

# Residents' Perceptions Towards Sustainable Tourism At Kuakata, Bangladesh

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## **Abstract:**

*Kuakata is the second-largest panoramic sea beach of Bangladesh with a rich natural and cultural heritage. Since the Padma Bridge opened to the public, there have been a lot more tourists visiting the area. This paper examines the perception of local residents toward sustainable tourism in Kuakata sea beach with applying of factor analysis. The simple random sampling technique was used to identify study participants. The result of the mean analysis indicates that the economic, environmental, and socio-cultural effect of tourism has a substantial influence on the mindset of the locals. The five factors identified by factor analysis show that residents of Kuakata have a positive view of sustainable tourism development as a whole. On the other side, this analysis demonstrates that local communities have some negative perceptions towards sustainable tourism. Besides, the demographic variables such as gender, age, educational qualification and occupations has a great impact on the perceptions of residents towards sustainable tourism on Kuakata sea beach.*

**Key words:** Sustainable tourism; Sustainable tourism development; Residents' perceptions; Factor analysis

Date of Submission: 08-10-2023

Date of Acceptance: 18-10-2023

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## **I. Introduction**

Travel and tourism, as a human dynamic that transforms a tourist destination into an activity hub, occurs through contact between the visitors and the local residents. Tourism has an influence on their quality of life through influencing changes in their value system, family affairs, behavioral patterns, and expressive rituals for individuals and the local people of the culture (Maryetti et al., 2016). It is also recognized as a significant contributor to the growth of the local economy. As a result, it offers the community that plays host to enormous economic prospects, which is particularly beneficial in regions where people have fewer chances for earning a living (Ali, 2020). Sustainable tourism is a vital weapon to develop a tourism destination for different types of stakeholders, especially local communities. It has a positive impact on the local economy, which, in turn, creates more jobs for the locals, therefore, enhancing their standard of living (Muresan et al., 2016). For sustainable tourism to flourish, it is crucial to first grasp how locals feel about the effects of sustainable tourism. It is also known that developing sustainable tourism is hard without the help of the local residents (Nunkoo, Smith, & Ramkissoon, 2013). The locals in tourism hotspots are also crucial cogs in the sustainable tourism development machine; they are the ones that make the tourism industry so strong in both developed and developing nations (Castela, 2018; Abu, 2020; Kapsalis and Kapsalis, 2020; Ali, 2020), and sustainable tourism development cannot happen without their help (Obradovic et al., 2020).

During the peak of the tourist season, Kuakata's sea beach sees between 50,000 and 60,000 visitors every week (TBS Report, 2021). On June 25, 2022, the government of Bangladesh officially inaugurated the Padma Bridge, the country's longest and most costly bridge to date. This will have far-reaching effects on the economy of southern Bangladesh and, by extension, on Kuakata's tourist trade. There has been a considerable spike in the number of visitors ever since the Padma Bridge opened (Dhaka Tribune, 2023). If the socio-cultural and environmental resources of a tourist destination are destroyed for any reason, then the service provider moves to another destination. But local residents are unable to relocate because of their roots. In the absence of a comprehensive strategy for sustainable tourism development, this growing number of visitors is likely to have unfavorable effects on the local environment as well as socio-cultural environment. The development of sustainable tourism is challenging without the cooperation of the residents; thus, it is essential to take their input into account and include them in planning processes early on. The danger is imminent if Kuakata's tourism development is not handled sustainably and lawmakers do not learn to see things from the perspective of local populations.

