LOCAL RESIDENT'S ATTITUDES TOWARDS THE IMPACT OF TOURISM DEVELOPMENT: A STUDY OF SAINT MARTIN ISLAND, BANGLADESH

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ABSTRACT

The purpose of this study is to determine the local residents' attitudes of tourism development of Saint Martin Island. This research analyzes resident's perceptions and attitudes of the impact of tourism development and examines the factors that influence the support for tourism development of Saint Martin Island, Bangladesh. To this end, a survey was administered among 150 respondents who were local residents of Saint Martin Island, using a type of non-probability sampling that is convenience sampling technique. Following data collection from a questionnaire, factor analysis, correlation and regression analyses were conducted. Four factors (economic impacts, socio-cultural impacts, environmental impacts, physical impacts) emerged and these all four factors are interrelated and highly influential local resident's attitudes towards tourism development. Additionally, it is evident from the beta coefficient of multiple regression analysis that economic impacts had significant positive influence on tourism development whereas socio-cultural, environmental and physical impacts had negative impacts on tourism development in the region.

Key words: Local residents, residents' attitudes, tourism development, impacts

1.0 INTRODUCTION

St. Martin's Island is not only significant for its biodiversity value, but also important for Bangladesh in defining its Exclusive Economic Zone (EEZ) and outlining its sea boundary in accordance with the United Nations Convention on the Law of the Sea. St. Martin's Island is a very small island in the Bay of Bengal and is located at 20034' - 20038N and 92018' – 92022'E, the southernmost slant of Bangladesh separated from the mainland by a channel which is about 9 km wide and 10 km south of the southern tilt of Teknaf peninsula and 34 kilometers from Teknaf mainland in Cox's Bazar district of Bangladesh (Islam, 2002). This is the only island in Bangladesh which has coral colonies in the shallows. Enormous areas of sand ridge, some mangrove formations, Pandanus vegetation and scattered boulder/dead corals are the major characteristics of this island. Coconut Palm Cocosnucifera (locally called Narikel) is abundantly cultivated on the Island and has given the Bangla name of St. Martin's – Narikel Jhinjira. There is no electricity on the island except some hotels/ resorts though the larger hotels run generators in the evenings for a few hours. November to February is the main tourist season with the best weather. Corals and clear blue water have helped Bangladesh's only coral island becomes a major tourist attraction. Now, more than 3,000 tourists (Haider, 2008) arrive every day and they are staying there at night. St. Martin's Island in the Bay of Bengal attracts thousands of local and foreign visitors every day thanks to its charming beauty and clean and tidy marine life. Local authorities recently introduced scuba diving

and speedboat sailing to attract more tourists, and there are plans to bring water skiing and other sporting facilities to the island. The major threats to the coral habitats are high levels of sedimentation, cyclones, storm surges, freshwater and agricultural runoff, pollution from human settlements and the removal of coastal vegetation (Rajasurya and others, 2000). The main threat to future viability of coral communities comes from direct extraction of corals colonies. Coral collection activities started in 50's but until recently extraction was at low level. Large-scale removal of coral boulders and dredging of channels has caused considerable damage to the reefs, and a barrier wall built on the sea front has caused beach erosion (Mollah). The removal of Pandanus trees for firewood has also caused much beach and dune erosion (Rajasurya and others, 2000). Pollution from both land based and vessel based Sewage, oil and grease, garbage and uncleaned water are among the long-standing pollution problems that can have significant negative effects on coral reefs system. Local people are roughly engaged in fishing as main bread and butter that hampers the sea biodiversity. According to local elders, 10-15 years ago, turtle nesting was very common on most of the beaches. Endless over-exploitation has brought the nesting turtles to near extinction. Tourism has been increased deliberately in the Saint Martin Island over the last few years and for this reason tourism related activities have also been increased which is posing threat to this special type of island and its biodiversity. The ecosystem on the island is not well equipped to manage itself. Tourists have been found in illegal activities such as stealing live corals and other lives for souvenirs, fishing within the marine protected areas. Moreover, natural and other anthropogenic activities also put the island at stake in respect of biodiversity. Concerned bodies must observe the impact of tourism on the island's biodiversity and have to take necessary steps for the conservation of biodiversity. Initiatives should be taken immediately to integrate tourism management into biodiversity conservation in the island. Local people are very unaware about the importance of sustainable tourism or eco-tourism. They always thought about their economic benefits, not about environment preservation and conservation.

2.0 OBJECTIVES

❖ To determine attitude of local residents towards economic, socio –cultural, environmental and physical impacts of tourism.
❖ To observe the relationships between residents' demographic attributes and their attitude toward impacts of tourism development.

