

# IMPACTS OF TOURISM IN THE PĀNAMA REGION OF SRI LANKA: AN ECONOMETRIC ANALYSIS OF SOCIAL IMPACTS

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## Abstract

*This study aims to find the social impacts of tourism in the Panama region of Sri Lanka by using quantitative method. The area of this study is Panama region of Sri Lanka in the South Eastern coastal belt of Sri Lanka. The Panama region is composed of five areas such as Arugambay, Kudakalliya, Jalaldeen Square, Kottukal, and Pānama. The data have been collected by using the Five Likert Scale questionnaire for the analysis in year 2016/2017. The sample size is 530 out of population of 10,548 at 5 percent for the quantitative analysis. The tools to analyze the data are Reliability Analysis, Factor Analysis, Correlation, Multiple Regression, Co-linearity Statistics, Residual Analysis using SPSS 20.0. The dependent variable is Total Effect of tourism. Pride for Residence, Better Utility Services, Infrastructural Facilities, Living Standard, Entertainment, Interactions with Foreign Tourists are identified and used as the independent variables of the positive social impacts. As per the test of regression, all the independent variables are positively related with the dependent variable and statistically significant. As per the correlation analysis, the strength of positive linear association ship, the significance, and the direction of the independent and dependent variables confirm all the positive social impacts. The most influencing factor of the positive social impacts of tourism is Entertainment.*

Key words: Social impacts, Tourism, Panama Region, Factor Analysis, Regression

## Introduction

The Panama region is found as one of the renowned tourist destinations located in the South Eastern coastal belt of Sri Lanka. Into Pānama which are Region, there are five touristic destinations such as Arugambay, Kudakalliya, Jalaldeen Square, Kottukal, and Pānama found as the prime attractions of the domestic and the foreign tourists who are visiting in quest of the various geographic characteristics and settings of the region. There are a number of impacts due to the development in the tourism industrial sector in Sri Lanka and all over the world. These impacts are perceived as positive and negative impacts. Tourism industrial sector in Sri Lanka is going to be very challengeable in the present and future because Sri Lanka has to compete with the other tourism destinations in the global context along with the minimization of impacts of improving and developing tourism industry within the domestic arena.

On one hand, Sri Lanka has to face the high competitiveness of entering into the global tourism market based on the indicators defined into Travel and Tourism Competiveness Index (TTCI).

On the other hand, Sri Lanka has to lead in uplifting the impacts perceived positively due to the tourism industry within the domestic destinations of tourism based on social, economic, environmental and cultural aspects and also to lower the negative effects of improving the tourism industrial sector within the country in terms of social, economic, environmental, and cultural perspectives. Thus, this study assesses and finds the positive and negative factors influencing on society, economics, environment, and culture and also attempts so as to find the associationship between these factors and total effect of developing the tourism industrial sector in Pánama region of Sri Lanka.

The contribution of tourism industrial sector in the socio-economic development of a country is also recognized by the World Trade Organization (WTO) as stated in its Manila Declaration (1980:1): “World tourism can contribute to the establishment of a new international economic order that will help to eliminate the widening economic gap between developed and developing countries and ensure the steady acceleration of economic and social development and progress, in particular in developing countries”. Sri Lanka also has prioritized the tourism industry which has resulted in higher GDP growth and the creation of employment. This research has the advantages of being conducted by a native researcher with knowledge and in-depth understanding of the local community and a high level of cultural awareness which will help to identify and analyze the research objectives. As a research location, Pánama region has been selected as it is a prime tourist destination within Sri Lanka, it is also one of the mostly visited tourist spot in the country and a part of investments in tourism can be made here making it one of pivotal location.

### **Objective**

To analyze the factors influencing on the social impacts of tourism sector and their instrumental relationship with its entire effects on the local community in the Panama region of Sri Lanka

### **Literature Review**

The following are some of the empirical studies previously done by the various researchers in the world in relation to the social impacts of tourism. Paul and Paul (1999) investigated community perceptions of the socio-cultural impacts of tourism using qualitative method and examined the extent to which they coincided with their classifications made by academic writers. They undertook a resident survey which revealed that perceived impacts reported by informants coincided with the majority of those which were identified in the literatures. This study resulted in four main conclusions, (1) tourism had changed the structure of the community of the town with the resulting impacts on the residents' attitudes, (2) the second conclusion related to the change in the importance from the hotel serviced accommodation to the

self-catering accommodation having an instrumental manner on the host perception of tourism impacts, (3) the cultural impacts of tourism were not perceived as being of any great importance, (4) finally, the perceived socio-cultural impacts of tourism identified by the informants who took part in the study coincided with many of the key impacts which were identified at the outset.

Ramukumba, et. al. (2012) surveyed at the socio-economic impacts of tourism on emerging tourism entrepreneurs in the George municipality in the Western Cape Province, South Africa. For the purposes of this research, a descriptive survey was conducted. This study found that there was a fair improvement in the lives of the emerging tourism entrepreneurs from the previously disadvantaged communities due to their involvement in the tourism industry. The final analysis indicated that there was a fairness of improvement of standards of living in the households of those owning tourism enterprises. They concluded that tourism entrepreneurs indicated that the household standard of living is average (50%), those that indicated that 'the household standard of living is good' were 42.5% while those that indicated that 'the household standard of living is excellent' were 7.5% due to their involvement in the tourism industry. Whilst the results show a good sign in minimizing the negative socio-economic impacts, there seem to be a long way to go as there a few who are having excellent living standards while majority are having an average living standards.

Enemuo and Oduntan (2012) evaluated the social impact of tourism development on the lives of host communities of Osun- Oshogbo Sacred Grove in Osun State Nigeria. They found that the social impacts of tourism had been basically the effects of either the growth and development of the tourism industrial sector or the presence of tourists in the destination. The interrelationship between the host and the tourists resulted in these impacts. Data for this research were collected using qualitative and quantitative methods. Simple frequency percentages, mean and Analysis of variance (ANOVA) derived from regression analysis were used to analyze the collected data for the study. The findings of the analysis implied that tourism development had significant effects on the social lives of the host communities and tourism development had significant effects on the sustainability of the socio-cultural lives of the host communities. This study found that tourism could contribute to social and cultural changes in host communities. This included changes in standard of living and their social lives. It concluded that the negative social impacts had been under-researched due to the difficulties in measurement and the indirect effects capable of threatening the survival of tourism destinations if measures and policies are not developed to address the negative issues.

Jose (2012) used a normative model to find out the potentiality of cultural tourism in the local authorities of the State of Jalisco. The aim of the normative model for cultural tourism was to analyze the strengths, weaknesses, threats and opportunities in all factors such as infrastructure facilities, skills and the design and implementation of cultural tourism policies on the southern Jalisco. Therefore, the

model required qualitative and quantitative methods of analysis to conduct this study. They concluded that fostering cultural tourism in the southern Jalisco had a positive impact on developing infrastructure, offering diversified products and services in the cultural tourism market, creation of employment, improvement of living standard of the people and improvement of entrepreneurial skills of the community, etc.

### **Methodology**

This study is on the basis of the quantitative method. The quantitative method based on the five Likert Scale questionnaire is used to find the relationship between the positive social impacts of tourism and the entire development of tourism in the Panama region.