Kuakata is the second-largest panoramic sea beach in Bangladesh (Map 1). The unique opportunity to see both sunrise and sunset from the beach is a major draw for visitors. Kuakata's native name, "Shagor Kannya", translates to "Daughter of the Sea." It is located in Kalapara upazila of Patuakhali district. It is about 300 kilometers from the capital city of Dhaka. According to Rashid and Taskin (2018), Kuakata beach spans a

length of 18 km long and has a width of 3 km. Kuakata was a small section of the Sundarbans Forest in 1784 (BFRI, 2000). Not only sea beach but also Kuakata has diversified natural and cultural elements especially Rakhine community that attract the tourists to visit this place. The Rakhine community has a thousand-year-old civilization and history. They are currently living in Misripara in Kuakata. Kuakata is a pilgrimage site for many Hindus and Buddhists, who visit around the festivals of Rush Purnima and Maghi Purnima. The municipality of Kuakata is an 8.11 square kilometer area with 9 wards and has a total population of 15,326 people (BBS, 2021). According to Bangladesh Bureau of Statistics (BBS) (2021), there are 2065 households and the literacy rate is 57.6 (BBS, 2021). The density of population in this area is growing day by day, not only because of the birth rate, but also because of the economic importance it has gained in recent years as a result of its transformation into a tourism destination and the expansion of commercial operations such as Payra sea port and Cole power plant.

However, Kuakata sea beach has received surprisingly little attention as a potential tourist destination. As a result, not much study has been done on Kuakata sea beach. As competition among companies and tourist attractions increases with globalization, it is crucial to find locals' perception toward sustainable tourism development. The objective of this study is to examine the perceptions of residents toward sustainable tourism in Kuakata sea beach. Furthermore, this paper explores the results of applying factor analysis to survey data acquired from the residents.



**Map 1: Location of Kuakata sea beach (Rahman et al., 2016)**

## **II. Literature Review**

The phrase 'sustainable tourism development' is frequently used to reflect a more integral and less self-interested approach to tourism development and it is closely linked to sustainable tourism, however, it focuses on the necessity to guarantee sustainable growth of tourism (McDonald, 2006). Sustainable tourism development, as defined by the World Tourism Organization (WTO, 1998), is a widely used description among tourism planners and researchers. According to the WTO (1998, p. 21), sustainable tourism is defined as follows:

*“Sustainable tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems”.*

The definition clearly states that successful sustainable tourism development requires sound environmental, social, and cultural resource management that meets the needs of all the stakeholders while protecting and conserving resources for present and future generations. These managerial, organizational, and pedagogical needs have come to be known as sustainable tourism development. To accomplish sustainable tourism development through wide involvement and consensus building, strong political leadership and informed engagement by all key stakeholders are essential. (UNWTO, 2004; UNEP & UNWTO, 2005). If a destination is to be considered a sustainable tourist destination, it must protect the local economy and contribute

to the preservation of the local cultural identity. There must be a steady stream of visitors as well as a good ecological and environmental impact.

Environmental resources such as scenery, a renowned landscape in the area, climate, and biological life are all utilized as integral components of tourism products (Bozkurt, 2015). Any degradation of resources such as drinking water and air quality has a knock-on effect on the business, resulting in fewer visitors visiting the destination. Health issues for residents and employees may also be a result of these environmental issues. The environmental harm may be irreversible or too expensive to repair (Bozkurt, 2015).

Because of its subliminal, multifaceted, and relative characteristics, sustainability of tourism is a rather difficult topic (Fernández & Rivero, 2009). To put it another way, the multidimensional nature of tourism sustainability is founded on three main concepts that are often associated with sustainable tourism development: environment, socio-cultural, and economic sustainability (ŠTETIĆ et al., 2015; White et al., 2006; Zamfir & Corbos, 2015; Kožić & Mikulić, 2011). As a consequence, sustainable tourism must adhere to the concepts of environmental, social, and economic principles of sustainability (Zamfir & Corbos, 2015).

Sustainable tourism development has several challenges, including the need for balanced tourism where no one actor (industry, host, or tourist) dominates, yet its design, development, and implementation require stakeholder interaction (Getz & Timur, 2005). Local residents play an important role in tourist destinations by actively participating in tourist businesses and activities (Mowforth & Munt, 1998). There are a lot of articles and studies on how locals feel about tourism development, tourism scholars think that local perception is still an important topic for research (AbbasiDorcheh & Mohamed, 2013; Adetola, B. O. and Adeniran, 2014; Ali, 2020; Baker & Unni, 2021; Glavonjić et al., 2018; Lan et al., 2021; Muresan et al., 2016; Yu et al., 2011). On the other hand, over the last three decades, researchers have studied how host communities feel about tourism's effects on their lives. Many researchers have observed the benefits and costs of tourism on local residents, which can be summarized into three types of categories: economic, environmental, and socio-cultural effects (Murphy, 1983; Gunn 1988; Gursoy, Chi & Dyer, 2009; Gabriel Brida et al., n.d.).

