



Socio-Economic Factors and Tourism – Impact Analysis using Indicator Approach

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Keywords:

Tourism,
Socio-Economic
Impact,
Sri Lanka,
Indicator
approach.

Abstract.

The study uses an indicator approach to assess the socioeconomic impact on tourism in developing countries, using Sri Lanka as a case. Tourism is a flourishing sector in Sri Lanka that was affected by different aspects such as pandemics, terrorism, and economic, social, and political instabilities. Though the effects of these events have been studied separately, studies done to assess the socio-economic impact of tourism in Sri Lanka using an indicator approach are scarce; hence the study aims to fill this prevailing knowledge gap. Based on data availability, the study uses secondary data from Sri Lanka Tourism Development Authority and Central Bank reports of Sri Lanka from 2010 to 2019. The socio-economic impact of tourism is measured using integral indicators calculated using the coefficients and weights of the data collected. The study concludes that tourism in Sri Lanka has had a positive socioeconomic impact and has increased continuously since 2010 except in 2019, due to the aftermath of the Easter Sunday attacks in April 2019. This study indeed provides a stepping stone to study the Sri Lankan Tourism Sector which is currently going through political and economic turmoil.

Kata Kunci:

Parwisata,
Dampak Sosial
Ekonomi,
Sri Lanka,
Pendekatan
indikator.

Abstrak.

Studi ini menggunakan pendekatan indikator untuk menilai dampak sosial ekonomi terhadap pariwisata di negara berkembang, dengan menggunakan kasus Sri Lanka. Pariwisata adalah sektor yang berkembang pesat di Sri Lanka yang dipengaruhi oleh berbagai aspek seperti pandemi, terorisme, dan ketidakstabilan ekonomi, sosial, dan politik. Meskipun efek dari peristiwa ini telah dipelajari secara terpisah, studi yang dilakukan untuk menilai dampak sosial ekonomi pariwisata di Sri Lanka dengan menggunakan pendekatan indikator masih jarang; maka penelitian ini bertujuan untuk mengisi kesenjangan pengetahuan yang ada. Berdasarkan ketersediaan data, penelitian ini menggunakan data sekunder dari Otoritas Pengembangan Pariwisata Sri Lanka dan laporan Bank Sentral Sri Lanka dari tahun 2010 hingga 2019. Dampak sosial ekonomi dari pariwisata diukur dengan menggunakan indikator integral yang dihitung dengan menggunakan koefisien dan bobot dari data yang terkumpul. Studi ini menyimpulkan bahwa pariwisata di Sri Lanka telah memiliki dampak sosial ekonomi yang positif dan terus meningkat sejak 2010 kecuali pada tahun 2019, akibat serangan Minggu Paskah pada April 2019. Studi ini memang memberikan batu loncatan untuk mempelajari Pariwisata Sri Lanka Sektor yang saat ini sedang mengalami gejolak politik dan ekonomi.

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Article history: Received 28th July 2022; Accepted 20th April 2022; Available 30th April 2023.

1. Introduction

Tourism is one of the fastest-growing sectors in the world. It is believed that world tourism can help reduce the financial gap between developing and developed countries by creating a new economic order that ensures economic and social development in developing countries (Rahman, 2010). By

understanding the impact of tourism and how the economy can benefit from tourism, developing countries can utilize tourism as an economic tool to improve the socio-economic dimensions of the nation.

According to United Nations World Tourism Organization (UNWTO) and as cited by Camilleri (2018, pg.2), “Tourism comprises the activities of persons traveling to and staying in places outside of their usual environment for not more than one consecutive year for leisure, business or other purposes” and is also a major foreign exchange earning sector in many countries, including Sri Lanka. According to the statistical report produced by the Sri Lanka Tourism Development Authority (SLTDA), tourism has contributed an impressive 15.9% of the total foreign exchange earnings in 2018 and has provided employment, which counts for 388,487 direct and indirect jobs created in 2018. The SLTDA further points out that tourism provides public sector revenue from taxes, fees, levies, and recorded business profits, contributing LKR 12,873.2 million to the national economy in 2018 (SLTDA, 2018).

In terms of tourist arrivals to Sri Lanka, 2,333,796 of a number were recorded from January 2018 to December 2018 (SLTDA, 2018). However, recent events such as the Easter Sunday Attacks in April 2019, which recorded 45 foreign fatalities, have led to a decline in Sri Lankan tourism and the industry conditions were further affected by the Covid 19 outbreak. The total number of tourist arrivals in 2019 had dropped to 1,913,702 and according to the reports of May 2019, the number of tourists who arrived in Sri Lanka totaled only to 37,802, which was 70.8% less compared to the same period in 2018. With the travel restrictions issued by the national embassies following the Easter Sunday Attack in 2019, the number of tourists arriving in Sri Lanka from Europe had decreased drastically, and it was observed that the occupancy of hotels had plummeted to 20% even amidst the series of strategies adopted by the hoteliers to lure customers through price reductions (Mariathasan, 2019). Furthermore, despite the actions taken by the Sri Lankan government to minimize the negative impacts of these events, the arrival of international tourists to Sri Lanka had fallen by 18% within the year 2019, which was a 4.5% plunge compared to the previous year (SLTDA, 2019) and had caused the nation to lose a considerable number of benefits, monetary and otherwise. However, the impact of these socioeconomic dynamics on tourism was not assessed yet.