The questions in the questionnaire are categorized into the different perspectives such as positive social impacts of tourism, negative social impacts of tourism, positive economic impacts of tourism, negative economic impact of tourism, positive environmental impacts of tourism, negative environmental impacts of tourism, positive cultural impacts of tourism, and negative cultural impacts of tourism to measure the total impacts of tourism in the study region. Out of 118 questions, there are 28 questions especially prepared for the positive social impacts of tourism. Five-Point Likert - type scale ranging from strongly agree (value of 1), agree (value of 2), neutral (value of 3), disagree (value of 4), and to strongly disagree (value of 5) is used to measure the positive social impacts of tourism.

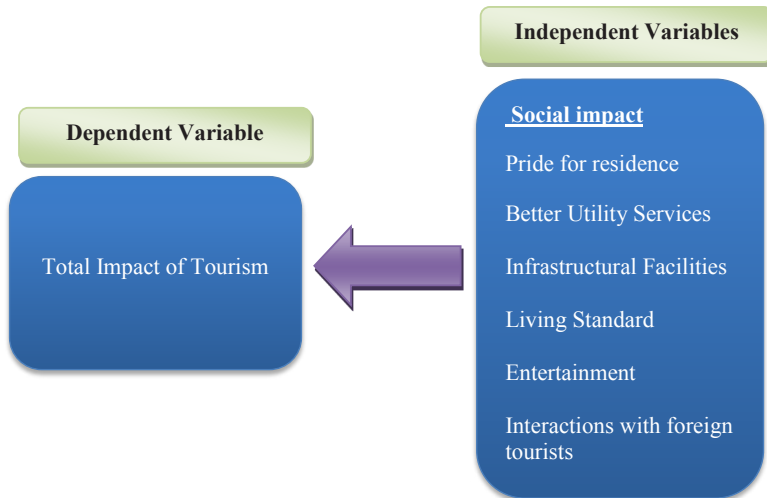
The sample size of 530 respondents from the total population of 10,548 has been considered as the sample of this study under the proportionate random sampling method. Out of the total study population of 10,548, the sample size of 530 respondents (workers, hoteliers and community members) has been chosen through proportionate random sampling method and also 530 questionnaires have been administered to collect data from the sample size of 530.

The software used to analyze the data are Statistical Package for Social Science (SPSS: V. 20.0) and Microsoft Excel 2007. The tools employed in this study for the data analysis are as follows: Reliability Test, Factor Analysis, Multicollinearity, the Kaiser-Meyer-Olkin of sampling adequacy and Bartlett's test of Sphericity, Factor Extraction, Communalities, Scree Plot, Factor Rotation, Correlation, and Regression. Accordingly, the following multiple regression model is to be analyzed in this study:

$$\text{EFFECT\_TOTAL} = \alpha_0 + \alpha_1 \text{PSIPFR01} + \alpha_2 \text{PSIBUS02} + \alpha_3 \text{PSI\_INF03} + \alpha_4 \text{PSI\_LIS04} + \alpha_5 \text{PSI\_ENT05} + \alpha_6 \text{PSI\_INT06} + \epsilon$$

Visually it is shown as follows:

Source: Developed by the Researchers



**Where:**

**EFFECT\_TOTAL:** - Total Impact of Tourism

**PSIPFR01:** - Pride for residence (Positive Social Impact of tourism development)

**PSIBUS02:** - Better Utility Services (Positive Social Impact of tourism development)

**PSI\_INF03:** - Infrastructural Facilities (Positive Social Impact of tourism development)

**PSI\_LIS04:** - Living Standard (Positive Social Impact of tourism development)

**PSI\_ENT05:** - Entertainment (Positive Social Impact of tourism development)

**PSI\_INT06:** - Interactions with foreign tourists (Positive Social Impact of tourism development)

$\epsilon$ : – The Error

**a0, a1, a2, a3, a4, a5, a6:** - The Coefficients

In this study term impact of tourism is employed as a dependent variable whereas pride of Residence, utility services, living standard, entertainment, infrastructure facilities, interaction with foreign tourist have been used as independent variables. Accordingly, the above Model which elucidates the positive social impacts of tourism reveals the significance of independent variables and their impacts on the entire effects of the tourism development in the particular region. The Model two which elucidates the negative social impacts of tourism reveals the significance of independent variables and their impacts on the entire effects of the tourism development in the particular region. Accordingly, the following hypotheses are tested in this study:

H0: There are no positive social impacts of tourism in Panama region.

H1: There are positive social impacts of tourism in Panama region.

Further, in connection with the above multiple regression model, ANOVA, Analysis of Residuals, VIF, and Tolerance are the tools used to analyze the estimated model.

### **Data Presentation and Analysis**

The analysis of data consists of Reliability Test, Preliminary Analysis (Problem of Multicollinearity, The Kaiser-Meyer-Olkin of sampling adequacy and Bartlett's test of Sphericity), Factor Analysis (Factor Extraction, Communalities, Scree Plot, and Factor Rotation), Correlation, Multiple Regression, Testing of Hypotheses, Testing for Multicollinearity, and Residual Analysis (Histogram and Normal P-P Plot of Regression Standardized Residual).

### **Reliability Test: Overall and Positive Social Impacts of Tourism**

The Statistical Package with version of 20.0 (SPSS v. 20) is used to test this reliability test. This test is used so as to accept the internal consistency/reliability of the primary surveyed data collected from the sample of 530 out of the population of 10,548 in this study. One of the prerequisites for the operation of regression models or other statistical analyses using the primary data collected from the five-scale questionnaires survey is the reliability test. In other words, the measure of reliability deliberately indicates the internal consistency of variables (Choudhury, 2010). In this study, the internal consistency of overall impacts of social, economic, environmental, and cultural impacts of tourism are tested. And also, the positive social is individually tested in this study.

According to George and Mallery (2003), the value of excellent level of Cronbach's alpha is more than 0.9 and also this value can be ranked as  $\alpha > .9$  – Excellent,  $\alpha > .8$  – Good,  $\alpha > .7$  – Acceptable,  $\alpha > .6$  – Questionable,  $\alpha > .5$  – Poor, and  $\alpha < .5$  – Unacceptable). It is noted that if the value of coefficient of Cronbach's Alpha is greater than 0.7, the questions prepared in the questionnaire of this study are appropriate measurements whereas the questions or variables used in the study will not be suitable if the value of this Cronbach's Alpha is smaller than 0.6.

**Table 5.1: Test of Reliability: Overall and Positive Social impacts**

No.	No. of Items	Cronbach's Alpha	No. of Items
01	Overall Impacts (Socio, Economic, Environment, Cultural,) of Tourism Industrial Sector	0.979	118
02	Positive Social Impact of Tourism sector	0.894	28

Source: Surveyed data, 2016

Table 5.1 above shows that the values of Cronbach Alpha for the individual items such as Overall Impact of Tourism Sector and Positive Social Impact of Tourism sector. It is found the coefficient of Cronbach Alpha is 0.979 for overall impacts (socio Economic Cultural and Environment) of tourism industrial sector which consist of 118 variables together. And also, the value of Cronbach Alpha of Positive Social Impact of Tourism sector is close to 0.9. It indicates the existence of the excellent internal consistency of the surveyed data. And also it is concluded that the amount of measurement error is very less.