Wang and Pfister (2008) did research on how the personal benefits of tourism development affect local communities. They found that people would support tourist development if the personal benefits outweigh the expenses. Residents dislike tourist development when expenses surpass benefits (Baker and Unni, 2021). On the contrary, residents living in mountain tourist destination feel that tourism helps the local economy, but they are concerned about the environmental effect of tourism expansion (Ali, 2020).

In a rural destination, inhabitants regard tourism as a component of the area's growth (Muresan et al., 2016). The environmental, economic, and social-cultural environments, in addition to infrastructure, age, gender, and education level, are all elements that have an impact on the tourism industry's ability to expand in a sustainable manner. Local residents' attachment to and involvement in their communities, as well as their support for sustainable tourism development, are affected by what they see as the benefits of these activities (Lee, 2013). It is crucial to have an understanding of the residents' perspectives towards sustainable tourism development in order to design future policies that will limit the possible adverse effects of tourism and enhance the potential positive effects of tourism (Stylidis et al., 2014; Muresan et al., 2016).

### **III. Methodology**

This investigation was carried out in the field during the global spread of the COVID-19 virus. One of the most common strategies for collecting original information is survey research (Zikmund, 2003). When it comes to gathering information on the tourism industry, questionnaires are by far the most influential and extensively used instrument (Smith, 2010). A questionnaire survey tool was used for collecting general local resident's perceptions about sustainable tourism using the five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Face-to-face interviews were chosen as the technique of data collection for questionnaire surveys and it was conducted on March 2021. The questions were all closed-ended. Questionnaires were divided into two sections: the first included socio-demographic variables (e.g., gender, age, educational level, occupations; occupations directly or indirectly dependent on tourism; monthly family income); and the second section consisted of 30 statements that included about local residents' perceptions of sustainable tourism development on Kuakata sea beach from an economic, socio-cultural, and environmental standpoint. Before conducting the local residents' survey, pre-testing was performed. Twenty-eight respondents participated in pilot test.

For this study, the population was defined as everyone who lived in Kuakata was over 18 years old. Simple random sampling methods were used to get the data, and people were chosen by the randomization process. All of the households in municipality of Kuakata were included in the sampling frame. The main emphasis of the interviews was on the surrounding residents of the Kuakata sea beach area. Residents in the area were unwilling to participate in the resident survey because of the COVID-19 outbreak. So, the researcher took help of a local NGO. This NGO is very popular in Kuakata and the staff of this NGO are well-known to the local residents. Three staff of this NGO participated in the data collection for the resident survey. A total of 275

completed questionnaires were collected, constituting a sample that is representative of the Kuakata population at the 1.6% level. For the purpose of this research, secondary data sources such as publications, academic articles, newspaper articles, and books were used.

The researcher began by collecting the primary data from local resident surveys. The data's consistency with descriptive statistics, including the statistical assumptions pertaining to missing data, outliers, normality, homoscedasticity, multicollinearity, and dependability, was examined. The relationship between the variables was determined through correlation analysis. The software Statistical Package for the Social Sciences (SPSS) version 25.0 was used to analyze the data and test the hypotheses. Finally, factor analysis was performed on the data using this program. Prior to entry in the computer software, completed survey questionnaires were checked and edited. After checking and editing, coding is needed to ensure that data is stored in a systematic manner (Zikmund, 2003). Before analyzing the data, data cleaning is required. It includes consistency checks of data and the treatment of missing responses.