Tourism can, indeed have major socioeconomic implications on a country which could be both positive and negative (Río-Vázquez, Rodríguez-Rad, & Revilla-Camacho, 2019) and these socioeconomic impacts are affected by various dynamics that affect the tourism industry, including the climate change, pandemics, terrorism, and economic downturns. The effects of these events have been studied separately; however, to the best of the authors’ knowledge, there is hardly any research done to assess the socio-economic impact of tourism using an indicator approach. Hence in filling the observed knowledge gap, this research aims to determine the socio-economic impact of tourism on the tourism indicators in Sri Lanka.

2. Literature Review

World Travel and Tourism Council (WTTC) has named tourism as one of the world’s most outstanding economic sectors, accounting for 10.4% of global GDP in 2018, which was increased by 3.9% from 2017. Furthermore, the travel and tourism sector generates 319 million jobs worldwide, accounting for approximately 10% of total employment (WTTC, 2019). Tourism can have a variety of effects on both the host country and the locals of the country. As a result, any variation in tourism or tourism development will impact the country’s residents. And this paper collectively addresses these impacts in a developing nation by taking Sri Lanka as a case, which, undoubtedly, went through a series of shock events that created massive disruptions to the tourism industry.

2.1. *The Case*

Sri Lanka has been a popular tourist destination due to its strategic location and uniqueness. The country has a lot to offer that extends beyond the 3S (Sun, Sea, and Sand), with wildlife, historical sites, cultural sites, scenic splendour with mountains, rivers, and waterfalls, as well as sports and religious attractions (Gnanapala & Sandaruwani, 2016).

Tourism is a leading industry in the service sector in Sri Lanka and according to the SLTDA, tourism contributed directly to 4.9% of the country's GDP in 2018. Tourism also generated 388,487 employment opportunities in the economy, 196,003 directly and 219,484 jobs indirectly. In 2018 alone, tourism sector became a significant stream of foreign exchange earnings that accounted for the third most significant foreign exchange earner (15.9% of foreign exchange earnings in 2018) in Sri Lanka. Tourism also generates revenue for the government, with Rs.12,873 million collected from specified sources in 2018, primarily from the cultural triangle (tourist attractions that capture three central locations in the country), admission fees, foreign tourist embarkation taxes, and wildlife parks (SLTDA, 2018). These figures justify the importance of tourism for the island nation, Sri Lanka, thereby highlighting the study's relevancy in the current context.

2.2. *Economic Impacts of Tourism*

Tourism has numerous socio-economic impacts that can be both favorable or otherwise. Positive impacts of tourism entail the contribution to a nation's Gross Domestic Product (GDP) by boosting domestic income and it is also a self-determining factor for the growth of an economy, and specialization in tourism can lead to fast economic growth in the long run due to favourable terms of trade (Braun, Lanza, & Pigliaru, 2007). Tourism further acts as an instrument of aid in transferring funds from 'income-generating' economies to 'income-receiving economies'. The income created by initial tourist spending is multiplied and creates income several times, a phenomenon commonly known as the 'multiplier effect' (Zaei & Zaei, 2013).

Another substantial positive economic impact of tourism is the employment opportunities it generates, as tourism is predominantly a labour-intensive industry. Tourism generates direct jobs in sectors such as hotels, transportation, management, restaurants and offers indirect job opportunities to supportive industries (Lalrinchani, 2020; Kidane & Berhe, 2017; Potdar, 2013). Tourism also benefits the balance of payments by assisting in acquiring foreign currency and reflects three main effects on the balance of payments: primary effects, secondary effects, and tertiary effects (Ardahaey, 2011).

Economies or regions that thrive on attracting tourists, record increased investment, resulting in regional development. Indisputably it could be agreed that, for tourism to improve and positively impact an economy, public sector must increase investment in tourist-related businesses by creating a facilitated environment through regulatory frameworks, constructions, and operations of tourist infrastructure. Correspondingly, tourism will boost economic and regional development (Toboro, 2014). However, governments should first facilitate and improve the tourism infrastructure nationwide, both urban and rural and eventually, these tourist attractions would cause developments, especially in rural and less developed areas (Edet, et al., 2014).

Tourism also empowers people economically since the benefits of tourism are long-term and has the potential to improve local infrastructure, educational opportunities for inhabitants, with long-term benefits (Ramukumba, et al., 2012). It also contributes to foreign exchange generation by raising demand for goods and services and increasing business for local businesses that cater to tourists,

resulting in higher domestic income (Rout, et al., 2016). Tourism also generates tax revenue, reducing budget deficits and thereby benefiting a country's locals (Gnanapala & Sandaruwani, 2016).