**Preliminary Analysis: Problem of Multicollinearity**

It is one of the techniques which can be used in preliminary analysis to check the pattern of relationship of the questions used in this study using correlation matrix. Examining the value of significance and finding any variables or questions of which the majority of significance values are higher than 0.05 ( $p > 5\%$ ) and examining the value of correlation coefficients by looking for any values which are more than 0.9 are instrumental to test the pattern of relationship between the variables or questions used in this study. The problem of multicollinearity is generated in the data collected if any of the above is found in the variables or questions. The value of Determinant of the correlation matrix is another tool to delete one of the two variables which are causing the problem of multi-co-linearity from the variables or questions. The value of Determinant of the Correlation matrix of this set of items which represents the Positive Social Impacts of Tourism is 0.0004572 which is higher than the necessary value of 0.00001. Therefore, there is no problem of multi-co-linearity between these items designed under the Positive Social Impacts of Tourism. Accordingly, there is no need to remove any items or test questions of positive social impacts of tourism as the value of Determinant of R-matrix is higher than the required value of 0.00001.

**Table 5.2: Test of Multicollinearity - Preliminary Analysis**

No	Set of Items	No. of Items	Value of Significance (5%)	Determinant of R-matrix ( $\sim > 0.00001$ )	Correlation Coefficient
01	Positive Social Impacts of Tourism	28	<i>Sig.</i> < 0.05	0.0004572	$R < 0.9$

Table 5.2 explains that there is no multicollinearity/singularity problem in the data used as the none of the value of correlation coefficients in the Correlation Matrix is found greater than 0.9.

**Preliminary Analysis: The Kaiser-Meyer-Olkin of sampling adequacy and Bartlett’s test of sphericity**

The value of KMO statistic varies between the values of 0 and 1. The value of 0 indicates that the sum of partial correlations is larger than the sum of correlations.



That is, it indicates the dispersion in the pattern of correlations. Thus, factor analysis is to be found inappropriate). Conversely, a value of KMO statistic which is close to 1 indicates that patterns of correlations of variables or questions are comparatively packed together and so factor analysis results likely in reliable and distinct factors. As per the recommendation of Kaiser (1974), the value of KMO which is higher than the value of 0.5 can be accepted. The values of KMO which are less than 0.5 guide researchers so as to either collect some more data or reorganize the variables to be included in their studies. The values of KMO between 0.5 and 0.7 are acceptable, the values between 0.7 and 0.8 are good, the values between 0.8 and 0.9 are great and the values more than 0.9 are excellent (Andy, 2005).

In this study, the positive social impacts of tourism is used individually to find the value of KMO and to rethink of collecting some more relevant data to be included in this study.

**Table 5.3: Test of KMO and Bartlett's test of Sphericit**

No	Set of Items	No. of Items	Value of KMO	Bartlett's test of sphericity /significance (5%)
01	Positive Social Impacts of Tourism	28	0.868	0.000

Source: Surveyed data, 2016

Table 5.3 describes that for the data of negative social impacts of tourism, the value of KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) is 0.914 which covers the range of being excellent.

### **Factor Analysis: Positive Social Impacts of Tourism**

The factor analysis is known as the approach which is reorganizing the data surveyed specifically by minimizing the number of variables and therefore it is known as a technique of "data reduction" or "dimension reduction" (Robin, 2012). Under the process of factor analysis, the surveyed data of positive social impacts of tourism are restructured through 04 steps of techniques such as Factor Extraction, Communalities, Scree Plots, and Factor Rotation.

### **Factor Extraction: Positive Social Impact of Tourism**

This technique of factor extraction determines the numbers of factors which are essential in a collection of variables. Table 5.4 lists the Eigen values connected with each linear factor after extraction. The Eigen values of each factor indicate the percentage of variance explained by those particular linear components. SPSS displays the Eigen values in terms of the percentage of variance explained by the respective factors or components. According to Table 5.4, 34.503% of total variance is explained by factor or component 1. Accordingly, 11.190%, 6.716%, 5.318%,



4.906%, and 4.076 of total variance are explained by component 2, component 3, component 4, component 5, and component 6 respectively. Based on the Eigen value which is more than 1 and the percentage of variance, 06 components are listed in ascending order by SPSS. The components or factors from 01 to 06 of Eigen values such as 9.661, 3.133, 1.880, 1.489, 1.374, and 1.140 which are more than the value of 01 are extracted for the appropriate analysis respectively.

**Table 5.4: Total Variance Explained – Positive Social Impact of Tourism**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.661	34.503	34.503	9.661	34.503	34.503
2	3.133	11.190	45.694	3.133	11.190	45.694
3	1.880	6.716	52.410	1.880	6.716	52.410
4	1.489	5.318	57.727	1.489	5.318	57.727
5	1.374	4.906	62.633	1.374	4.906	62.633
6	1.140	4.072	66.705	1.140	4.072	66.705

Source: Survey data - 2016

**Communalities: Positive Social Impacts of Tourism**

Table 5.5 shows the table of values of communalities before and after the process of extraction. Principal Component Analysis (PCA) works on the initial assumption that all variance of the variables concerned in the positive social impacts of tourism is common. Therefore, the values of communalities in the column labeled as Initial are equal to 1 before the process of extraction. The communalities in the column labeled as Extraction reflect the common variance in the data structure (Andy, 2005). For example, 75.5% of the variance connected with the question 1 is common. Another way to look at these communalities is in terms of the proportion of variance explained by the underlying factors. After the process of extraction, some of the information is in loss due to the loss of some of the unnecessary factors discarded. Therefore, the proportion of variance explained in each variable by the rest of factors is represented by the communalities after the process of extraction.

**Table 5.5: Communalities – Positive Social Impacts of Tourism**

	Initial	Extraction
01. Tourism encourages the cultural activities of arts and crafts by the local population	1.000	.755
02. Tourism has led to an increase of infrastructure for local people	1.000	.807
03. Tourism has increased the income of your family	1.000	.707
04. Demand for female labour has increased due to tourism	1.000	.694
05. Tourism has led to coherence and coexistence in the social life	1.000	.699

06. The standard of living of our household has promoted because of the money that tourists spend on Paanamai Region	1.000	.750
07. Local people and children are motivated to be educated due to tourism	1.000	.651
08. Tourism has generated the attitude of generosity among the local residents	1.000	.651
09. Interaction with foreign tourists is a positive experience for local residents	1.000	.716
10. Local residents are happy to share public facilities with tourists	1.000	.720
11. Tourism has protected the privacy of local resident	1.000	.642
12. The residents have pride in Paanamai region due to tourism	1.000	.576
13. Opportunities to meet new people have increased due to tourism	1.000	.622
14. Number of local people moving in Paanamai region permanently has increased	1.000	.689
15. Buying holiday homes in Paanamai region has increased	1.000	.695
16. The rights and civil liberties of local residents are protected	1.000	.613
17. Social and moral values are highly appreciated by tourists in Paanamai region	1.000	.602
18. Tourism entertains local residents and gives them an opportunity to attend major international event	1.000	.735
19. Tourism gives an opportunity to show tourists the characteristics of community	1.000	.656
20. Local residents have high opportunities to meet tourists	1.000	.605
21. Tourism enhances the reputation of Paanamai region as 'Tourism State'	1.000	.612
22. Tourism provides opportunities for local people to have fun with their family and friends	1.000	.541
23. Meeting tourists is a valuable experience	1.000	.629
24. Better health services have been increased because of tourism	1.000	.700
25. Better water supply services have been increased because of tourism	1.000	.654
26. Better electricity services have been increased because of tourism	1.000	.612
27. Better transportation services have been increased because of tourism	1.000	.682
28. Tourism provided an incentive for the restoration of historical buildings	1.000	.661
Extraction Method: Principal Component Analysis.		