3.0 LITERATURE REVIEW

Many regions, like Saint Martin Island, were facing real problems caused by mass tourism. Researchers have identified three types of impacts: economic, social and environmental. These impacts can be positive, negative or both at the same time (Fennel, 2007; Mason, 2003; Saarinen, 2007). On one side, the positive impacts may consist of: income for the local community, employment in the service industry, the increased infrastructure (economic), learning and sharing between cultures, increased quality of life, upholding the flag of new and enhanced global community (socio-cultural) and conservation of areas/countryside (environmental). Tourism development contributes to conservation of biodiversity, sustains the well -being of local people, involves responsible action on the part of tourist and the tourism industry, promotes small and medium tourism enterprises, requires lowest possible consumption of natural resources, stresses local participation, ownership, and business opportunities, particularly for rural people and above all includes the learning experiences (Kiper, 2011). Now, more than 3,000 tourists (Haider, 2008) arrive every day and they are staying there at night. St. Martin's Island in the Bay of Bengal attracts thousands of local and foreign visitors every day thanks to its charming beauty and clean and tidy marine life. Local authorities recently introduced scuba diving and speedboat sailing to attract more tourists, and there are plans to bring water skiing and other sporting facilities to the island. Tourism also causes a change in local resident's habits, daily routines, social lives, beliefs, and values. According to WTO (1996), the indicators measure the information and through which decisions makers could reduce the chances of making the wrong decisions. Although in theory it sounds well-designed, the strategy for sustainable tourism based upon the indicators is complicated due to the selection process, the measurement, monitoring and evaluation of the set of relevant variables. Puczkó

and Rátz (2000) have emphasized about unplanned tourism development that can lead to a negative change in destinations' socio -cultural and physical characteristics. There have been several other factors identified as influencing residents' attitudes toward tourism such as age (Tomljenovic and Faulkner 1999; Cavus and Tanrisevdi, 2003; McGehee and Andereck, 2004; Pappas, 2008), education (Iroegbu and Chen, 2001), gender (Mason and Cheyne, 2000; Harrill and Potts, 2003; Pappas, 2008), income (Snaith and Haley, 1994; Pappas, 2008), community attachment (Lankford and Howard, 1994; McCool and Martin, 1994; Snaith and Haley, 1994), economic role of tourism (Andereck, et al., 2005; Huh and Vogt, 2008), economic reliance on tourism (Madrigal, 1995; McGehee and Andereck, 2004), involvement in decision making (Madrigal, 1995; Kayat, 2002), knowledge about tourism (Lankford and Howard, 1994; Andereck, et al., 2005), length of tourist stay (McGehee and Andereck, 2004) and personal benefits from tourism (McGehee and Andereck, 2004; Andereck, et al., 2005). Tourism also plays an important role in social and cultural preservation, rejuvenation of traditional culture and promotion of indigenous arts and crafts industries in the region. On the other hand, some studies have identified certain concerns regarding loss of traditional cultures and values, increase in crime, drugs and alcohol abuse, sudden hike in the cost of accommodation and the waiting time to deliver services (Haralambopoulos and Pizam 1996; Andereck et al. 2005; Martin 2008; Diedrich and Garcia -Buades 2009). Therefore it is imperative to recognize stakeholders when managing tourism more sustainably and to take account of their different perspectives on the issues (Bramwell, Henry, Jackson, & Van der Straaten, 1996; Dodds, 2007; Hardy & Beeton, 2001). Stakeholders should not only be recipients of Sustainable Tourism Plans but active participants in the planning process (Byrd, 2003; Southgate & Sharpley, 2002). Many authors contend that the problem of implementing Sustainable Tourism lies in its practical application and in the complexity of its parental paradigm (e.g. Dewhurst & Thomas, 2003; Hardy et al., 2002; Harris, Griffin, & Williams, 2002; Sharpley, 2000). The various terms that are assumed to be synonymous with sustainable tourism as well as community based tourism and their alternative approaches to tourism development have been controversial (Butler, 1990; Hunter & Green, 1995; Mow forth & Munt, 1998; Pforr, 2001; Wheeller, 1991).

4.0 METHODOLOGY

4.1 Type of Study

The study is basically descriptive in nature. According to Best and Kahn (1998), descriptive study interprets the situations, conditions or relations as it exists. They also elaborated that descriptive study deals with the relationships between variables, tests hypotheses and develops principles, theories and generalizations having universal validity.

4.2 Area & Data Sources

In order to achieve the objectives and to test hypotheses, both primary and secondary data were gathered. The literature review part of the report is mainly based on secondary data which was gathered from the published books, different published research works, newspaper, and magazines, reports of various government authorities, and websites and journals. Primary data have been collected from the residents of Saint Martin Island through a questionnaire. A visit has been also conducted by the author during the period From 20 October, 2018 to 22 February, 2019 to collect the relevant information to find out the attitude of local residents towards economic, socio –cultural, environmental and physical impacts of tourism development of Saint Martin Island.