However, tourism can similarly cause negative economic impacts; the primary disadvantage is the dependency on external demand, due to which economies can get overly reliant on tourism (Gnanapala & Sandaruwani, 2016). Over-reliant economies are easily susceptible to fluctuations in tourism demand which bring massive disruptions to the sector and the national economy. An undiversified tourism sector may be heavily affected by slight variations in the face of the plummet tourist demands, and economies may collapse in the event of economic instability (Ardahaey, 2011), which the world experienced in the corona outbreak and which Sri Lanka experienced in the unfortunate events of civil war, Easter Sunday Attack as well as the pandemic. Another negative consequence is tourism seasonality, in which the visitor arrivals fluctuate depending on the weather, vacation times, seasons, and economic conditions, among other factors. As a result, tourism-related employment may also be seasonal, and the economy may experience congestion of public facilities and increased pricing during peak tourist season (Stylidis & Terzidis, 2007). Tourism can also create leakages in the economy, where earned revenue flows out of the country as profits for multinational corporations or in purchasing external products and services. While leakages won't contribute positively to a country's development, it could also occur if the employment opportunities created through tourism are filled by foreign personnel, not country residents, thereby affecting residents' employment opportunities (Letoluo & Wangombe, 2018).

Furthermore, tourism tends to increase economic costs by driving up prices—high costs at restaurants, which locals may regard as exorbitant. Tourism raises the demand for products and services and increases demand for scarce resources like water, food, transportation, and electricity, thereby generating demand-induced inflation (Phoummasak, et al., 2014). Another significant adverse effect is the increased competition for resources and infrastructure. It is argued that tourism takes away resources such as land, labor, and capital from other sectors requiring these resources, such as fishing and agriculture (Stylidis & Terzidis, 2007), which may negatively affect the nations that are heavily reliant on such sectors, which is an attribute of the nation considered in the study.

2.3. *Social Impacts of Tourism*

It is without argument that the consensus can be reached that the social impacts of tourism can also be both positive and negative. A significant positive impact is the increased quality of life of residents. It also provides opportunities to improve and develop recreation and entertainment facilities within the nation (Jaafar, et al., 2015) that not only confine the consumption to the tourists but also allow the residents. Preservation of culture is another positive effect, as tourists are often drawn to areas for various reasons, including culture, landscapes, crafts, and architecture. As a result, local communities will be encouraged to protect cultural heritage and natural resources that attract tourists and improve and safeguard local arts, crafts, cultural events, and architecture (Ratz, 2000). Furthermore, the governments will provide more protective mechanisms and promote cultural tourism in nations that count for a rich culture. It is also observed that the tourists and locals interact in three ways: (i) when tourists buy goods and services from locals, (ii) when tourists and locals share facilities, and (iii) when tourists and locals exchange ideas. These exchanges can assist locals and tourists in recognizing the differences in behavior and culture and improving the understanding among residents and tourists (Gnanapala & Sandaruwani, 2016).

Social impacts, however, can be negative since tourism can lead to changes in the behavior of the local community due to the demonstration effect. This occurs when tourist conduct impacts the local community, resulting in a shift in social ideals. This is detrimental since overseas tourists may act in predictable ways while they are away from home due to a lack of limitations. As a result, locals may

misinterpret tourist behavior (Castela, 2018). Another significant negative influence of tourism is that it encourages the commercializing of culture, values, and social connections to gain monetary rewards. Tourism leads to the commercialization of local communities' social lives, thereby making local culture and traditions a commodity. As social and human interactions are transformed into a resource for making a living, tourism reduces social bonds (Sandeep & Vinod, 2014). Tourism can also cause local facilities and amenities to become overcrowded, causing inconvenience to the local community. According to Bello, et al., (2017) tourism can lead to traffic congestion, noise pollution, resource competition, conflicts, and crowding, pushing communities over their tolerance boundaries. Tourism can also cause tension and conflict between locals and visitors and supporters and non-supporters of tourism. Tourists' cultural beliefs and ideals may clash with local culture, resulting in conflicts. Moreover, as tourism is seasonal, local employees may be forced to overwork during peak tourist seasons, causing them to neglect social, family, and cultural obligations. Overall, tourism can harm locals due to conflicts and fast-paced lifestyles (Kreag, 2001).

2.4. Empirical Research Findings

When considering research conducted on the socio-economic impacts of tourism in Sri Lanka, Gnanapala & Sandaruwani (2016) state that tourism provides more positive socio-economic impacts than negative ones. The study also concluded that even though tourism creates several positive impacts and opportunities, the locals could not get the maximum benefits due to constraints such as lack of education, finance, entrepreneurial abilities, and other skills. The study recommended using Community-Based Organizations (CBO) to encourage local community participation and help the locals benefit more from tourism. Nayomi & Gnanapala (2015) also conclude that tourism has both positive and negative impacts. However, the same study states that the negative impacts are at a low level compared to the positive impacts of tourism. The local population has a favorable attitude towards tourism development and views tourism as a source of revenue for both active and passive participants.

