 150,625 (99.7%) arrived by air, and 337 (0.3%) arrived by road (MoCTCA, 2021).

An alternative export that can help a nation's balance of payments, support employment, and increase tax revenue is tourist expenditure (Durbarry, 2002; Khan et al., 1990). Nepal's tourism sector supports 371,140 employees, 11.5% of all workers across all sectors of the economy (Kathmandu Post, 2021 June 17). The Nepal Tourism Board was founded by the government of Nepal to advance, promote, and expand the tourism sector in Nepal (NTB, 2023). The national tourism strategic plan, 2016–2025 is being implemented by the government (MoCTCA, 2016). The government of Nepal has made attempts to increase tourism, although it still only accounts for a small share of the country's overall GDP (Bhattarai & Conway, 2021).

The development of Nepal's tourism industry has faced several obstacles, including socio-political problems that were followed by a protracted period of political transition, among other things, natural calamities (such as the 2015 earthquake) and COVID 19, which negatively impacted foreign visitors to Nepal (Kc et al., 2021; Shivakoti, 2021). Low levels of arrivals and low daily expenditure per visitor are the main issues with Nepalese tourism (Badal, 2019; Kc et al., 2021; Shivakoti, 2021). However, Nepal has consistently attempted to grow its part of the global tourism industry with a number of marketing initiatives, such as Visit Nepal - 1998, Nepal Tourism Year - 2011, and Visit Nepal - 2020 (Badal, 2019; Paudel et al., 2021). Due to the significant policy implications, the causal connection between tourism-related income and economic growth in emerging nations has attracted the attention of economists. The basic approach of the paper is to assess the nexus between the tourism industry and economic growth with reference to Nepal.

Literature review

On theoretical and empirical grounds, there is still a debate about whether economic activity stimulates tourism, or whether tourism expansion stimulates economic activity. Theoretically, economies expand faster than average in nations with comparatively large tourism industries (Antonakakis et al., 2015; Seetanah, 2011). It was shown that nations with comparatively abundant natural resources will concentrate in tourism and experience a higher rate of economic growth in that field, which is known as tourism (Sequeira & Maças Nunes, 2008).

Both developed and developing countries are positively affected by tourism, with the effects on growth in developing countries being noticeably greater (Salmani et al., 2014; Seetanah, 2011).

Although, there have been tourists throughout human history, the assumption that tourism is a relatively new phenomenon is generally recognized in tourism theory (Munar, 2006). According to the tourism-led growth paradigm, long-term economic growth is mostly determined by tourism exports (Brida et al., 2016; Song & Wu, 2022). More people are becoming aware of the significance of tourism for the expansion and development of the economy (Calero & Turner, 2020; Durbarry, 2004). The growth of a global society is significantly aided by tourism (Munar, 2006).

In general, it is believed that emerging nations' economies will benefit from the growth of international tourism. International tourism positively impacts a nation's economic growth (Skerritt & Huybers, 2005; Wu et al., 2022). The tourism industry and GDP are causally related (Akadiri & Akadiri, 2021; Arslanturk et al., 2011; Rasool & Johari, 2021; Razzaq et al., 2023). Tourism revenue and GDP have both a short-term dynamic and long-term cointegrating relationship (Gautam, 2011). Promoting travel and tourism can help countries earn foreign currency, create jobs, build capital, and achieve economic independence (Apostolopoulos et al., 1996; Du et al., 2016; Nepal et al., 2019).

A country's economy may significantly benefit from tourist spending, which is seen as an alternative to exports and gains in foreign exchange and revenue from the expansion of the tourism sector help to balance of payments (Durbarry, 2004; Seetanah, 2011). Foreign exchange earnings from tourism can subsequently be used to import capital goods to produce goods and services, which encourages economic growth (Mahmoudinia et al., 2011; Ranasinghe & Sugandhika, 2018). Tax revenues, employment opportunities, and new income sources are other economic advantages associated with tourism (Dwyer, 2022; Zaei & Zaei, 2013). The local population believes the tourism industry has significantly boosted their economy (Jaafar et al., 2013; Lawson et al., 1998).