Source: Survey Data – 2016

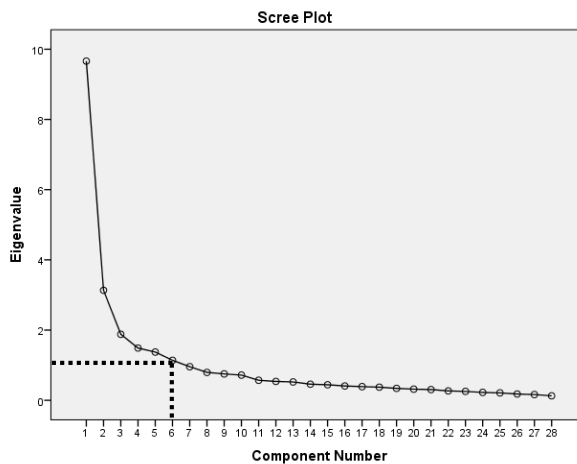
Six factors or components are extracted in terms of positive social impacts of tourism by SPSS at this stage. Factor Analysis is an exploratory tool and so it should be used to guide the researcher to make various decisions. The researchers are guided to take various decisions by using the tool of Factor Analysis. Accordingly, one of the important decisions that can be made by the researchers is the numbers of factors to be extracted. On the basis of Kaiser's criterion, six factors can be extracted from the set of 28 variables which represent the Positive Social Impact of Tourism. But, this criterion will be only precise if there are less than 30 variables used in the factor analysis and if the values of communalities after the process of extraction are greater than 0.7 or if the sample size is more than 250 and if the value of average communality is more than 0.6 (Andy, 2005). On the both ground of Kaiser's criterion, the second criterion of the factor extraction in terms of positive social impacts of tourism is accurate because the sample size is more than 250 (i.e. 530) and the value of average communalities of 28 variables are greater than 0.6 (i.e.  $18.676/28 = 0.667$ ).

Therefore, using all the factors or components extracted with the Eigen values greater than 1 is exactly appropriate.

**Scree Plot: Positive Social Impact of Tourism**

The Scree Plot is also another useful way of selecting the number of components or factors that can be retained in an analysis in place of using Total Variance Explained. The diagrammatic explanation of Scree Plot is useful to probably prove all the six components or factors which represent Eigen values greater than 1. If there are less than 30 variables in the analysis and all the values of communalities after the process of extraction are higher 0.7 or if the sample size of the study is above 250 and the value of average communality is more than 0.6, according to Kaiser’s criterion all the factors or components with the Eigen values greater than 1 can be retained in the analysis. However, if there are no such conditions applied in the studies or in the dataset, a diagrammatic analysis of Scree Plot can be used so as to extract the components or factors when the sample size is large (around 300 or more cases) (Andy, 2005). In this study, the second condition and the first condition can completely and partially apply in this study respectively. Therefore, the analysis of Total Variance Explained and the analysis of Scree Plot can be used in this study for the process of factor extraction. In addition, the analysis of Scree Plot also makes sure the exact factor extraction from the positive social impacts of tourism as per Figure 5.1.

**Figure 5.1: Scree Plot: Social Impact of Tourism**



Source: Survey Data - 2016

**Factor Rotation: Positive Social Impact of Tourism**

Table 5.6 shows the rotated component matrix explaining the matrix of the factor loadings. A set of each variable is rotated into each factor which consists of the same information. All the same information interrelated within the positive social impacts of tourism categorized individually into each of 06 components is labeled based on

the identity of the same information along with the aid of supportive eminent views and perceptions of the selected respondents within the study region. According to Table 5.6, the components or factors from 1 to 6 extracted in connection with the positive social impacts of tourism are labeled as Pride for residence, Better Utility Services, Infrastructural Facilities, Living Standard, and Entertainment respectively.

**Table 5.6: Rotated Component Matrix – Positive Social Impact of Tourism**

	Component					
	1	2	3	4	5	6
15. Buying holiday homes in Paanamai region has increased	.786					
14. Number of local people moving in Paanamai region permanently has increased	.776					
16. The rights and civil liberties of local residents are protected	.712					
13. Opportunities to meet new people have increased due to tourism	.698					
17. Social and moral values are highly appreciated by tourists in Paanamai region	.669					
12. The residents have pride in Paanamai region due to tourism	.649					
28. Tourism provided an incentive for the restoration of historical buildings	.519					
25. Better water supply services have been increased because of tourism		.709				
22. Tourism provides opportunities for local people to have fun with their family and friends		.699				
23. Meeting tourists is a valuable experience		.637				
24. Better health services have been increased because of tourism		.624				
26. Better electricity services have been increased because of tourism		.596				
27. Better transportation services have been increased because of tourism		.575				
02. Tourism has led to an increase of infrastructure for local people			.883			
01. Tourism encourages the cultural activities of arts and crafts by the local population			.855			
03. Tourism has increased the income of your family			.799			
04. Demand for female labour has increased due to tourism			.607	.551		
06. The standard of living of our household has promoted because of the money that tourists spend on Paanamai Region				.794		
07. Local people and children are motivated to be educated due to tourism				.708		
08. Tourism has generated the attitude of generosity among the local residents				.598		
05. Tourism has led to coherence and coexistence in the social life			.551	.592		
18. Tourism entertains local residents and gives them an opportunity to attend a major international event					.755	

19. Tourism gives an opportunity to show tourists the characteristics of community					.741	
20. Local residents have high opportunities to meet tourists					.637	
21. Tourism enhances the reputation of Paanamai region as 'Tourism State'					.535	
10. Local residents are happy to share public facilities with tourists						.738
09. Interaction with foreign tourists is a positive experience for local residents						.574
11. Tourism has protected the privacy of local resident						.532
Extraction Method: Principal Component Analysis.						
Rotation Method: Varimax with Kaiser Normalization.						
a. Rotation converged in 8 iterations.						

Source: Survey Data – 2016

**Summary: Factor Analysis – Positive Social Impacts**

From the above factor analysis, there are number of variables extracted under the Principle Component Method from each of the respective impacts of the tourism. Six variables are extracted from the Positive Social Impact of Tourism and also four variables are extracted from the negative impacts of tourism. It is summarized in the following table 5.28:

**Table 5.7: Summary of the Extracted Variables**

Impacts of Tourism (Social/Negative)	Variables Extracted	No. of Variables
Positive Social Impact of tourism	01. Pride for residence	06
	02. Better Utility Services	
	03. Infrastructural Facilities	
	04. Living Standard	
	05. Entertainment	
	06. Interactions with foreign tourists	

Source: Survey Data - 2016

**Reliability Test of the Extracted/Identified Variables**

Table 5.29 shows the overall internal consistency of the data surveyed to extract all of the variables (positive social impacts) from the above factor analysis in this study is good because the value of Cronbach’s Alpha is greater than 0.8 on average. Hence, it explains the extent to which all the variables (positive social impacts) identified in this study measure the same concept or construct and therefore, the connectivity of the inter-relatedness of each variable is highly ensured within this test. The interconnectedness of the each variable is good as the value of Cronbach’s Alpha is greater than 0.8.