A study conducted by Rauf et al. (2019) similarly revealed consistent results, stating that although tourism had several positive impacts, the local community was not getting the expected benefits. They point out that the respondents perceive the economic impacts of tourism as favorable; nevertheless, the perception of the socio-cultural impacts was negative, and the perception of the environmental effects was not significant. Accordingly, they argue that the research discovered that people engaged in tourism have a more positive attitude toward tourism. Sawant (2017) also supports above points in the context of Aurangabad, India, where the study conclude that people involved in tourism and tourism-related enterprises are more negatively affected by tourism than those who do not display involvement in tourism. Nevertheless, the attitude regarding tourism of the involved residents is positive.

Kozhokulov et al. (2019) also stated that tourism positively impacts the economic and social growth of the Issyk-Kul region, Kyrgyzstan. The study concluded that the socio-economic impacts showed marginal growth every year except for the years of political instability. Furthermore, Aliyeva et al. (2019) studied the socio-economic impacts of tourism in East Kazakhstan Region also concluded that tourism positively impacts economic and social magnitudes of regional development. The research study also found that the socio-economic impacts have grown from 2003 to 2018; however, economic conditions such as the 2008-09 recession and Kazakh currency default in 2014-15 seemed to be revealed in the indicators. While the two studies used different variables to quantify tourism's economic and social impacts, the results were comparable. This shows that various metrics can be used to assess the impacts of tourism.

Yang & Chen (2008) studied the impacts of Nature-Based Tourism (NBT) on Taiwanese enterprises and found that NBT had a moderate impact. The study also found that business managers' perception of socio-cultural benefits of tourism was higher than economic and environmental benefits and economic, environmental, and socio-cultural costs. Another study, conducted by Liu et al. (2012), on the effects of NBT involvement in Wolong Nature Reserve, China, found that NBT has a beneficial socio-economic impact on households. Another key conclusion of the study was that households employed in jobs or businesses related to tourism held a negative perception of the environmental impacts of tourism and considered NBT to have more non-financial benefits than those not engaged in tourism.

Turker & Ozturk (2013) indicated that tourism can have both beneficial and adverse effects. According to the findings, people have a favorable attitude toward tourism, primarily because of the economic benefits, and they see the social and environmental benefits as beneficial, but only to a limited extent. The study further stated that how people perceive the socio-economic consequences of tourism varied depending on where they lived. According to a study conducted by Liu & Li (2018), residents agree that tourism leads to positive economic and social impacts and the respondents have environmental concerns associated with tourism despite their desire to expand tourism in the region by attracting more visitors.

The study by Rout et al. (2016), the impact of tourism on the economy is significant and positive in terms of macroeconomic growth. The study concludes that developing a strategic plan for promoting tourism in the long term will increase macroeconomic growth in India. This was consistent with Puah et al. (2018) findings, which stated that Malaysia's economic growth from tourism has a significant positive impact due to the capital investments and tourist receipts. As both, the variables identified, tourist receipts and capital investments, had a significant positive impact on GDP, and it was concluded that tourism-led growth subsists in Malaysia. Similarly, Fayissa, et al. (2007) concluded that tourism receipts significantly positively affect the economic development of Sub-Saharan African countries and the current GDP levels of the country. The study's conclusions indicate that developing strategically strong tourism industries could increase the short-term economic growth of African countries.

In addition, a study conducted in Jammu and Kashmir (India) by Nengroo et al. (2016) concluded that tourism positively impacts both the economy and employment. The study revealed that, except for the periods of high political instabilities, revenue from tourism had shown a growing trend continuously and that positive inflows from tourism have led to increased employment opportunities. Moreover, a study conducted in Mauritius by Durbarry (2004) concluded that tourism has resulted in a significant positive effect on the economic development of Mauritius. The study also reveals that tourism can provide potential growth to economies that have failed to export goods. Additionally, according to Dritsakis (2004), when considering tourism as a long-term economic growth factor in Greece, it was found that there is a strong causal association between international tourism revenue and economic growth, along with a simple causal relationship among economic growth and international tourism revenue. The findings suggest that tourism positively impacts a country's economic growth.

The literature surveyed so far produces rich knowledge on the socio-economic impact of tourism; however, it is argued that they have not been studied using the indicator approach, which is the gap and the novelty of the study.

3. Methodology

This research methodology includes a collection of statistical data for economic and social indicators, processing the collected data, standardizing the data, calculating coefficients and weights, and modeling the integral economic, social, and socio-economic indicators. The indicators are selected using the recommended indicators for tourism by UNWTO (Table 1). The data for the chosen indicators are obtained from SLTDA tourist arrival reports, SLTDA annual reports, and Central Bank economic and social statistics reports from 2010 -2019 based on availability.