Tourist arrivals and revenue from tourism have a long-term association with economic growth (Naseem, 2021). There is a reciprocal relationship between tourism receipts and GDP (Kumar et al., 2015; Paudyal, 2012). Tourism revenue and economic growth are causally related in both directions, indicating that these two factors are linked, and tourism development stimulates economic progress (Ohlan, 2017; Rasool & Johari, 2021). Tourism's foreign exchange earnings help offset the adverse balance of payments (Sugiyarto et al., 2003).

Material and method

The relationship between tourism industry and its economic growth is investigated in this study. The economic growth is specifically examined as a GDP in connection to tourist arrivals (TA), length of stay (LS), and gross foreign exchange earnings from tourism (GFET). This analysis is supported by secondary data from the Economic Survey of Nepal and the Nepal Tourism Statistics. The data set includes in this study is from 2000 to 2021. Each variable's name, abbreviation, and description are listed in Table 1.

Table 1*Variables and descriptions*

Variable Names	Acronyms	Description
Gross Domestic Product	GDP	It assesses a country's economic development. It is a dependent variable and is used as a growth rate.
Tourist Arrivals	TA	It measures how many tourists come to the nation each year.
Length of Stay	LS	It measures the length of stay of tourists.
Gross Foreign Exchange Earnings from Tourism	GFET	It measures the income generated from the tourism industry.

The econometric analysis (Unit root test, Granger causality test, Johnson cointegration test, and VAR model) was used to analyse the relationship between tourism industry and its economic growth of Nepal. Further, the study checked all the assumptions for the model's validity. The following hypotheses have been used to assess the connection between the tourism industry and economic growth:

H_1 : There is a causality in short-term between GDP and arrivals of tourist, length of stay, and gross foreign exchange earnings from tourism.

H_2 : There is a causality in long-term between GDP and arrivals of tourist, length of stay, and gross foreign exchange earnings from tourism.

Results

Stationarity is crucial for time series data (Leybourne et al., 1996). The unit root test summary is presented in Table 2.

Table 2*Summary of Unit Root Tests*

Variables	Level	First Difference	Degree of Integration
GDP	-4.6395 (0.0019***)	-----	I (0)
TA	-1.7929 (0.3734)	-5.5260 (0.0004***)	I (1)
LS	-0.2551 (0.9150)	9.3562 (0.0000) ***	I (1)
GFET	-1.4763 (0.5256)	-3.5135 (0.0186)	I (1)

Source: Authors' calculation using Eviews software Version 10.

***denote significance at a 1 percent significance level. Lag=3

When the P-value is significant at a 1% significance level, GDP is shown in Table 2 at level I (0). All the independent variables- TA, LS, and GFET are insignificant at level I(0) and became stationary after the first differences, as indicated by I (1).

Granger (1969) devised a systematic approach to examine the causal connection between

variables. The Granger causality test for pairs is shown in Table 3.

Table 3

Pairwise Granger Causality Test

Null Hypothesis	Obs	F-Statistic	Prob.
GDP is not Granger caused by TA TA is not Granger cause by GDP	17	0.87466 0.69038	0.5195 0.6189
GDP is not Granger caused by LS LS is not Granger caused by GDP	17	0.27575 5.46376	0.8856 0.0203**
GDP is not Granger caused by GFET GFET is not Granger caused by GDP	16	0.10631 8.75347	0.9766 0.0074***
TA is not Granger caused by LS LS is not Granger cause by TA	17	3.01658 5.32481	0.0860 0.0217**
TA is not Granger caused by GFET GFET is not Granger caused by TA	16	0.91385 3.05464	0.5057 0.0941
LS is not Granger caused by GFET GFET is not Granger caused by LS	16	6.44178 0.97128	0.0169** 0.4797

Source: Authors' calculation using Eviews software Version 10.

** denotes five percent and *** denotes one percent level of significance.

Note: Sample: 2000 2021; Lags: 4

Table 3 shows unidirectional causality from GDP to LS, GDP to GFET, TA to LS, and GFET to LS. Tourism-related gross foreign exchange earnings and length of stay of tourists have a short-term causal relationship with economic growth. Likewise, the length of stay and gross foreign exchange earnings have a short-term causal relationship.

A cointegration test is used to determine whether there is a long-term link between different time series (Enders & Siklos, 2001). Table 4 shows the Johnson cointegration test.