**Table 5.8: Reliability test of the identified variables: Positive Social Impacts**

Impacts of Tourism development (Social/ Negative)	Variables Extracted	Cronbach's Alpha
Positive Social Impacts of tourism development	01. Pride for residence	0.868
	02. Better Utility Services	0.661
	03. Infrastructural Facilities	0.846
	04. Living Standard	0.810
	05. Entertainment	0.801
	06. Interactions with foreign tourists	0.824

Source: Survey Data - 2016

**Correlation Test: Regression Model – Positive Social Impacts**

Table 5.9 shows the correlation relationship between Total Impact of Tourism (the dependent variable) and the positive social impacts of tourism (the independent variables). The correlational relationship between all these dependent and independent variables are significant at 0.01 (2-tailed – two possibilities whether the correlation will be positive or negative). It means the null hypothesis (H<sub>0</sub>) of “there is no correlational relationship between these dependent variable and independent variables” is rejected because the value of probability is less than 5% ( $p < 0.05$ ) whereas the alternative hypothesis (H<sub>1</sub>) of “there is correlation relationship between these dependent variable and independent variables” is accepted.

The value of Pearson correlation coefficient ( $r$ ) is the indicator of confirming the various magnitude of strength of the linear positive or negative correlation relationship between the dependent variable and the independent variables (Ciaran, 2009). The strength of the correlation can be guided by Ciaran (2009) on the value of Pearson correlation coefficients ( $r$ ) such as extremely weak: 0.0 – 0.10, weak: 0.11 – 0.30, moderate: 0.31 – 0.40, strong: 0.41 – 0.90, and extremely strong: 0.91 – 1.00. Further, the strength of the correlation relationship between the respective variables defines as the close proximity of the all data points located around the positive or negative linear trend line representing the variables concerned passing through the dispersion of data cloud. The strong correlation relationship between the variables is connected with the dispersion of the data clouds that that are located in the close proximity to the positive or negative trend lines. The weak correlations between the variables are connected with the dispersion of data clouds that are located marginally to the positive or negative trend line of variables.

According to Table 5.9, the values of Pearson's correlation coefficient ( $r$ ) of the independent variables such as Pride for Residence (PSI\_PFR01), Better Utility Services (PSI\_BUS02), Entertainment (PSI\_ENT05), Living Standard (PSI\_LIS04),

Interactions with Foreign Tourists (PSI\_INT06), and Infrastructural Facilities (PSI\_INF03) are 0.498, 0.358, 0.331, 0.298, 0.278, and 0.175 respectively. The strength of the positive linear correlation relationship between Total Impact of Tourism and the Pride for Residence (PSI\_PFR01) is strong ( $r > 0.40$ ).

The strength of Better Utility Services (PSI\_BUS02) and Entertainment (PSI\_ENT05) is moderate ( $r < 0.40$ ); the strength of Living Standard (PSI\_LIS04) and Interactions with Foreign Tourists (PSI\_INT06), Infrastructural Facilities (PSI\_INF03) is weak ( $r < 0.30$ ) because the Pearson’s correlation ( $r$ ) of the variables is less than 0.30. The positive values of these Pearson’s correlation prove that all these variables are positively related. That is, the higher is the value of independent variables, the more is the value of the dependent variable.

**Table 5.9: Correlation: Regression Model 01 - Total Impact of Tourism and Positive Social Impacts**

		PSI_PFR01	PSI_BUS02	PSI_INF03	PSI_LIS04	PSI_ENT05	PSI_INT06
EFFECT _TOTAL	Pearson Correlation	.498**	.358**	.175**	.298**	.331**	.278**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	503	503	503	503	503	503

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: Survey Data - 2016

**Regression Results (Model 01): Positive Social Impact of Tourism**

Table 5.10 illustrates the entire model summary of the multiple regression model 01. The value of R ( $r$ ) which is the value of Pearson’s correlation coefficient of the entire model 01 of this study is 0.827. This value of Pearson’s correlation represents the entire strength of the model. Thus, the strength of the relationship between the total impacts of tourism and the positive social impacts of tourism is extremely strong. The value of R square ( $r^2$ ) indicates that how the percentage of variance of all the six variables are shared out of maximum 100 percent. The value of R Square is estimated by squaring the figure of  $r$  (Pearson’s correlation coefficient). The value of R Square is accounted for 0.684 which represents the percent of shared variance of all the independent in the model 01 is 68.4%.

In addition, the goodness of the fit of Model 01 can be identified by the value of R Square. OLS (Ordinary Least Square) regression results in a perfect fit to the data if the value of  $R^2$  is equal to the value of one. Therefore, all the data points are located on the same line produced by the respective regression model. Thus, 68.4 percent of the variance in Total Impact of Tourism can be explained by the independent variables such as Pride for Residence, Better Utility Services, Infrastructural Facilities, Living Standard, and Entertainment. That is, 68.4% of variance in the dependent variable (the total impacts of tourism) is explained by all the independent variables in this model 01 and the rest of 31.6% percent of total impacts variations is left unexplained by



the independent variables. Therefore, some of the other 31.6% of factors which are influencing the total impacts of tourism are not included in this multiple regression model 01 and they are necessarily included in the errors in this model (Wooldridge, 2006). The  $r^2$  figure may not always be reliable, and therefore the adjusted  $r^2$  figure can be used for the analysis of goodness of fit of the model as well (Ciaran, et. al, 2009). Here, at 0.680, it is about close to the unadjusted  $r^2$  in the model summary.

**Table 5.10: Regression Model 01 Summary: Positive Social Impact of Tourism**

Model	R	R <sup>2</sup>	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
01	.827 <sup>a</sup>	.684	.680	3.49665866	.684	179.046	6	496	.000	1.230
a. Predictors: (Constant), PSI_INT06, PSI_INF03, PSIPFR01, PSI_ENT05, PSI_LIS04, PSIBUS02										
b. Dependent Variable: EFFECT_TOTAL										

Source: Survey Data – 2016

The value of Durbin-Watson statistics in the cross sectional data used in this multiple regression model indicates the overall degree of singularity between the variables. If Durban-Watson is less than the value of 1.0, it is viewed that there may be problems of multi-co-linearity between the variables. The value of DW (Durbin-Watson Statistics) in this model is at 1.230 which is higher than the value of 1.0, so the model 01 is grounded safe (Ciaran, et. al, 2009).