Descriptive statistics give a more complete picture of the summary data that was used to measure locals' opinions on sustainable tourism development in Kuakata. This study clarified the data by using frequency distribution, mean, and standard deviation. The hypotheses were tested using the Independent Sample T-test, Pearson Chi-Square (F-test), and one-way analysis of variance (ANOVA), with a significance level of 5% (= 0.05) being considered statistically significant.

The research also included a factor analysis. The basic objectives of this study were to determine the underlying dimensions of all study variables and to investigate the relationships between them. Given these factors, it was decided that exploratory factor analysis was appropriate. The minimum number of observations should be at least five times the number of variables in the study, as suggested by Hair et al. (2006). Correlations between loaded variables should generally be at least 0.3 (Pallant, 2007). Due to this caution, the researcher excluded all factors with loadings below 0.30 and eigenvalues below 1.0 from the study. This should make the results of this study more statistically significant. The principal component analysis using the Varimax technique for orthogonal rotation was used as the component extraction approach to find the lowest number of factors that explain the most variations.

#### IV. Results and discussion

##### Analysis of respondents' demographic background

It is essential for the development of sustainable tourism in any place like Kuakata sea beach to have an understanding of the demographic background of the local residents. Several writers make use of demographic aspects in their work (Lee, 2013; Master & Prideaux, 2000). The demographic profiles of the local residents indicate a lot about the unique characteristics that each responder has. The descriptive overview of the respondents is shown in Table 1, which includes gender, age, educational qualification, occupations, occupations directly or indirectly dependent on tourism, and monthly income.

In the sample (**Table 1**), most of the local residents were predominantly male (73.9%) and the half of the residents belonged to the age group 31–40. In terms of educational attainment, 38.4% of respondents said that they had completed primary school, while 35.9% stated that they had completed high school. In terms of occupation, 34.7% said that they were doing tourism related job, followed by business (26.5%), and agriculture related job (25.3%). The great majority of respondents (97.1%) claimed that their economic well-being was directly or indirectly tied to tourism while only 2.9% reported not to be in an income related job to the tourism sector. In terms of monthly income, about 39% of respondents in Kuakata earn between BDT 20001 to 35000, while around 26% earn BDT 10001 to 20000.

**Table no1: Descriptive summary of the respondents**

Issues	1	2	3	4	5
<b>Gender</b>	Male (73.9%)	Female (26.1%)			
<b>Age</b>	18-30 (26.5%)	31-40 (50.6%)	41-50 (19.2%)	51-60 (3.7%)	61< (0%)
<b>Level of Education</b>	No Literate (1.6%)	Primary School (38.4%)	High School (35.9%)	College (13.9%)	Graduate or above (10.2%)
<b>Occupations</b>	Farmer/ Agri related job (25.3%)	Tourism related job (34.7%)	Business (26.5%)	Government/ private job (10.6%)	Others (2.9%)
<b>Occupations Directly or Indirectly Dependent on Tourism</b>	Yes (97.1%)	No (2.9%)			
<b>Monthly Family Income (BDT)</b>	below 10000 (1.6%)	10001-20000 (25.7%)	20001-30000 (39.2%)	30001-40000 (21.2%)	40001 or above (12.3%)