Table 1. Economic and Social Indicators of Tourism

Dimensions	Indicators
Economic impact	Number of tourists
	Revenue of tourism
	Public sector revenue from tourism
	Number of accommodation units
	Revenue of accommodation units
	Gross Domestic Products
	Number of transferred passengers (N/A)
Social impact	Population
	Employed Population
	Population engaged in tourism
	Number of domestic tourists
	Revenue from Domestic Tourism

Source: Author developed based on UNWTO

The study uses an integral socio-economic indicator of tourism to determine the socio-economic impact of tourism in Sri Lanka and the impact of the Easter Sunday Attacks on the tourism industry of Sri Lanka. The statistical data collected for the economic and social indicators were normalized to calculate the indicators. Normalization of data enables the convenience of calculations and helps bring the data in different ranges to the same range. It ensures that each data type is in the same format and is internally consistent. The data were normalized using Equation 1 given below:

$$k_{it} = \frac{(k_i - k_{min})}{(k_{max} - k_{min})} \quad (1)$$

Where k_{it} , the normalized indicator for the economic or social statistics is equal to the difference between k_i , the indicator for each period and k_{min} , the minimum value for each indicator divided by the difference between k_{max} , the maximum value for each indicator and k_{min} .

Next, the Pearson Correlation Coefficient between the economic and social indicators was calculated using the following Equation 2:

$$r = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{[N\sum x^2 - (\sum x)^2][N\sum y^2 - (\sum y)^2]}} \quad (2)$$

N: number of pairs of indicators

$\sum xy$: sum of the products of paired indicators

$\sum x$: sum of economic indicators

$\sum y$: sum of social indicators

$\sum x^2$: sum of squared economic indicators

$\sum y^2$: sum of squared social indicators.

The results of correlation analysis were then used to determine weights for each indicator used in were derived by the following Equation 3:

$$w = \sum_{i=1}^n r_{ij} / \sum_{i=1}^n \cdot \sum_{j=1}^n r_{ij} \quad (3)$$

The weight of the indicator, w , was derived by dividing the sum of the correlation coefficients r_{ij} , for the selected indicator by the total of all correlation coefficients of the economic indicators and social indicators, respectively.

The integral indicators for both economic and social indicators were from the following Equation:

$$y_t = \sum_{i=1}^n w_i \times k_{it} \quad (4)$$

The integral indicator was calculated by taking the sum of w_i , the weight for each indicator multiplied by k_{it} , the normalized value for each year for each indicator. The socio-economic indicator was calculated using the following Equation 5:

$$z = y_1 + y_2 \quad (5)$$

Where z is the socio-economic indicator, y_1 , the integral economic indicator and y_2 , the integral social indicator.

4. Results and Discussion

The above methodology was used to assess the socio-economic impact of tourism in Sri Lanka from 2010 to 2019. Firstly, the data obtained from statistical reports were normalized using Equation 01. The normalized data for the economic indicators are illustrated in Table 2, while the normalized data for the social indicators are illustrated in Table 3.

Table 2. Normalized Data for Economic Indicators

Year	No. of Tourists	Tourism Rev	Public Sector Rev	Accom. units	Accom. Revenue	GDP
2010	0	0	0	0	0	0
2011	0.1200	0.0431	0.0827	0.0704	0.1761	0.0936
2012	0.2091	0.1042	0.1713	0.2383	0.4718	0.2695
2013	0.3693	0.2422	0.3062	0.1054	0.4802	0.3695
2014	0.5197	0.3902	0.4410	0.1558	0.5614	0.4589
Avg. Growth	0.2436	0.1560	0.2002	0.1140	0.3379	0.2383
2015	0.6812	0.5263	0.5245	0.5613	0.5952	0.5274
2016	0.8315	0.6915	0.7677	0.6627	0.6925	0.6489
2017	0.8705	0.8241	0.8855	0.7509	0.8492	0.8038
2018	1	1	1	0.8757	1	0.9244
2019	0.7498	0.8986	0.6596	1	0.9927	1
Avg. Growth	0.8266	0.7881	0.7675	0.7701	0.8259	0.7809

Source: Author developed based on STATA Analysis

The maximum value 1 is recorded in the period with the highest indicator and the minimum value, 0, in the period with the lowest indicator. The period of 10 years was divided into two periods of 5 years to show the five-year trend of changes. As indicated by Kozhokulov et al. (2019) average growth rate was thereby calculated for each segmented period to indicate the progressive growth of the

indicator of the studied period. All six economic indicators have recorded the minimum value of 0 in the year 2010, and the maximum value of 1 was recorded in 2018 for the number of tourists, tourism revenue, public sector revenue, and revenue from the accommodation, and in 2019 for the number of accommodation units and GDP.

Revenue from accommodation units has the highest growth in the first period with an average growth of 0.3379 and accommodation units have the lowest growth with an average growth of 0.1140. It should be noted that the revenue from accommodation has grown at a rate higher than accommodation units implying higher revenue earned by existing accommodation units over the years. The number of tourists and revenue from tourism also depict the same trend. The number of tourists has grown by an average of 0.2436. In contrast, revenue from tourism has grown only by 0.1560, indicating that even though the tourist arrivals have increased, the revenue from tourism has reduced. However, public sector revenue from tourism has increased more than the revenue from tourism, with an average growth rate of 0.2002. GDP has an average growth of 0.2383 in the first five years.