Table 4

Johnson Cointegration Test

Hypothesized No. of CE(s)	Trace Statistics	Prob.	Max-Eigen Statistics	Prob.
None	69.04360	0.0002***	27.74851	0.0476**
At most 1	41.29509	0.0016***	22.63301	0.0305**
At most 2	18.66208	0.0161**	16.76058	0.0197***
At most 3	1.901493	0.1679	1.901493	0.1679

Series: GDP TA LS GFET

Source: Authors' calculation using Eviews software Version 10.

* Asymptotic Chi-square distribution is used to compute probabilities

** represents a five percent significance level, and***denotes a one percent significance level.

Note: Sample: 2000 2021; Included observations: 176, Linear deterministic trend

According to Table 4, based on both trace statistics and the maximum Eigenvalue statistic, there are at most three cointegrating equations among the research variables at the 5% level.

We proceed with the VECM approach to estimate the error correction coefficients since the test implies that cointegrated time series data contain an error-correction representation that reflects the long-term adjustment process.

Vector Error Correction Model (VECM)

There is cointegration among all the variables, hence it has been determined whether there is a long-run association using the VECM model (standard VAR) or not. To calculate VECM, the following equation has been developed:

$$GDP = C(1)*GDP(-1) + C(2)*GDP(-2) + C(3)*GDP(-3) + C(4)*TA1(-1) + C(5)* TA1(-2) + C(6)*TA1(-3) + C(7)*LS1(-1) + C(8)*LS1(-2) + C(9)*LS1(-3) + C(10)* GFET1(-1) + C(11)*GFET1(-2) + C(12)*GFET1(-3) + C(13)$$

The result shows the coefficient is negative, and the p-value is significant for the model (shown in the appendix). It suggests a long-run association between GDP to TA, LS, and GFET.

Additionally, the Wald test statistics have been used to calculate the short-term joint effects of the independent factors on the dependent variables. There is no short-run causation between the independent and dependent variables if the null hypothesis is accepted. For short-term relationships, the following null hypothesis has been developed.

The null hypothesis is that $C(4) = C(5) = C(6) = C(7) = C(8) = C(9) = C(10) = C(11) = C(12) = 0$.

The results of the Wald test statistics are shown in Table 5.

Table 5

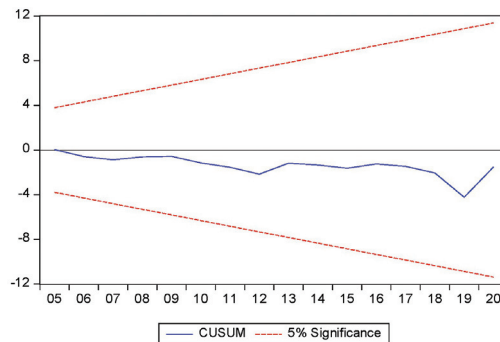
The Wald Test Statistic

Test Statistic	Value	df	Probability
Chi-square	18.5864	9	0.0289

Source: Authors' calculation using Eviews software Version 10.

Table 5 shows that the null hypothesis is rejected, indicating a short-run causal relationship between GDP and other independent variables.

Figure 1



Stability Test of the Model

Source: Authors' calculation using Eviews software Version 10.

Using the CUSUM test to assess the model's stability, the CUSUM test results are shown in Figure 1.

The curve line (coloured blue in the figure) is situated between two red lines, as is evident. If the blue line at a 5% significance level is confined between two red lines, the model is stable.

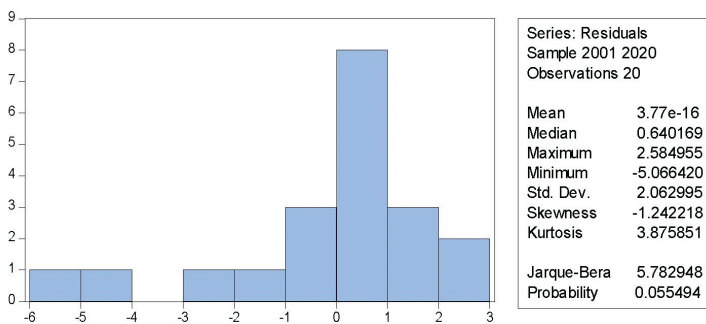
Diagnostic Test of Residuals

The residual must have homoscedasticity, be normally distributed, and lack serial correlation for the model to be further validated. The regression model's underlying premise is laid down below.