**Resident perceptions of tourism impacts (means and standard deviation)**

Table 2 shows the results of respondents' perceptions of tourism on Kuakata sea beach. Most locals who participated in the survey had this optimistic view of sustainable tourism. When looking at the mean value, the maximum replies were in the range of 5.50 to 6.53, which demonstrates that respondents had significant views on the impact of tourism. Respondents gave high marks to the economic effect of tourist activity, which was followed by the environmental impact of tourism activity. Despite the fact that their responses tend to converge around a higher-than-average number, locals think that tourism has a negative impact on the sociocultural environment (Table 2). The first component, titled "**Economic Impact**," consists of 11 variables that describe the economic impact on Kuakata sea beach. Table 2 presents eleven different variables, together with the mean values and standard deviations for each of those variables. This characteristic has a high mean value of 6.53 in terms of increased income from tourism-related activities, which is a key component of the needs of resident respondents and tourism creates jobs for locals in Kuakata (Mean = 6.52). In addition, respondents agreed that the improvement in the quality of life of local communities was a result of the development of the tourism industry (Mean = 6.47). There were nine variables in the "**Environmental Impact**" section. With a mean score of 6.27, the statement "Tourism industry should take care of environmental protection" received the highest mean rank follow by "Tourism has caused the crowding of beaches, paths, parks, and other leisure places" (Mean = 6.19) and "Tourism causes overuse of electricity in the tourism region" (Mean = 6.18). The statement "The construction of hotels and tourism facilities have destroyed the natural environment" has the lowest mean (5.78) score. These results show that the locals of Kuakata are very worried about how tourism development will affect the environment. These environmental repercussions will, in the long run, put an end to tourism if there is not an appropriate and effective environmental strategy in place for the tourist industry. The "**Socio-Cultural Impact**" consists of ten variables, the highest mean value (6.42) was observed for the statement "Tourism has increased the number of traffic accidents" followed by "Residents' interest and satisfaction towards tourism industry gets importance" (Mean = 5.98) and "Tourism has increased social problem (crime/ theft, alcohol and drug abuse, diseases (HIV), prostitution)" (Mean = 5.91) whereas, the second lowest mean value (5.46) was observed for the statement "I want these tourism sites to be well maintained for many generations to come" and the lowest mean value (4.31) was observed for "Tourism is damaging to the local culture and traditions". This investigation demonstrates that locals have the impression that tourism has a substantial influence on the culture of the area; however, a smaller percentage of respondents are in agreement that tourism helps to preserve the local culture of the region. The culture and traditions of local communities, particularly the Rakhine community, are one of the primary sources of tourist attraction; consequently, the preservation of regional culture must be ensured with the support of the local government, service providers, nongovernmental organizations and the local community working in the region.

**Table no2: Respondents perceptions of tourism impacts**

Sl. No.	Name of the Variable	Mean**	Std. Deviation	Rank
<b>Economic Impact</b>				
1	Tourism activities in Kuakata Sea Beach has increased my income	6.53	.760	1
2	Tourism has improved the way of living	6.47	.532	3
3	Tourism has created jobs for many people in my village	6.52	.562	2
4	Tourism has attracted more business to our locality	6.32	.639	5
5	Tourism creates jobs more for externals than local residents	5.88	1.019	10
6	Local people do not get the management level jobs	5.23	1.352	11
7	The price of land has increased due to tourism in Kuakata Sea Beach	6.45	.732	4
8	Tourism has increased the cost of living	6.20	.711	7
9	Tourism has contributed to overall development of local people	6.05	.774	8
10	Tourism has improved financial services such as banking facilities, ATM service and mobile banking	6.01	.844	9
11	Tourism has a caused for replacing job like fishing, agriculture	6.21	.624	6
<b>Environmental Impact</b>				
12	Tourism development has improved the physical appearance of Kuakata Sea Beach	6.04	.734	6
13	The construction of hotels and tourism facilities have destroyed the natural environment	5.78	.984	9
14	Tourism causes overuse of water in the tourism region	6.02	.607	7
15	Tourism causes overuse of electricity in the tourism region	6.18	.823	3
16	Tourism has been increasing land and water pollutions	6.09	.807	5
17	Tourism has been increasing air and noise pollutions	6.12	.725	4
18	Tourism has caused the crowding of beaches, paths, parks, and other leisure places	6.19	.784	2

19	Tourism industry should take care of environmental protection	6.27	.774	1
20	Tourism has improved water supply, sewerage system and road-lighting	5.94	1.036	8
<b>Socio-Cultural Impact</b>				
21	Tourism activities in Kuakata Sea Beach creates cultural exchanges between tourists and residents	5.73	.884	7
22	Tourism encourages a variety of cultural activities by the local residents (e.g., crafts, arts, music)	5.78	1.031	5
23	Tourism has increased the number of traffic accidents	6.42	.652	1
24	Tourism has increased social problem (crime/ theft, alcohol and drug abuse, diseases (HIV), prostitution)	5.91	1.192	3
25	Residents 'interest and satisfaction towards tourism industry gets importance	5.98	.849	2
26	There are some tourism impacts on dress, food habits and behavior of local people	5.88	.963	4
27	Tourism upgrades the social value of local people	5.47	1.395	8
28	Tourism is damaging to the local culture and traditions	4.31	2.000	10
29	I am satisfied with the current tourism activities in Kuakata Sea Beach	5.77	.909	6
30	I want these tourism sites to be well maintained for many generations to come	5.46	1.320	9