**Table 5.11: Regression Model 01 – ANOVA (Analysis of Variance)**

Model		Sum of Squares	df	Mean Square	F	Sig.
01	Regression	13134.777	6	2189.130	179.046	.000 <sup>b</sup>
	Residual	6064.404	496	12.227		
	Total	19199.181	502			
a. Dependent Variable: EFFECT_TOTAL						
b. Predictors: (Constant), PSI_INT06, PSI_INF03, PSIPFR01, PSI_ENT05, PSI_LIS04, PSIBUS02						

Source: Survey Data – 2016

The analysis of variance measures whether the average values of a dependent variable are significantly different from the independent variable or variables. Therefore, ANOVA is primarily based on the comparison of the variance between the different types of the independent variables with the variance within each of these types. The value of F-ratio is used to determine the value of variance between groups of variables. When the value of variance between the groups of variables in comparison to the value of variance within the groups of variables is higher, the value of the F-ratio is higher. Therefore, the F-ratio can be used so as to find out whether the differences between and within the groups of variables are significant (Ciaran, et. al, 2009).

Table 5.11 shows the results of ANOVA test of regression model 01. In Table 5.11, the F and Sig. columns can be taken into consideration in this analysis. The value of F is 179.046 along with the significant value of 0.000. This value of significance is equal to 0.000 ( $p < 0.0005$ ). This level of high significance ( $p < 0.0005$ ) indicates that there is less than a 05 in 10,000 chance (probability) that the difference between the categories of all the independent variables occurred by chance. Hence, it is accepted that a significant overall difference between the independent variables used in model 01 is genuinely found in terms of Total Impact of Tourism which is identified as the dependent variable in model 01 (Ciaran, et. al. 2009).

It is significantly confident that the results of the regression do not come about by chance accompanied by the difference of variance within the residual as well and are consistent with the hypothesis – the value of the independent variables such as Pride for Residence, Better Utility Services, Infrastructural Facilities, Living Standard and Entertainment significantly raises Total Impact of Tourism. That is, the independent variables play the significant roles on the dependent variable so as to measure the impacts of the independent variables on the dependent variable – Total Impact of Tourism in the study region. According to Table 5.39, as the value of F and value of significance are listed as 179.046 and 0.000 ( $F = 179.046, p < 0.0005$ ) respectively, it is confident that the regression results of model 01 do not occur by chance.

**Table 5.12: Regression Model 01**

Model	B	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
01	(Constant)	-.281	.156		-1.798-	.073
	PSIPFR01	2.187	.113	.489	19.380	.000
	PSIBUS02	4.381	.300	.369	14.603	.000
	PSI_INF03	2.134	.330	.163	6.462	.000
	PSI_LIS04	4.992	.419	.301	11.924	.000
	PSI_ENT05	6.237	.456	.345	13.663	.000
	PSI_INT06	4.364	.405	.272	10.784	.000
a. Dependent Variable: EFFECT_TOTAL						

Source: Survey Data - 2016

Table 5.12 illustrates all the values of coefficients of the multivariate analysis in regression model 01. The value of regression coefficient is identified as a measure of how strongly each of the independent variable predicts the value of change in dependent variable. The two types of regression coefficients such as un-standardized coefficients and standardized coefficient are analyzed from the results of the regression. The values of un-standardized coefficients are used in the regression equations as the coefficients of different categories of independent variables along with the constant term in association with the prediction of the value of dependent variable. But the values of standardized coefficient (beta) are estimated in standard

deviations. For example, a beta value of 4 which is connected with an independent variable of the regression model explains that a value of 1 standard deviation change in the independent variable concerned trends to result in a change of 4 standard deviations in the dependent variable concerned in the regression model (Ajai, 2008).

The dependent variable of multiple regression model 01 is EFFECT\_TOTAL (the total impacts of tourism) and PSIPFR01 (Pride for Residence), PSIBUS02 (Better Utility Services), PSI\_INF03 (Infrastructural Facilities), PSI\_LIS04 (Living Standard), PSI\_ENT05 (Entertainment), and PSI\_INT06 (Interactions with Foreign Tourists) are identified as the independent variables in the model.

This multiple regression is subject to the linear model. As shown in Table 5.40, the value of B is the slope of the regression line. The slope of this multiple regression linear line is constant. Therefore, it has the constant value estimated. The value of coefficient of the positive slope indicates that every increase of one unit in the independent variable predicts an increase in the dependent variable (Total Impact of Tourism).

Accordingly, the following multiple regression function of model 01 can be derived from Table 5.12:

$$\text{EFFECT\_TOTAL} = \alpha_0 + \alpha_1 \text{PSIPFR01} + \alpha_2 \text{PSIBUS02} + \alpha_3 \text{PSI\_INF03} + \alpha_4 \text{PSI\_LIS04} + \alpha_5 \text{PSI\_ENT05} + \alpha_6 \text{PSI\_INT06}$$

$$\text{EFFECT\_TOTAL} = -0.281 + 2.187 \text{PSIPFR01} + 4.381 \text{PSIBUS02} + 2.134 \text{PSI\_INF03} + 4.992 \text{PSI\_LIS04} + 6.237 \text{PSI\_ENT05} + 4.364 \text{PSI\_INT06}$$

**Where:**

**EFFECT\_TOTAL:** - Total Impact of Tourism

**PSIPFR01:** - Pride for residence

**PSIBUS02:** - Better Utility Services

**PSI\_INF03:** - Infrastructural Facilities

**PSI\_LIS04:** - Living Standard

**PSI\_ENT05:** - Entertainment

**PSI\_INT06:** - Interactions with foreign tourists

$\varepsilon$ : - The Error term

$\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6$ : - The Coefficients

According to the above multiple regression function, for each increase of one unit on Pride for Residence, the regression predicts that Total Impact of Tourism will increase by 2.19 units. Thus, these two categories of variables are directly related to each other, that is, the increase in Pride for Residence will increase Total Impact of Tourism. For each increase of one unit on Better Utilities Services, the equation predicts that Total Impact of Tourism will be higher by almost 4.4 units (4.381).

Further, for each increase of one unit on Infrastructural facilities, Living Standard, Entertainment and Interactions with Foreign Tourists, the regression predicts that Total Impact of Tourism will increase by 2.13 units, around 5 units (4.992), 6.24 units and around 4.4 units respectively.

And also all the independent variables of positive social impacts are positively related to the dependent variable. The most important independent variable in this model is Entertainment as the increase of one unit on Entertainment leads to increase Total Impact of Tourism by 6.24 units. Further, all the independent variables are having statistically significant relationship between the dependent variable. That is, there is a significant effect of Entertainment (Sig.  $p < 0.000$ ) on Total Impact of Tourism. The value of probability on this coefficient of independent variable is less than 0.05 (5%).

Moreover, all the independent variables are statistically significant to explain the relationship between the dependent variables and the independent variables in this multiple regression model as all the probability value of the independent variables are less than 0.01 (i.e.  $p = 0.000$ ). This is one of the good signs of this model. Thus, all the independent variables such as PSIPFR01 (Pride for Residence), PSIBUS02 (Better Utility Services), PSI\_INF03 (Infrastructural Facilities), PSI\_LIS04 (Living Standard), PSI\_ENT05 (Entertainment), and PSI\_INT06 (Interactions with Foreign Tourists) account for unique variance in the dependent variable – EFFECT\_TOTAL (the total impact of tourism). None of the independent variables of positive social impacts of tourism identified in this study are statistically insignificant effect on Total Impact of Tourism.

### **Testing Hypotheses: Positive Social Impacts of Tourism**

H0: There are no positive social impacts of tourism development in Panama region.