The model's results violate the central limit theorem's assumption if the residuals are not normally distributed. Thus, the regression findings are no longer reliable. To determine whether the model is normal, the Jarque-Bera test has been run to evaluate the model's normality. (Akanbi et al., 2020). The outcome of the model's normality test is depicted in Figure 2.

Figure 2

Normality Test of the Model



Source: Authors' calculation using Eviews software Version 10.

The normality test is performed to verify whether the residual from the model is normally distributed or not, reflected in Figure 2. The Jarque-Bera statistics are 5.7829, and the failure to reject the null hypothesis is indicated by the p-value of 0.0554. It implies that residuals have a normal distribution, supporting the model's assumption.

The Breusch Pagan test has been run to verify the homoscedasticity assumption. The residual must be homoscedastic for the model to be more accurate. If the probability value is greater than 5%, there is enough evidence to conclude that the residuals are homoscedastic (Akanbi et al., 2020).

Table 6

Breusch-Pagan Tests

Tests	Statistic	Prob.
Breusch-Godfrey Serial Correlation LM	1.4483	0.1801
Breusch-Pagan Godfrey	0.6259	0.6086

Autocorrelation	11.149	0.516
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Source: Authors' calculation using Eviews software Version 10.

Table 6 demonstrates that the p-value above the significance level of 5%, allowing us to accept the null hypothesis. It suggests that residuals are homoscedastic and have no serial correlation and autocorrelation that validates the model's assumption (Lenka & Bairwa, 2016).

Discussion

The tourism sector has the potential to strengthen economies in many nations. It can be a strategy for boosting export earnings, creating jobs, expanding consumer markets, and diversifying the economy (Manzoor et al., 2019). In both established and developing countries, tourism has become a crucial pillar for sustainable development as it provides a variety of cultural, social, technical, experiential, and natural products for leisure and business (Jayawardena et al., 2008).

Increases in tourism are causally related to economic growth over the long term (Lau et al., 2008). Short-term and long-term economic growth are both a result of the expansion of tourism (Ertugrul & Mangir, 2015; Gautam, 2011; Ghartey, 2013). Tourism spending and economic growth are positively correlated over the long and short term (Yazdi et al., 2017). Long-term economic growth is correlated with tourism-related revenues, tourism spending, and tourist arrivals (Naseem, 2021). Growth in the tourism industry ensures economic benefits to the nation (Kamble & Bouchon, 2014).

Long-term correlations between real GDP per capita and tourism development suggest at least one causal link between the two variables (Lee & Chang, 2008). Empirical evidence found by (Georgantopoulos, 2012; Ohlan, 2017) failed to establish a long-term causal connection between tourism and economic development. Tourism has not effectively contributed to local socio-economic development (Akama & Kieti, 2007). In fact, most studies have noticed a connection between tourism and economic expansion (Akadiri & Akadiri, 2021; Arslanturk et al., 2011; Rasool & Johari, 2021; Razzaq et al., 2023).

Conclusion

Tourism is one of the significant sectors contributing Nepalese economy as it creates jobs, brings foreign exchange revenue, and supports regional development. This paper aims to assess the relationship between the tourism industry and the economic growth of Nepal. The indicators of tourism development - tourist arrivals, length of stay, and gross foreign exchange from tourism- have both short- and long-term causal relationships with economic growth. Moreover, the length of a visitor's stay and the gross foreign exchange earned through tourism are causally related in a single direction to economic growth. The result shows a nexus between Nepal's tourism sector and economic development.

The tourism sector impacts the economic development of Nepal, with relatively abundant natural, cultural, and social resources. Economic growth can be accelerated by sound government policies linked to the tourism sector. The policymakers should give adequate attention to diversifying the tourism services, improving infrastructure, encouraging local communities, promoting sustainable tourism, enhancing marketing efforts, and promoting collaborations between the public and private sectors and local communities to support the

tourism industry. The country can benefit from the tourism industry through a sound tourism policy that helps attract both domestic and foreign tourists in Nepal.