4.2 Instruments

For scaling purpose, the 5-point Likert Scale of the itemized rating scale (Noncomparative Scaling) has been used. Respondents were asked to rate 20 items. These 20 items have been scored on a 5-point Likert scale, ranging from 1=strongly agree to 5=strongly disagree.

4.3 Sample Size, Sampling Technique and Data Collection Procedure

A total number of 150 samples have been taken on the basis of convenience sampling technique. They were informed of the purpose of the study and were requested to read the instructions attentively and respond to the items accordingly. Finally, total sample size contained 150 whereas 106 (34.6%) respondents were male and 44 (14.4%) respondents were female.

5.0 CONCEPTUAL MODEL

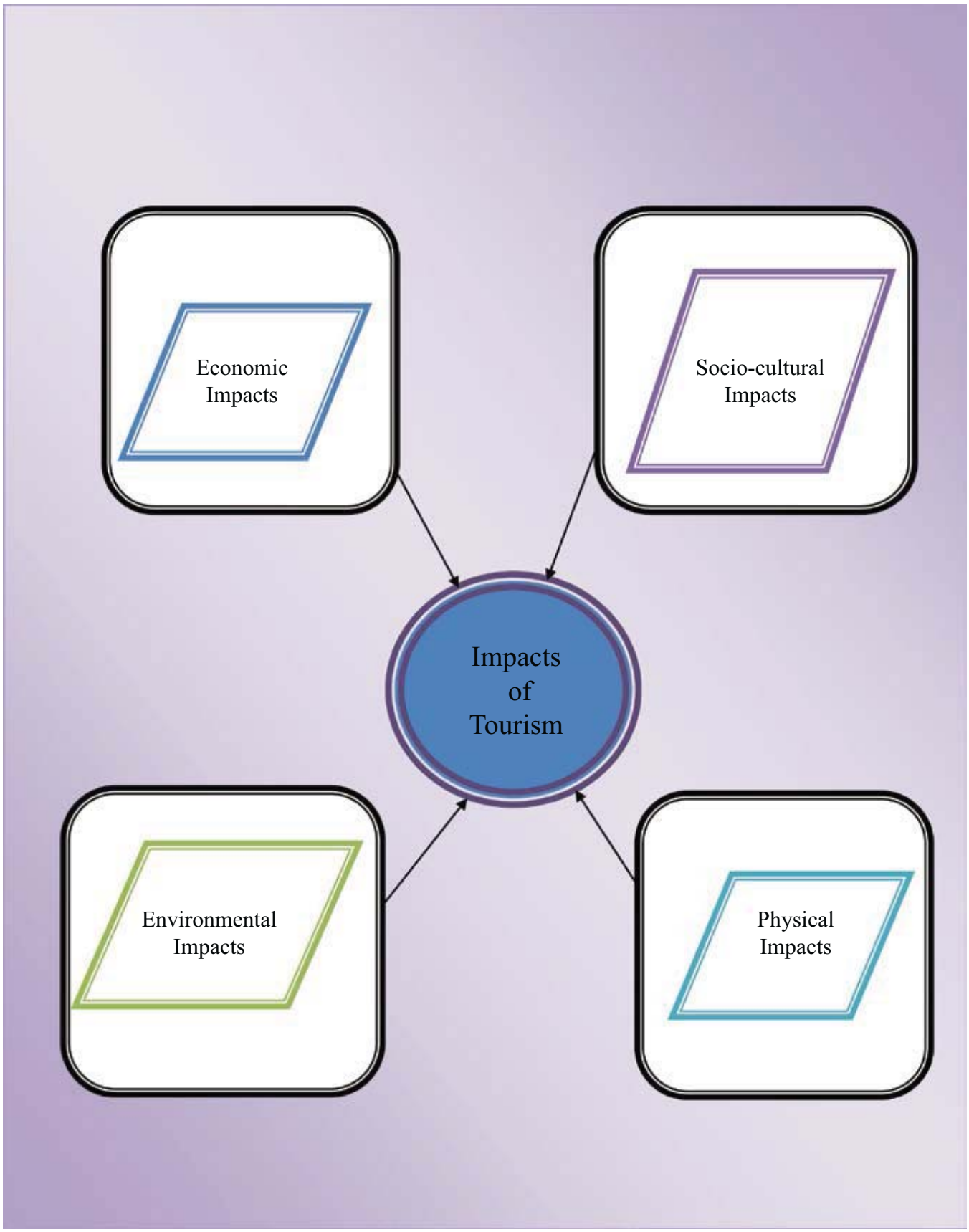

Fig 1. A Proposed Model of Impacts of Tourism Development

6.0 APPROACH TO THE PROBLEM

6.1. Analytical Model (Mathematical)

For the Factor Analysis:

Fi = Wi1X1+Wi2X2+Wi3X3+…..……. +WikXk
Where,
Fi= Estimate of the ith factor
Wi= Weight or factor score coefficient
K= Number of variables

I1= Interaction between tourists and hosts	I2= Damage natural environment and landscape	I3= Infrastructural facilities (supply of water. sewage. electric etc.)	I4= Proper preservation and conservation
I5= Diversify the local economy	I6= Income and standard of living increased	I7=Beneficiary of local by Community participation training	I8= Degradation of environmental sustainability
I9= Expenditures increased	I10= change in local traditional life style	I11= Poor payment of locals by the tourism business operators	I12= Poor Shopping facilities for tourists
I13= Opportunities for new markets of local products (sea fish, dry fish, Barmiz Products)	I14= Poor quality of local services as well as recreational and entertainment facilities	I15= Unauthorized buildings and hotels/ resorts planning	I16= Social problems (crime, gambling, unauthorized drug selling, stealing live corals, fishing within the marine protected areas)
I17= Authenticity of locals lifestyles diminished	I18= Part time jobs due to seasonal in nature	I19= Pollution increased	I20=Destruction of environment due to constructing excessive tourists facilities

For the Regression Analysis:

Y= a+b1i1+b2i2+b3i3+……. +bkik
Where,
Y= Dependent or Criterion Variable
x= Independent or Predictor Variable
a= Intercept of the Line
b1= Slope of the Line

6.2. Hypothesis and Data Analysis Tools

For the quantitative analysis, the following hypothesis has been developed:

Hypothesis-1:

H0: There are no correlations among the set of identified factors of tourism development impacts at Saint Martin Island that measure local resident's attitudes that means twenty (20) identified variables are uncorrelated.

H1: The variables are highly correlated.

Hypothesis-2:

H0: No relationship exists among the dependent variable (local resident's attitudes) and the independent variables (obtained uncorrelated factors, i.e. economic impacts, socio-cultural impacts, environmental impacts and physical impacts) that measure local resident's attitudes.

H1: There is relationship among local resident's attitudes at Saint martin Island towards tourism development impacts and obtained uncorrelated factors.

The final analysis has been performed by using different statistical techniques, namely factor analysis, correlation, multiple regression and descriptive statistics via SPSS Statistics V25.0 package program.

7.0 ANALYSIS AND INTERPRETATION OF RESULTS

7.1. Factor Analysis

There were twenty (20) variables, most of which are correlated and which must be reduced to a manageable level. By using factor analysis, the whole set of interdependent relationships among variables have been examined. Using varimax rotation, twenty (20) variables are reduced into four (4) uncorrelated factors having Eigen Value greater than 1.0. Principle Component Analysis has been selected to determine the minimum number of factors that will account for maximum variance in the data for use in subsequent multivariate analysis.

7.1.1. Testing Hypothesis-1: KMO and Bartlett's Test

The null hypothesis, that the twenty (20) variables are uncorrelated is rejected by the Barlett's test of sphericity **(Table 1)**. A large value of the test statistic favors the rejection of the null hypothesis. From the table, it has been found that the approximate chi-square statistics is 2608.034 with 190 degrees of freedom which is significant at .05 levels. Besides, high values (between .5 and 1.0) of KMO measure of sampling adequacy indicate that the factor analysis is appropriate. Here, as the value of the KMO statistic **(Table 1)** is .756, the factor analysis is considered an approximate technique for analyzing the data.

Testing Hypothesis-1: KMO and Bartlett's Test

Table 1. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.756
Bartlett's Test of Sphericity	Approx. Chi-Square	2608.034
	df	190
	Sig.	.000

7.1.2 Initial Eigen values and Extraction Sums of Squared Loadings

The Eigen value for a factor indicates the total variance attributed to the factor. The total variance accounted by all the twenty (20) variables is 20, which is equal to the number of variables. Factor 1 account for a variance of 6.656, which is (6.656 /20) or 33.281 % of the total variance. Likewise the next three factors (3.818/20), (2.135/20), (1.760/20) account for of the total variance respectively. Here the first three (3) factors combined account for 19.089 %, 10.673% and 8.802 % of the total variance. Here, the first four factors combined account for 71.844% of the total variance. The 'Extraction Sums of Square Loadings' shows the variances associated with the factors that are retained. These are the same as under 'Initial Eigen Values'.