**Factor analysis for resident towards sustainable tourism development (STD)**

Factor analysis is a data reduction and summarizing approach used to discover underlying factors or dimensions that are shared by a collection of variables (Dwyer et al. 2004). In this research, a collection of 30 variables was employed to capture local residents' perceptions of tourism's effects, as well as their satisfaction and interest in sustainable tourism development (STD) at Kuakata sea beach. The statements were rated on a five-point Likert scale, with 5 indicating that the respondent strongly agreed and 1 indicating that the respondent strongly disagreed with the statement.

However, before doing a Factor Analysis, Kaiser-Meyer-Olkin (KMO) testing is required to make certain that there are enough data to carry out the analysis. This is the case even if factor analysis is being done. The test measure of sample adequacy developed by KMO and Bartlett. Usually, KMO value greater than 0.5 is required (Malhotra N. K., Dash S., 2016). The KMO and Bartlett test of 30 Sustainable Tourism Development-related variables is shown in Table 3. The KMO value for this inquiry is 0.724 (>0.5), suggesting that factor analysis is applicable to this study. The Bartlett's Sphericity test has a significance level of 0.000. (.0005). Furthermore, it is shown that the data is sufficiently valid for using Principal Component Analysis (PCA) in conjunction with a rotated component matrix of factor analysis.

**Table no3: KMO and Bartlett's test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.724
Bartlett's Test of Sphericity	Approx. Chi-Square	1791.582
	df	435
	Sig.	.000

Source: SPSS output

With the Total Variance Explained table aided in determining the number of factors from the total 30 variables. 41.645% of the variance is explained by five components whose Eigen values are larger than one. Thus, the Principal Component Analysis (PCA) approach is utilized for extraction, while the Varimax approach is employed for rotation. The findings of the Principal Components Method with Varimax Rotation are summarized in Table 4. The reliability coefficient alpha for all variables was 0.753, indicating a high correlation between the variables.

The five factors identified by factor analysis are described in detail below. Naturally, the titles given to the factors are subjective, but they take into consideration the variables contained.

*Factor 1: Negative Impacts*

The first factor carried out 8 variables and obtained a coefficient of alpha of 0.731 and explains 16.597% of the variance. This element includes characteristics that focus on the negative repercussions of tourism development. However, it strongly encompasses that tourism activities have destroyed natural environment (factor loading 0.764), increased land, water (factor loading 0.793), air and noise pollutions (factor loading 0.422) and caused over use of water (0.571) and electricity (0.521) on Kuakata sea beach.

*Factor 2: Community Satisfaction and Interest towards Sustainable Tourism Development*

The second factor explains six variables and include all the resident satisfaction and interest towards sustainable tourism development (STD). This factor attained a coefficient of alpha 0.630. and explains 7.843% of the variance. This factor indicates that local residents want these tourism sites to be well maintained for many generations to come (factor loading 0.772), and it is really good once the locals are satisfied with the current tourism activities on Kuakata sea beach (factor loading 0.654).

*Factor 3: Positive Impacts*

The positive impacts of economic, environmental and socio-culture dimensions for tourism activities on Kuakata sea beach comprise the third factor and obtained a coefficient of alpha 0.527. Six variables are included in this factor.

*Factor 4: Welfare Increase*

Factor four refers to community life changes and explains locals' perceptions of how their quality of life has altered as a result of tourism activities. When delating the one variable named 'Tourism has improved water supply, sewerage system and road-lighting', the Cronbach's Alpha for factor four is 0.507. According to Cortina (1993) and Nunnally and Bernstein (1994), in exploratory research, scales with a limited number of items (i.e., six or fewer) and an alpha of about 0.60 may be acceptable.