The second period from 2015 to 2019 indicates that the number of tourist arrivals has the highest growth with an average growth of 0.8266. Even in the second period, tourism revenue and public sector revenue from tourism have grown at a rate lower than tourist arrivals. However, in the second period, the public sector revenue has an average growth of 0.7675, and tourism revenue has an average growth of 0.7881, which is higher than the first period. The number of accommodation units has an average growth of 0.7701 and as same as the first period, the revenue from accommodation units have grown at a rate of 0.8259 which is higher than that of the first period. GDP has an average growth rate of 0.7809 in the second period.

Table 3. Normalized Data for Social Indicators

Year	Population	Employed Pop.	Tourism Emp.	Dom. Tourists	Dom. Tourism Rev.
2010	0.1814	0.3032	0	0	0
2011	0.3389	0.1433	0.0245	0.1351	0.2218
2012	0	0	0.1139	0.0978	0.1209
2013	0.1161	0.2670	0.5104	0.0740	0.1202
2014	0.2562	0.2935	0.6203	0.1482	0.0937
Avg. Growth	0.1785	0.2014	0.2538	0.0910	0.1113
2015	0.3955	0.4757	0.6926	0.5228	0.2978
2016	0.5646	0.6384	0.7526	1	0.8190
2017	0.7395	1	0.8396	0.9860	0.8562
2018	0.9035	0.7316	0.9478	0.9359	1
2019	1	0.9624	1	0.5133	0.4491
Avg. Growth	0.7206	0.7616	0.8465	0.7916	0.6844

Source: Author developed based on STATA Analysis

For the social indicators, the minimum value of 0 was recorded in 2010 for employment from tourism, the number of domestic tourists, and revenue from domestic tourism, while the population and employed population recorded the minimum value in 2012. The maximum value of 1 for population and employment from tourism was recorded in 2019, the employed population in 2017, the number of domestic tourists in 2016, and revenue from domestic tourists in 2018.

The highest growth in the first period from 2010 to 2014 was recorded by employment from tourism. In the first period, the population grew at an average of 0.1785 and the employed population grew at an average of 0.2014. It implies that a higher proportion of the population was employed in the first

period, and the population engaged in tourism also increased more than the employed population, indicating that a higher proportion of the employed population was engaged in the tourism sector. The number of domestic tourists has grown at an average of 0.0910 and revenue from domestic tourists has grown at an average of 0.1113.

In the second period, the same trend can be seen in the population, employed population and population engaged in tourism. The population has grown at an average of 0.7206, employed population at a higher average of 0.7616 and population engaged in tourism at the highest rate of 0.8465. Domestic tourism, however shows a different trend in period two compared to period one. The number of domestic tourists has grown at a rate of 0.7916 however, the revenue from domestic tourism have grown at a lower rate of 0.6844. This implies that even though the number of domestic tourists has increased, the revenue earned from them have reduced. The normalized data were used to calculate the correlation coefficients between the respective economic indicators and social indicators (Table 4 and Table 5).

Table 4. Pairwise Correlation for Economic Indicators

	No. of Tourists	Tourism Rev	Public Sec. Rev	Accom. units	Accom. Rev.	GDP	Total
No. of Tourists							
Tourism Rev	0.9687*						
Public Sec Rev	0.989*	0.9688*					
Accom. units	0.8917*	0.9527*	0.8842*				
Accom. Revenue	0.9276*	0.9476*	0.917*	0.9145*			
GDP	0.9379*	0.9799*	0.9287*	0.9487*	0.9844*		
Total	5.7149	5.8177	5.6877	5.5918	5.6911	5.7796	34.282

*Significance at 1% level

The pairwise correlation coefficients were obtained to identify the relationship between the economic and social indicators, respectively. The values depict the existence of a strong positive correlation between all economic indicators at a 1% significance level. The highest correlation is between the number of tourist arrivals and public sector revenue with a value of 0.989 and the lowest correlation of 0.8842 is between public sector revenue and accommodation units.

Table 5. Pairwise Correlation for Social Indicators

	Population	Employed Pop.	Tourism Emp.	Dom. Tourists	Dom. Tourism Rev.	Total
Population						
Employed Pop.	0.915*					
Tourism Emp.	0.8033*	0.8446*				
Dom. Tourists	0.7752*	0.8076*	0.7658*			
Dom. Tourism Rev.	0.796*	0.768*	0.7167**	0.9676		
Total	4.2895	4.3352	4.1304	4.3162	4.2483	21.3196

*Significance at 1% level

**Significance at 5% level

There is a significant strong positive relationship between all five social indicators as well. The highest correlation is indicated by the value of 0.9676 between the number of domestic tourists and revenue from domestic tourism. The lowest correlation at 1% significance of 0.768 is between employed population and revenue from domestic tourism is still a strong positive relationship. The correlation between employment from tourism and revenue from domestic tourism is 0.716, a significant strong positive correlation at 5% significance level.

The derived correlation coefficients were used to calculate the weighting coefficients for each indicator, which were then multiplied by the normalized indicators and summed to obtain the integral economic and social indicators. The weighting coefficients and integral economic indicator and integral social indicator are depicted in Table 6 and Table 7, respectively.