Table 2. Initial Eigen values and Extraction Sums of Squared Loadings

Total Variance Explained									
Com-po-nent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.656	33.281	33.281	6.656	33.281	33.281	5.922	29.610	29.610
2	3.818	19.089	52.370	3.818	19.089	52.370	3.562	17.810	47.421
3	2.135	10.673	63.043	2.135	10.673	63.043	2.867	14.336	61.756
4	1.760	8.802	71.844	1.760	8.802	71.844	2.018	10.088	71.844
5	.865	4.325	76.170						
6	.825	4.127	80.297						
7	.740	3.701	83.997						
8	.684	3.418	87.415						
9	.577	2.883	90.298						
10	.401	2.003	92.301						
11	.312	1.559	93.860						
12	.272	1.358	95.218						
13	.212	1.062	96.279						
14	.186	.931	97.211						
15	.145	.727	97.938						
16	.123	.614	98.552						
17	.102	.511	99.063						
18	.083	.416	99.479						
19	.069	.343	99.822						
20	.036	.178	100.000						
Extraction Method: Principal Component Analysis.									

7.1.3 Determining the Number of Factors

The numbers of factors have been determined based on several considerations: (i) Eigen Value (only four (4) factors with Eigen values greater than 1.0 are retained, [Table 2]); (ii) Scree plot (the plot [Fig. 2] has a distinct break (at four factors between the steep slope of factors, with large Eigen values and gradual trailing off (Scree) associated with the rest of the factors); (iii) percentage of variance (the factors extracted should account for at least 60% of the variance and here, the first four (4) factors account for **71.844%** of the total variance [Table 2]).

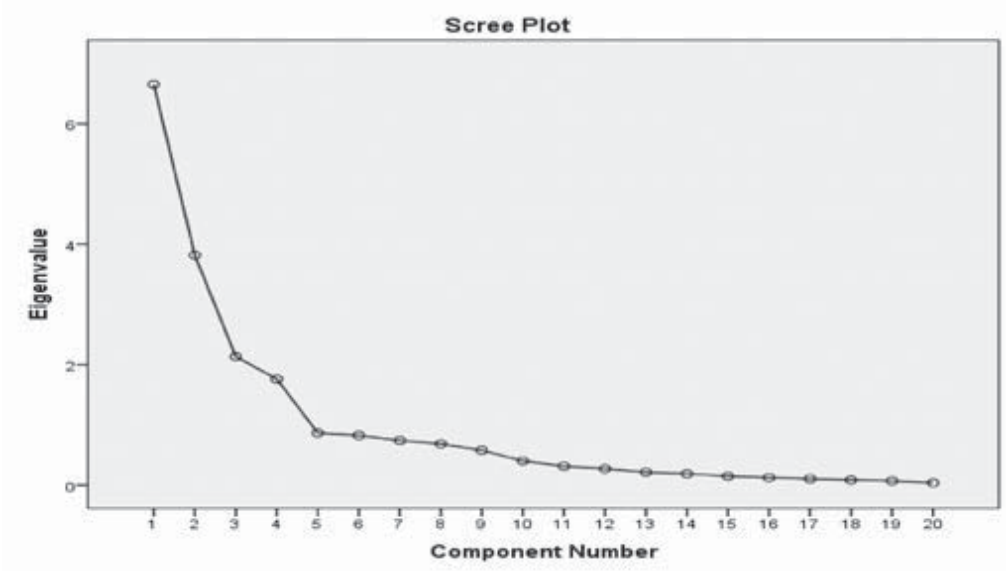

Fig. 2. Scree Plot

7.1.4 Rotated Component Matrix

Table 3. Rotated Component Matrix[a]

	Componen			
	1	2	3	4
I1	.347	-.839	.128	.096
I2	-.108	-.325	-.667	-.367
I3	.016	-.082	-.074	.882
I4	-.140	.138	.528	-.473
I5	.819	-.064	.171	-.155
I6	.570	.496	-.236	-.070
I7	.862	-.186	.056	.169
I8	-.313	.230	-.716	.092
I9	-.531	.310	-.023	-.567
I10	-.446	.590	.115	.092
I11	-.700	.017	-.254	-.143
I12	.881	.068	.189	.110
I13	.820	.067	.114	.175
I14	-.813	.128	-.046	.204
I15	.245	.464	.186	.683
I16	.159	.849	.216	-.125
I17	.189	-.866	.242	.207
I18	.831	-.123	-.137	.290
I19	.038	.196	.801	.213
I20	.196	.423	.768	.242

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

A seven (4) factor solution resulted from the 32 variables, with the factors being labeled as:

1.	**Economic Impacts (I1)**	I5= Diversify the local economy, I6= Income and standard of living increased, I7=Beneficiary of local by Community participation training, I9= Expenditures increased, I11= Poor payment of locals by the tourism business operators, I12= Poor Shopping facilities for tourists, Opportunities for new markets of local products (sea fish, dry fish, coral made products, Barmiz Products), I14= Poor quality of local services as well as recreational and entertainment facilities, I18= Part time jobs due to seasonal in nature.
2.	**Socio-cultural Impacts (I2)**	I1= Interaction between tourists and hosts, I10= change in local traditional life style, I16= Social problems (crime, gambling, unauthorized drug selling), I17= Authenticity of locals lifestyles diminished.
3.	**Environmental Impacts (I3)**	I2= Damage natural environment and landscape, I4= Proper preservation and conservation, I8= Degradation of environmental sustainability, I19= Pollution increased, I20=Destruction of environment due to constructing excessive tourists facilities (hotels, resorts, restaurants, generator supply for current and water availability)
4.	**Physical Impacts (I4)**	I3= Infrastructural facilities (supply of water. sewage. electric etc.), I15= Unauthorized buildings and hotels/ resorts planning

7.1.5 Correlation

The study has attempted to investigate the influential impacts factors of tourism development of Saint Martin Island that measure local resident's attitudes. For this reason, the Pearson Moment correlation has been applied in determining the association of each variable. The results are shown in the following table:

Table 4. Correlations

		Economic Impacts	Socio-cultural Impacts	Environmental Impacts	Physical Impacts
Economic Impacts	Pearson Correlation	1	.000	.000	.000
	Sig. (2-tailed)		1.000	1.000	1.000
	Sum of Squares and Cross-products	149.000	.000	.000	.000
	Covariance	1.000	.000	.000	.000
	N	150	150	150	150
Socio-cultural Impacts	Pearson Correlation	.000	1	.000	.000
	Sig. (2-tailed)	1.000		1.000	1.000
	Sum of Squares and Cross-products	.000	149.000	.000	.000
	Covariance	.000	1.000	.000	.000
	N	150	150	150	150
Environmental Impacts	Pearson Correlation	.000	.000	1	.000
	Sig. (2-tailed)	1.000	1.000		1.000
	Sum of Squares and Cross-products	.000	.000	149.000	.000
	Covariance	.000	.000	1.000	.000
	N	150	150	150	150
Physical Impacts	Pearson Correlation	.000	.000	.000	1
	Sig. (2-tailed)	1.000	1.000	1.000	
	Sum of Squares and Cross-products	.000	.000	.000	149.000
	Covariance	.000	.000	.000	1.000
	N	150	150	150	150

7.2. Regression Analysis

The four (4) factors that have been identified from the factor analysis are used as independent variables (metric) in the regression analysis and the dependent variable (metric) is local resident's attitudes. In order to examine the predictability of local resident's attitudes towards the impacts of tourism development of Saint Martin Island, multiple regression analysis has been administered. The results are presented in the following table:

Table 5. Model Summary & ANOVA (b)

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.836	.699	.690	.61220	.699	84.000	4	145	.000
a. Predictors: (Constant), Economic Impacts, Socio-Cultural Impacts, Environmental Impacts And Physical Impacts									

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	125.929	4	31.482	84.000	.000[b]
	Residual	54.344	145	.375		
	Total	180.273	149			
a. Dependent Variable: Local Residents Attitudes						
b. Predictors: (Constant), Economic Impacts, Socio-Cultural Impacts, Environmental Impacts And Physical Impacts						

7.2.1. Strength of Association

Model summary **(Table-5)** shows that, the multiple correlation coefficients, R is .836a. That means there are significant positive relationship existing among dependent and independent variables. So local resident's attitudes are highly correlated with the identified predictors (Economic Impacts (I1), Socio-Cultural Impacts (I2), and Environmental Impacts (I3) And Physical Impacts (I4)). The strength of association in multiple regressions is measured by the coefficient of multiple determination, R Square is .699 that means 69% of the local resident's attitudes is influenced by the impact factors of tourism development of Saint Martin Island which is accounted for by the variation in economic impacts, socio-cultural impacts, environmental impacts and physical impacts. It is then adjusted for the number of independent variables and the sample size to account for diminishing returns and the Adjusted R Square is .478 and Standard Error of the Estimate is .690. The value of Adjusted R Square is close to R Square. This suggests that all the independent variables make a contribution in explaining in local resident's attitudes.

7.2.2 Testing Hypothesis-2

7.2.2.1 Significance of the Overall Regression Equation (ANOVA (b))

The F test is used to test null hypothesis for the overall test that the coefficient of multiple determination in the population, R square (pop) = 0. Here R square=.699 which means that the null hypothesis can be rejected. This is equivalent to testing the null hypothesis: H0: $\beta1= \beta2= \beta3= \beta4= \beta5= \beta6=0$. Analysis of variance **(Table-5)** shows that the overall test is conducted by using an F statistic where, F= 84.000 which means the relationship is significant at $\alpha = .05$ level with 4 and 145 degrees of freedom. β's value associated with each of the independent variables for the model is not same and that means the null hypothesis can be rejected. So, it can be concluded that local resident's attitudes towards tourism development can be explained by economic impacts, socio-cultural impacts, environmental impacts and physical impacts. The explained variables have varying level of influences on forming that have positive or negative impacts on local resident's attitudes towards tourism development of Saint Martin Island.