H1: There are positive social impacts of tourism development in Panama region.

The null hypothesis (H0) of “There are no positive social impacts of tourism development on Panama region” is rejected because all of the independent variables such as Pride for Residence, Better Utility Services, Infrastructural Facilities, Living Standard, Entertainment, and Interactions with Foreign Tourists connecting to the positive social impacts of tourism on the dependent variable of Total Impact of Tourism are highly significant at less than 0.05 ( $p = 0.000$ ). Therefore, the null hypothesis (H0) is rejected, rather alternative hypothesis (H1) is confirmed at the level of probability less than 0.05. That is, “there are positive social impacts of tourism development on Panama region” is accepted. When the tourism sector is developed by the government or private sector in the region, it will be resulting in the improvement of social impacts in the region. In particular, testing of the hypothesis indicates that the improvement in the entertainment activities plays major roles on the positive social impacts of tourism and also leads to contribute more in Total Impact of Tourism in the study region.

### Testing for Multi-co linearity: Positive Social Impact of Tourism

The value of ‘Tolerance’ higher than 0.4 and the value of ‘VIF’ (Variance Inflation Factor)’ less than 10 indicate that the regression model is free from the problem of multicollinearity. As a problem of multicollinearity exists among the independent variables used in models, the unique part of the variance in dependent variable explained by each of the independent variables is very low (Ciaran, 2009).

**Table 5.13: The test of Multicollinearity: Positive Social Impact of Tourism**

Model		Co-linearity Statistics	
		Tolerance	VIF
01	(Constant)		
	PSIPFR01	.999	1.001
	PSIBUS02	.996	1.004
	PSI_INF03	.998	1.002
	PSI_LIS04	.997	1.003
	PSI_ENT05	.996	1.004
	PSI_INT06	.999	1.001

Source: Survey Data – 2016

Table 5.13 shows the results of the test of the multicollinearity problems in the multiple regression model 01 used in this study between the individual independent variables identified from the positive social impacts of tourism such as Pride for Residence, Better Utility Services, Infrastructural Facilities, Living Standard, Entertainment, and Interactions with Foreign Tourists. The value of ‘Tolerance’ of all the variables is around 0.999 which is greater than 0.4 and the value of ‘VIF’ is around 1 which is very less than 10. Thus, the presence of overlap between the independent variables is very small. In other words, this model is free from highly correlated independent variables. Accordingly, there is no any issue of multicollinearity problem in the whole model which represents the positive social impacts of tourism.

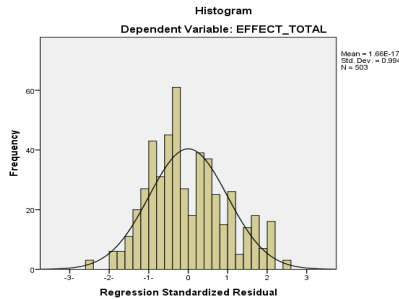
### Residual Analysis: Positive Social Impacts of Tourism

It is a statistical analysis in which the differences between the values of the dependent variable predicted by the particular regression equation and the actual observed values. The predicted values produced by the regression are ‘fit’ in the regression line. These predicted values that are different from the actual observed values are not ‘fit’ to the produced values of the regression line. This difference between the predicted values and actual observed values are known as ‘residuals’ (Ciaran, et. al, 2009). In a nature of goodness of ‘fit’ to the data used in the regression models, the differences between the predicted values and the actual observed values are homoscedastic. That is, the extent of data dispersed with the most of values of data close to the predicted regression line is known as homoscedastic. In a nature of homoscedastic, there are small differences around the regression line and more points are intersected between

the variables. On the other hand, it is identified as normal distribution in which more points are plotted above and below the predicted values, but the differences are small (Ciaran, 2009).

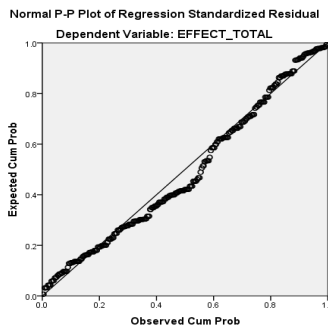
Figure 5.2 portrays the visual plots of residual pattern. In a goodness of fit, the residuals should be normally distributed around a central point of zero. This normal distribution pattern of the residuals is reflected well in the histogram in Figure 5.1. Accordingly, the residuals are normally distributed around a central point of zero.

**Figure 5.2: Histogram of Residuals – Positive Social Impacts of Tourism**



Source: Survey Data – 2016

**Figure 5.3: Normal P-P Plot of Regression Standardized Residual - Positive Social Impacts of Tourism**



Source: Survey Data - 2016

Figure 5.3 reflects the shape of the straight line passing through 45 degree line around which there is the dispersion of residuals of the dependent variable – Total Impact of Tourism in model 01. As visualized in Figure 5.3, the values of actual observed dispersion of plots (observed cumulative probability) coincide with the values of predicted values (expected cumulative probability). As a result, in model 01, the differences between the actual observed values and the predicted values are homoskedastic, but not heteroskedastic. Accordingly, the differences of residuals are in a nature of normal distribution. So the model 01 in which the total impacts of tourism is used as the dependent variable and the positive social impacts of tourism are used as the independent variables represents a nature of ‘good fit’ to the data produced

by model 01 in connection with the values of dependent variable. Accordingly, the values of expected (predicted) cumulative probability and the values of observed cumulative probability are very closely dispersed along the straight line running through 45 degree line in Figure 5.3.

### **Findings**

The first main objective of the study is to assess the social impacts of tourism on the local community in Panama region of Sri Lanka. This assessment is perceived basically on the both categories of the positive impacts and the negative impacts of tourism development in the particular region. Thus, according to the technical process of the factor analysis, this study discloses that 06 positive social factors such as Pride for Residence, Better Utility Services, Infrastructural Facilities, Living Standard, Entertainment, and Interactions with Foreign Tourists identified as the positive impacts of tourism sector directly play major roles on the entire impacts of tourism on the local community in the study region. The increase in all these positive social factors causes and paves the way to increase the entire effects of tourism industrial development.

As per the correlation analysis, the strength of relationship between Total Impact of Tourism and all the independent variables representing the positive social impacts that are contributing to Total Impact of Tourism of tourism varies based on the value of Pearson's correlation. The strength of Pride for Residence in connection with the positive linear association with Total Impact of Tourism is strong. The strength of positive linear relationship of two variables such as Better Utility Services and Entertainment and Total Impact of Tourism is moderate. Further, the strength of the positive linear relationship between the variables such as Living Standard, Interactions with Foreign Tourists, and Infrastructural Facilities and Total Impact of Tourism is weak. All these positive social impacts are having significant correlation with Total Impact of Tourism. The positive values of these variables prove that all these variables are positively related with Total Impact of Tourism. That is, the higher is the positive social impacts, the more is Total Impact of Tourism. In addition, the strength, the significance, and the direction confirm the positive social impacts of tourism in the particular region.