Table 6. Weighting Coefficients and Integral Indicator for Economic Impact

Year	Population	Employed Pop.	Tourism Emp.	Dom. Tourists	Dom. Tourism Rev.	Social Ind.
2010	0.0365	0.0617	0	0	0	0.0982
2011	0.0682	0.0291	0.0047	0.0274	0.0442	0.1736
2012	0	0.0000	0.0221	0.0198	0.0241	0.0660
2013	0.0234	0.0543	0.0989	0.0150	0.0240	0.2155
2014	0.0515	0.0597	0.1202	0.0300	0.0187	0.2801
2015	0.0796	0.0967	0.1342	0.1058	0.0594	0.4757
2016	0.1136	0.1298	0.1458	0.2025	0.1632	0.7549
2017	0.1488	0.2033	0.1627	0.1996	0.1706	0.8850
2018	0.1818	0.1488	0.1836	0.1895	0.1993	0.9029
2019	0.2012	0.1957	0.1937	0.1039	0.0895	0.7840
Weighting Coefficient	0.2012	0.2033	0.1937	0.2025	0.1993	1

The weighting coefficients for economic indicators are positive values and range from 0.1631 to 0.1697. The integral indicator modeled is also depicted in the table. The integral economic indicator shows constant positive growth every year from 2010 to 2018; however, it drops in 2019 due to instabilities in the country.

Table 7. Weighting Coefficients and Integral Indicator for Social Impact

Year	Population	Employed Pop.	Tourism Emp.	Dom. Tourists	Dom. Tourism Rev.	Social Ind.
2010	0.0365	0.0617	0	0	0	0.0982
2011	0.0682	0.0291	0.0047	0.0274	0.0442	0.1736
2012	0	0.0000	0.0221	0.0198	0.0241	0.0660
2013	0.0234	0.0543	0.0989	0.0150	0.0240	0.2155
2014	0.0515	0.0597	0.1202	0.0300	0.0187	0.2801
2015	0.0796	0.0967	0.1342	0.1058	0.0594	0.4757
2016	0.1136	0.1298	0.1458	0.2025	0.1632	0.7549
2017	0.1488	0.2033	0.1627	0.1996	0.1706	0.8850
2018	0.1818	0.1488	0.1836	0.1895	0.1993	0.9029
2019	0.2012	0.1957	0.1937	0.1039	0.0895	0.7840
Weighting Coefficient	0.2012	0.2033	0.1937	0.2025	0.1993	1

The weighting coefficients of the social indicators are also positive and ranges from 0.1937 to 0.2033. The modeled integral social indicator depicts an increasing trend over the years; however, a drop can be seen in 2012 and 2019. The decline in 2012 is due to a drop in population values of the country as up to 2012 population estimates are based on a census conducted in 2001 and another census was conducted in 2012 that reduced the value of the population. The drop in 2019 is due to the instabilities in the country. The graphical illustration of the integral indicators is shown in Figure 01 which represents a graphical representation of the integral socio-economic indicators of tourism in Sri Lanka from 2010 to 2019. The representation depicts that the economic indicator of tourism has increased continuously over the years from 0 in 2010 to 0.9670 in 2018. However, the economic indicator drops to 0.8834 in 2019, which is a decrease of 8.6%. The drop in 2019 can be seen in the social indicator where the values decrease from 0.903 in 2018 to 0.784 in 2019, decreasing 13.17%. Therefore, this is

reflected in the socio-economic indicator with a decrease from 1.8699 to 1.6675, a reduction of 10.82%. This is due to the Easter Sunday attacks that occurred in Sri Lanka on the 21st of April 2019. The concern about security in the country led to a decline in international tourist arrivals in the country. The attacks also resulted in island-wide curfews and social media bans which led to a decline in domestic tourism. The results were consistent with the findings of Aliyeva, et al. (2019) and Kozhokulov, et al. (2019), where it was found that economic, social, and political instabilities lead to a decline in the socio-economic indicator and the nation may face further declining performances these indicators in coming future.