*Factor 5: Social Costs*

Factor five consists of three variables named 'Perceived Social Costs'. Land prices (factor loading 0.765), traffic accidents (factor loading 0.654), and social problem (factor loading 0.450) have all grown as a result of the tourism operations in Kuakata, which is described as factor number five. Local residents are worried about the social costs of tourism activities that are increasing day by day.

**Table no4:** Factors along with respective variables pertaining to sustainable tourism development

<b>Factor 1 Negative Impacts</b>		
<b>Eigen Values: 4.979</b>	<b>Variance (%): 16.597</b>	<b>Cronbach's Alpha: 0.731</b>
<b>Variables</b>	<b>Factor Loadings</b>	
The construction of hotels and tourism facilities have destroyed the natural environment	.764	
Tourism has been increasing land and water pollutions	.626	
Tourism is damaging to the local culture and Traditions	.591	
Residents 'interest and satisfaction towards tourism industry gets importance	.588	
Local people do not get the management level jobs	.574	
Tourism causes overuse of water in the tourism region	.571	
Tourism causes overuse of electricity in the tourism region	.521	
Tourism has been increasing air and noise pollutions	.422	
<b>Factor 2 Community Satisfaction and Interest towards STD</b>		
<b>Eigen Values: 2.353</b>	<b>Variance (%): 7.843</b>	<b>Cronbach's Alpha: 0.630</b>
Local people want these tourism sites to be well maintained for many generations to come	.772	
Local people are satisfied with the current tourism activities in Kuakata Sea Beach	.654	
Tourism upgrades the social value of the local people	.636	
Tourism creates jobs more for externals than local residents	.437	
Tourism has contributed to overall development of local people	.430	
Tourism has created jobs for many people in village	.414	
<b>Factor 3 Positive Impacts</b>		
<b>Eigen Values: 1.898</b>	<b>Variance (%): 6.327</b>	<b>Cronbach's Alpha: 0.527</b>
Tourism has attracted more business to our locality	.609	
Tourism industry should take care of environmental protection	.578	
Tourism activities in Kuakata Sea Beach creates cultural exchanges between tourists and residents	.529	
There are some tourism impacts on dress, food habits and behavior of local people	.524	
Tourism development has improved the physical appearance of Kuakata Sea Beach	.434	
Tourism encourages a variety of cultural activities by the local residents (e.g., crafts, arts, music)	.342	
<b>Factor 4 Welfare Increase</b>		
<b>Eigen Values: 1.794</b>	<b>Variance (%): 5.979</b>	<b>Cronbach's Alpha: 0.507*</b>
Tourism has improved the way of living	.698	
Tourism activities in Kuakata Sea Beach have increased my income	.579	

Tourism has a caused for replacing job like fishing, agriculture	.408
Tourism has increased the cost of living	.444
Tourism has improved water supply, sewerage system and road-lighting. *	.339
<b>Factor 5 Social Costs</b>	
<b>Eigen Values: 1.470</b>	<b>Variance (%): 4.900</b>
<b>Cronbach's Alpha: 0.584*</b>	
<b>Variables</b>	<b>Factor Loadings</b>
The price of land has increased due to tourism in Kuakata Sea Beach	.765
Tourism has increased the number of traffic accidents	.654
Tourism has increased social problem (crime/ theft, alcohol and drug abuse, diseases (HIV), prostitution) *	.450

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 17 iterations.

\*One item deleted, Source: SPSS output

**Hypothesis:**

**H0: There is no significant mean difference in the perceptions of residents towards sustainable tourism on Kuakata sea beach with respect to key demographic profiles.**

The findings of the Independent Sample 't' test and One-Way ANOVA for the perceptions of residents of sustainable tourism development at Kuakata sea beach in relation to the resident respondents' demographic characteristics presented that there is a significant difference between the variables with respect to gender, age, educational qualification and occupations where  $p < 0.05$ .