On the local community, the common significant contribution of positive social impacts is identified on Total Impact of Tourism. According to the regression results, all the independent variables of positive social impacts of tourism are positively related with the dependent variable. Accordingly, the most influencing factor out of the six factors to make Total Impact of Tourism mostly effective is Entertainment. First, one unit of the increase in Entertainment prominently causes and leads Total Impact of Tourism to be increased by around 6.2 units as shown in Table 5.40. This finding of this study is consistent with Esmat Zaidan (2016). It is the highest record of all the positive social impacts of the tourism on the community.



The second influencing factor is Living Standard which is one of the positive social impacts of tourism. One unit of the increase in Living Standard considerably causes and leads to the increase of around 5.00 units in Total Impact of Tourism development in the study region. This finding of the study is consistent with Ramukumba, et al, 2012. They have found that the good living standard of the community increased by 42.5% due to the presence of the tourism sector in the Western Cape Province, South Africa and also this result is consistent with some of the previous studies (Enemuo, Ogechi B & Oduntan Oyinkansola C, 2012, Jose G Vargas-Hernandez, 2012, Rezaur Rhaman M 2016, Manika Singla, 2014). The factor of Better Utility Services represents an increase of 4.4 units in the entire effects of tourism due to the increase in itself. This result is supported by the studies of Nilanjan Ray et al. (2012), Kotuwegoda Palliyaguruge Lalith Chandralal (2010), and Rezaur Rhaman M (2016). Fourth, one unit of the increase in Interactions with Foreign Tourists causes the total effects of tourism to be increased by the same units as in Better Utility Services. This finding is supported by the study of Enemuo, Ogechi B & Oduntan Oyinkansola C (2012). Accordingly, one unit of the increase in each of both factors such as Pride for Residence and Infrastructural Facilities causes to increase the entire effects of tourism by around 2.2 and 2.1 units respectively. These results are consistent with the finding of Kotuwegoda Palliyaguruge Lalith Chandralal (2010) and Sam Ime Edet, et al. (2014). In addition, the narrative analysis of the qualitative study consistently ensures the above positive impacts of tourism. Most of the respondent is elaborately consistent with the above positive impacts of the tourism development in the region.

68.4 percent of the variation in the entire effect of tourism is actually explained by the independent variables or the internal factors such as Pride for Residence, Better Utility Services, Infrastructural Facilities, Living Standard, Entertainment, and Interactions with Foreign Tourists. Accordingly, 31.6 percent of Total Impact of Tourism (DV) variation is left unexplained by these internal factors; rather it is explained by the external factors.

All the independent variables of positive social impacts are highly statistically significant at 0.05 level. It means 100% of the independent variables of the model of positive social impacts to influence the dependent variable are significant at the lowest probability value and if more than 50% of the independent variables are significant in the model, it is one of the good sign of the model. As a result, the null hypothesis (H0) of “there are no positive social impacts of tourism” is rejected at 5% (0.05 level) significant level. The alternative hypothesis (H1) of “there are positive social impacts of tourism in the Panama region” is accepted at 0.05 level. Hence, the value of probability of all six positive social impacts confirms the fact that the tourism development in the region has significantly contributed to the positive social impacts on the local community.

## **Conclusion and Recommendation**

The model representing Positive Social Impacts confirms and exposes the significant contribution of positive social impacts to Total Impact of Tourism on the local community of Panama region of Sri Lanka. Of the positive social factors, Entertainment has been vigorously motivated by the tourism sector on the local community and incredibly perceived by the local community as one of the most influencing factors which causes and leads to Total Impact of Tourism. Hence, the tourists are mostly attracted to the Pānama region with the prime target of entertainment which plays major roles on the positive social impacts. Other positive social factors such as Pride for Residence, Better Utility Services, Infrastructural Facilities, Living Standard, and Interactions with Foreign Tourists are significantly perceived by the local community of the region in different degrees as well. The degree of strength of direct associationship, the magnitude of significance, and the track of direction of all these factors also proves the perseverance of the local community on these positive social factors. All these positive social impacts of tourism are confirmed by accepting the alternative hypothesis.

The recommendations are discussed in the light of findings and conclusions of this study for improving positive social impacts of tourism sector in the particular region. The policy makers or government or officials, the entrepreneurs, and the general public can be properly guided and appropriately directed as per the findings and conclusions of this study.

Out of the six factors of the positive social impacts, the policy makers, entrepreneurs and the general public should be made aware of the activities of the entertainment which can prospectively attract a large number of the domestic as well as the foreign tourists into the region. They also should be made aware of the rest of the positive social factors such as Pride for Residence, Better Utility Services, Infrastructural Facilities, Living Standard, and Interactions with Foreign Tourists and their respective considerable contributions while drafting the policy decisions with respect to the positive social impacts of tourism sector in the region. These are the resultant opportunities that can be utilized by the relevant officials to be further furnished in their rationalization in the context of development of tourism sector in the country.

## **References**

Ajai, S.G. and Sanjaya, S.G., , *Statistical Methods for Practice and Research: A guide to data analysis using SPSS*, New Delhi, Response Books, A Division of Sage Publications India Pvt Ltd, p. 133, 100. 2008.

Andy, F., *Factor Analysis Using SPSS, C8057 (Research Method II)*, Available at: <http://users.sussex.ac.uk/~andyf/factor>. 2005.

Choudhury, A., *Cronbach's Alpha*, Available at: [http:// www.experimentresources.com/](http://www.experimentresources.com/)

cronbachs-alpha.html. 2010.

Ciaran, A., Robert, M., John, M., and Deirdre, F., *SPSS for Social Scientists*, Palgrave Macmillan, UK, p: 209, 232. 2009.

Enemuo, O.B. and Oduntan, O.C., “Social Impact of Tourism Development on Host Communities of Osun Oshogbo Sacred Grove”, *IOSR Journal of Humanities and Social Science (JHSS)*, Volume 2, Issue 6 (Sep-Oct. 2012), pp 30-35. 2012.

George, D. and Mallery, P., *SPSS for Windows step by step: A simple guide and reference, 11.0 update (4th ed.)*, Boston: Allyn & Bacon, Available at: <https://wps.ablongman.com/wps/media/objects/385/394732/george4answers.pdf>. 2003.

Jose, G.V. H., “Regional Development and Sustainability”, in Parikshat Singh Manhas (Ed.) *Sustainable and Responsible Tourism*, New Delhi, PHI Learning Private Limited, pp: 3, 9, 21 – 22. 2012.

Paul, B., and Paul, C., “Host Perceptions of Socio-Cultural Impacts”, *Annals of Tourism Research*, Vol. 26, No. 3, pp. 493-515, Available. 1999.

Ramukumba, T., et al. “Analysis of the Socio-Economic Impacts of Tourism for Emerging Tourism Entrepreneurs: The Case of George Municipality in the Western Cape Province, South Africa”. *Journal of Hospitality Management and Tourism* Vol. 3(3), pp. 39-45, Available online at: <http://academicjournals.org/JHMT>. 2012.

Robin, B., *An introduction to Principal Component Analysis & Factor Analysis Using SPSS 19 and R* (psych package), Available at: <http://www.floppybunny.org/robin/web/virtualclassroom/stats/statistics2pca1.pdf>, pp: 2-24, Accessed on 2016.09.25. 2012.

Wooldridge, J.M., *Introductory Econometrics: A Modern Approach*, New Delhi, Thomson South Western, p. 43. 2006.