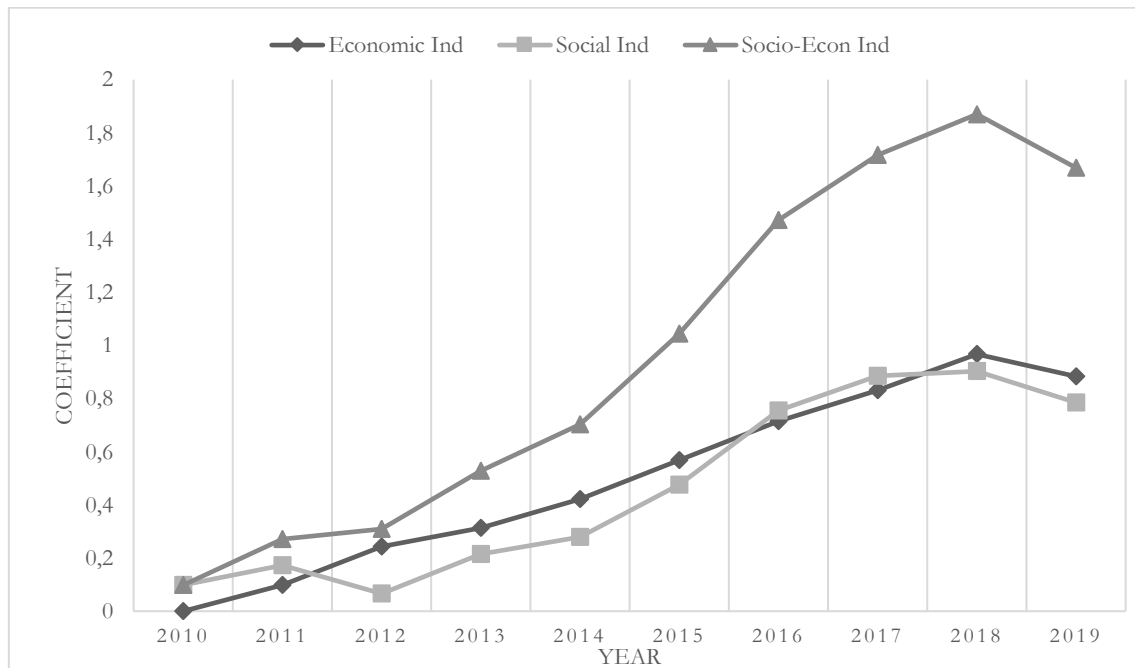


Figure 1. Integral Indicators of Socio-Economic Impact

5. Conclusion

The study results show that the integral economic indicator shows continuous growth from 2010 to 2018 except for the decline in 2019 due to the aftermath of the Easter Sunday attacks. The integral social indicator shows a continuous growth trend except for the decline in 2012, which occurred due to the population census carried out in 2012, reducing the estimate of the population and in 2019, due to the acts of terrorism that occurred in the country. Thereby, the modelled integral socio-economic indicator also shows a decline in 2012 due to a reduction in population estimate and a 10.8% decline in 2019. It can be concluded that tourism in Sri Lanka has a positive economic and social impact and has increased yearly from 2010 to 2019 except in 2019. The study also shows a significant strong positive correlation between all the selected indicators for the research. That suggests that increases in one indicator would lead to the increment of the related indicators. It should also be noted that the average growth of the number of tourists in Sri Lanka is higher than the average growth of revenue from tourism and public sector revenue from tourism. This suggests that tourism's revenue increases at a lower rate than the increase in tourist arrivals to the country.

These shed insights that even though tourist arrivals are increasing, the money spent by tourists in the country is not increasing at an equal rate, which could be due to the income level of tourists that arrive in the country. This could also be fuelled due to the lack of statutory frameworks developed in

terms of tourist transit hours and fund verifications that is usually required in other countries, where the financial capacity needs to be disclosed to the travel destinations authorities. According to Deyshappriya, et al. (2019), 69.2% of tourists that arrive in Sri Lanka spend less than \$100 per day. This would suggest that most of the tourists are not willing to spend high amounts of money in the country. The same trend can be seen in domestic tourism in the second period, 2015-2019, where the revenue from domestic tourism has increased at a lower rate than the increase in domestic tourists. However, all the indicators show positive growth over the years.

5.1 Recommendations

During the study, it was realized that transit tourism does not exist in Sri Lanka. Sri Lanka currently provides a tourist 12 hours of transit at the airport. According to SLTDA (2018), there were 186,862 excursionist arrivals to Sri Lanka in 2018, which are the tourists spend less than 24 hours in the country. Transit tourism can be a source of tourism revenue for Sri Lanka. Sri Lanka is a small country with a range of tourist destinations nearby. If the authorities can extend the transit visa more than 12 hours, the tourists will be able to spend more time in the country, which could increase the country's tourism revenue. As it was also noted that the international tourists arriving in the country may be low-income earners. The government and tourism authorities should also implement strategies to attract high yield tourists who will spend more time in the country and spend more money. According to Djeri, et al. (2014), most high-income earners make decisions on tourism destinations from word of mouth and the internet. Nowadays, the internet has become the most prominent "word of mouth" with discussion forums, social media, and influencers reviewing destinations. Sri Lanka should create an excellent online presence targeting high-income earners and attractively promote tourism.

The hotels should also take necessary actions to uplift performance. Offers and promotions can be used to attract more tourists, and in stages with instabilities in the country, the hotels can try to attract domestic tourists to ensure the continuation of operations. The government should also help the hotels and other tourism establishments affected by the current events by investing in tourism and giving subsidies and other grants to help businesses survive.

5.2 Limitations and Directions for Future Research

The research is conducted for a limited period from 2010 to 2019 due to the restrictions in obtaining the data. Despite the limitations of the research, it highlights the positive socio-economic impact of tourism to the country and provides several opportunities for future researchers to conduct further studies. The study uses data only up to 2019. The current COVID-19 pandemic will also have an adverse effect on tourism due to travel being discouraged. The pandemic will further worsen the situation for hoteliers as well as other tourism-related businesses. Future researchers can conduct studies to identify the impact of the current pandemic, economic and political turmoil creating setbacks on the tourism industry.

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