7.2.2.2 Significance of the Partial Coefficients (Coefficients (a))

Table 6. Significance of the Partial Coefficients (Coefficients (a))

Coefficients						
Model		**Unstandardized Coefficients**		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	**(Constant)**	2.313	.050		46.280	.000
	Economic Impacts	.695	.050	.631	13.848	.000
	Socio-Cultural Impacts	-.224	.050	-.204	-4.468	.000
	Environmental Impacts	-.506	.050	-.460	-10.079	.000
	Physical Impacts	-.239	.050	-.217	-4.762	.000
a. Dependent Variable: Local Residents Attitudes						

The above table presents the regression coefficient of independent variables. Analysis of coefficient shows which independent variables have a significant relationship with the dependent variable as well as the importance of each independent variable. Analysis of the coefficient suggests that impact factors of tourism development of Saint Martin Island such as economic impacts, socio-cultural impacts, environmental impacts and physical impacts have a strong influence on local resident's attitudes of Saint Martin Island.

To determine which specific coefficients (β's) are nonzero, the significance of the partial coefficient for all the variables is tested by t-statistics (Table 6). The partial regression coefficient for economic impacts (I1) is .695 .The corresponding beta coefficient is .631. The value t statistics, t= 13.848, with 145 degrees of freedom which is significant at ∞= 0.05. so from this results, we can see that local residents of Saint Martin Island perceived that tourism is an important factor for the economic development of the area which helps to diversify the local economy that help to improve local standard of living as well as income is also increasing. Moreover, tourism helps to increases number of part time jobs (such as boatman, cycle renter, housekeeper, waiters, tour guide, restaurant manager, photographer, doorkeeper, etc.) due to seasonal in nature for locals, as well as creates opportunities for new markets for the local products. Here community participation supports local economic development through diversification of employment. On the other hand, poor payment is made to locals by the tourism business operators. There are very Poor shopping facilities for tourists. The results of the study demonstrate that at a local level there is a strong support for tourism development, particularly due to its lucrative economic advantage. Similarly, the partial regression coefficient for socio-cultural impacts (I2) is -.224 with value of beta coefficient is -.204 and value of t statistics is -4.468 which is significant also at ∞= 0.05.

In this factor, the local residents are not perceived the development of tourism as a factor that provides cultural distinctiveness. Interaction between tourists and hosts are perceived as negative because local people of Saint Martin Island are very conservative mentality and as the Island is only bounded by 8 k.m. so the local don't want any change of local traditional life style of them. Moreover they thought social problems (crime, gambling, unauthorized drug selling) can be increased among community people that will diminish authenticity of locals lifestyles. The partial regression coefficient for environmental impacts (I3) is -.506 with value of beta coefficient is -.460 and value of t statistics is 8.521 which is significant also at ∞= 0.05. Finally, in case of last factor, The partial regression coefficient for physical impacts (I4) is -.239 with value of beta coefficient is -.217 and value of t statistics is -4.762 which is significant also at ∞= 0.05. Tourism has both positive and negative impacts on environment. The effects of tourism development on the natural environment of Saint Martin Island and its landscape are not perceived as being positive.

The community felt that tourism is damaging natural environment and landscape gradually specially at peak season from October to March. They also thought that pollution is increasing due to tourist unconsciousness. They dropped different packets, water bottle, can, banana, breads packets etc. that will degrade the environmental sustainability. Construction of excessive tourists facilities (hotels, resorts, restaurants, generator supply for current and water availability) also threaten for sea animals. The number of endangered sea turtles, including the green turtle and Olive Ridley turtle, that visit the island every winter to lay eggs has decreased significantly in recent years. Some residents stated, "If we can earn money, it doesn't matter that our environment is damaged a little". So proper preservation and conservation should be taken to save the beautiful Saint martin Island. In case of physical impacts (I4), we can see that unauthorized and improper buildings and hotels/ resorts are built without proper plan which is not feasible for Saint martin Island because excessive constructions (resorts, hotels, restaurants, water transportations) damage environmental sustainability as well as make disturbance to local residents lifestyles. The results show that local residents see tourism as an income generator, but at the same time they understand the importance of environmental sustainability of Saint Martin Island. Finally, this study has several limitations: primarily, limited time and very poor budget. This study did not clarify properly how the residents perceive themselves as benefiting from tourism development.