Acknowledgement

I would like to extend my sincere gratitude to the Editorial Board and the anonymous referees for their well-considered suggestions and contributions, which assisted in strengthening the paper's content.

Conflict of interest

The researcher has no conflicts of interest.

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Appendix 1

Least Squares Method

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.737527	0.261921	-2.815839	0.0110
C(2)	-1.360986	0.512677	-2.654667	0.0156
C(3)	-0.336469	0.659012	-0.510566	0.6155
C(4)	6.25E-06	6.18E-06	1.011321	0.3246
C(5)	9.57E-06	7.83E-06	1.222422	0.2365
C(6)	-1.19E-05	1.23E-05	-0.973845	0.3424
C(7)	0.488555	0.564332	0.865723	0.3974
C(8)	0.302310	0.446291	0.677384	0.5063
C(9)	0.752579	0.461416	1.631020	0.1194
C(10)	6.60E-05	5.31E-05	1.242888	0.2290
C(11)	-5.11E-05	0.000134	-0.380065	0.7081
C(12)	6.26E-05	0.000109	0.571870	0.5741
C(13)	11.24029	2.974144	3.779337	0.0013
C(14)	55182.73	9063.193	6.088663	0.0000
C(15)	60294.07	17740.05	3.398755	0.0030
C(16)	86706.04	22803.68	3.802283	0.0012
C(17)	-0.372489	0.213786	-1.742348	0.0976
C(18)	-0.827336	0.271031	-3.052553	0.0066
C(19)	-1.401583	0.423912	-3.306303	0.0037
C(20)	1057.735	19527.48	0.054166	0.9574
C(21)	-10676.58	15442.93	-0.691357	0.4977
C(22)	34463.00	15966.28	2.158486	0.0439
C(23)	9.300591	1.836509	5.064278	0.0001
C(24)	-11.24233	4.651781	-2.416779	0.0259
C(25)	-1.731867	3.785749	-0.457470	0.6525
C(26)	-619561.4	102913.7	-6.020203	0.0000
C(27)	-0.072734	0.151498	-0.480097	0.6366
C(28)	-0.081064	0.296538	-0.273367	0.7875
C(29)	-0.089279	0.381180	-0.234217	0.8173
C(30)	-1.68E-06	3.57E-06	-0.468809	0.6445
C(31)	-1.02E-06	4.53E-06	-0.225459	0.8240
C(32)	-2.00E-07	7.09E-06	-0.028249	0.9778
C(33)	-1.164019	0.326416	-3.566056	0.0021
C(34)	-0.991134	0.258140	-3.839520	0.0011
C(35)	-0.437707	0.266888	-1.640037	0.1174
C(36)	-3.17E-05	3.07E-05	-1.034217	0.3140

C(37)	1.59E-05	7.78E-05	0.203959	0.8406
C(38)	6.24E-06	6.33E-05	0.098678	0.9224
C(39)	2.214324	1.720279	1.287189	0.2135
C(40)	-5305.563	6390.710	-0.830199	0.4167
C(41)	-2398.841	4508.123	-0.532115	0.6008
C(42)	-9434.778	7849.464	-1.201965	0.2441
C(43)	0.039329	0.059251	0.663773	0.5148
C(44)	-0.050451	0.072853	-0.692508	0.4970
C(45)	0.104527	0.133675	0.781948	0.4439
C(46)	2264.397	4206.492	0.538310	0.5966
C(47)	4923.349	3205.865	1.535732	0.1411
C(48)	1707.557	3305.579	0.516568	0.6114
C(49)	1.293528	0.384061	3.368029	0.0032
C(50)	-0.725012	1.760805	-0.411751	0.6851
C(51)	0.611051	1.899920	0.321619	0.7513
C(52)	62455.21	22311.79	2.799202	0.0114

Equation: $GDP = C(1)*GDP(-1) + C(2)*GDP(-2) + C(3)*GDP(-3) + C(4)$

$*TA1(-1) + C(5)*TA1(-2) + C(6)*TA1(-3) + C(7)*LS1(-1) + C(8)*LS1(-2) + C(9)*LS1(-3)$
 $+ C(10)*GFET1(-1) + C(11)*GFET1(-2) + C(12)$

$*GFET1(-3) + C(13)$