7.3 Descriptive Statistics and Frequency Table

Among 150 local residents of Sajek valley, 106 were male and 44 were female that is shown is table-7 and figure-3.

Table 7. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	106	34.6	70.7	70.7
	Female	44	14.4	29.3	100.0
	Total	150	49.0	100.0	
Missing	System	156	51.0		
Total		306	100.0		

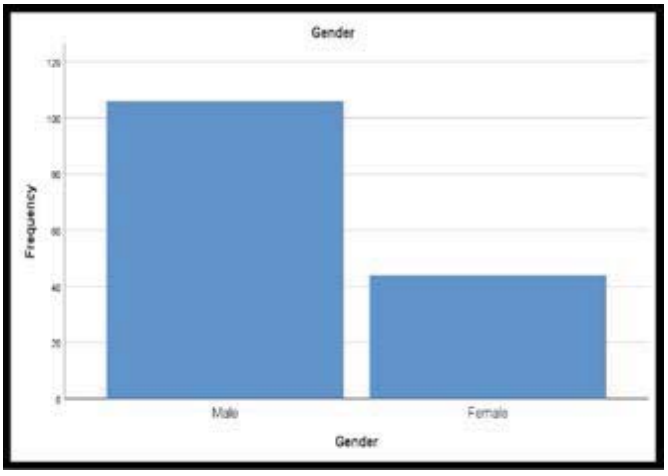

Fig. 3. Bar Chart

8. FINDINGS

The results of the study indicated that local residents had favorable attitudes toward tourism development in terms of its positive economic impact only.

Multiple regression analysis indicated that local residents' perceived overall happiness was significantly influenced by both positive and negative cultural and environmental impact and positive economic impact factors. The local residents also agreed that the development of tourism in their region provides more recreational opportunities and interaction with the tourists can be positive if local residents are provided training to welcome tourists as well as community participation can be a vital mechanisms to make good positive relations between local residents and tourists.

Multiple regression analysis also indicated that there are no significant results in case of physical impacts. Therefore physical impacts (I4) should be kept for further research because this is not applicable for our research as well as very less significant in case of influencing local residents attitude towards tourism development. They felt tourism has a negative influence on local services offered, including items such as improvements of roads and public services because the more the constructions (resorts, hotels, restaurants, water transportations) has built for the tourists , the more the degradation will be occurred for the environment that damage sustainability of local residents.

9. RECOMMENDATIONS

Government should take several initiatives by organizing several types of training program for both local male and female workers to create entrepreneurs and also awareness development program should be introduced among them.

Strengthen infrastructure and capacity for resource management, primarily targeting marine protected areas.

Conservation of special habitats and eco-systems such as hill forests, wetlands, mangrove ecosystems, coral reef ecosystems as well as the protection of migratory animals and birds; Each person visiting the island brings in additional issues to be taken care of like drinking water, sewage, solid waste, food, accommodation, etc.

Develop and implement environmental, biological, socioeconomic and user monitoring programmes.

Cooperation with the various law enforcement and paramilitary agencies like the Bangladesh Police, Bangladesh Rifles, and Bangladesh Coast Guards should be further strengthened to protect the island's biodiversity and tourist management

"Tourism Carrying Capacity" and Visitor Management Program" (VMP) tools should be known by the local residents to ensure preservation of natural resources for both current and future generations.

10. CONCLUSIONS

The local residents perceived greater level of economic gain and hence perceived the impact of tourism development to be positive. They especially felt that tourism has positive effects on the local economy, such as improving the economy, creating job opportunities (part time, full time), improving standards of living, reducing poverty and hunger level and they also agreed that tourism can result in a number of quality-of-life improvements. It was possible to earn a substantial revenue through tourism without disturbing the ecological balance. It proposed formulating special guidelines for governance that would set fixed accommodation such as hotels and resorts and tourist numbers by using Visitor management program (VMP). Water transports should also be used in a limited number by following the guidelines of carrying capacity techniques and Limits of Acceptable Change (LAC) tools should acknowledge among the local residents to create awareness of sustainable tourism. The government should carry out a thorough scientific study to determine the island's current state of environmental degradation and should take cues from Thailand and Indonesia and go for ecotourism to conserve St Martin's biodiversity. Approximately BDT15.85 crore (BDT158.5 million ~ USD1.95 million) project has undertaken recently to conserve and improve the island's biodiversity, including by recreating Keya tree (screw-pine; Pandanus odorifer) forests, regenerate and conserve coral, and create alternative jobs for coral and shell collectors. But recognizing the seriousness of ecological

problems, the community has become increasingly environmentally conscious. It could be that the local residents are conscious of the possible drawbacks of hotel and resorts constructions at the detriment of environmental sustainability.

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