However, there is no significant mean difference between the perceptions of resident respondents with regard to monthly family income where  $p > 0.05$ . Therefore, out of five demographic variables, four variables rejected the null hypothesis. Table 5 shown the test results of Independent Sample 't' test and one-way between-groups analysis of variance (ANOVA) between demographic variables and perceptions towards STD.

**Table no 5: Results of Independent Sample 't' Test and One-Way ANOVA**

Sl. No	Residents Demographic Variables	Significant Value	Inference of Hypothesis
1.	Gender	.000 (t= 4.374)	Rejected
2.	Age	.000 (F= 6.371)	Rejected
3.	Educational Qualification	.001 (F= 3.819)	Rejected
4.	Monthly Family income	.059 (F= 2.165)	Accepted
5.	Occupations	.001 (F= 3.643)	Rejected

Source: SPSS output

**V. Discussion**

This study aims to examine the perception of residents toward sustainable tourism at the Kuakata sea beach in Bangladesh. It encourages development planners that they should take residents' concerns into account when making and putting into place development policies if they want tourism to be accepted by the local community. Residents of Kuakata sea beach have the perception that tourism has made a big economic contribution to the growth of the local economy; yet, they are concerned that tourism has also greatly increased the rate of environmental deterioration in the region. Furthermore, locals are concerned about increasing social problems such as crime and theft, alcohol and drug abuse, and prostitution, and they are replacing their traditional jobs like fishing and agriculture with tourism-related jobs. The findings of this study's mean analysis indicate that the economic, environmental, and socio-cultural effect of tourism has a substantial influence on the mindset of locals. In addition, the results of this survey indicate that the vast majority of respondents are inclined to have a strong agreement with the statement that the perceived advantages of tourism surpass the perceived costs of tourism to the citizens of the local community.

The study's factor analysis shows that residents in Kuakata have a positive view of sustainable tourism development as a whole. The positive effects of sustainable tourism in Kuakata on the local communities are shown by "Factor 2: Community Satisfaction and Interest in Sustainable Tourism Development," "Factor 3: Positive Impacts," and "Factor 4: Welfare Increase." The current tourism activities in Kuakata sea beach satisfy local residents, and these activities increase the social value of the local people. Although tourism has created jobs for many people in this area, there are worries that these jobs are more for outsiders than local residents. On the other side, this analysis demonstrates that local communities have some negative perceptions towards sustainable tourism, as shown in "Factor 1: Negative Impacts" and "Factor 5: Social Costs." They are somewhat

worried about the environmental effects of the growing number of hotels and other tourist infrastructure projects, which include increased land, water, air, and noise pollution. The tourism industry results in excessive use of both water and electricity in the area. Finally, there is no significant mean difference in the perceptions of resident respondents towards sustainable tourism on Kuakata sea beach with regard to monthly family income. However, the demographic variables such as gender, age, educational qualification and occupations have a great impact on the perceptions of residents towards sustainable tourism on Kuakata sea beach.

## VI. Conclusion

Kuakata has a significant amount of potential as a tourism destination because of its magnificent beach, the unique opportunity to see both dawn and sunset from the beach, diverse natural features such as mangrove forests and the related biodiversity, and the Rakhain lifestyle and their cultural heritage. Tourists used to have to cross five ferries and endure a lot of trouble to get to Kuakata. So, the tourism potential of this area could not previously be fully utilized. But after opening the Padma Bridge, tourists now freely travel to Kuakata. Now, this area is getting more and more tourists, which has made it hard for the local government, service providers, and local communities to manage, especially when it comes to sustainable tourism. The beach, natural resources, and cultural heritage of Kuakata would all suffer if tourism is not handled in a sustainable manner. This research finds that the residents of Kuakata consider that tourism is the cause of land, water, air, and noise pollution, as well as excessive water and power use and a rise in social problems and traffic accidents. Residents also express worry that the construction of hotels and tourism facilities have destroyed the natural environment and landscape of the region. Local communities get tourism-related jobs, but they do not get enough management-level jobs. Residents feel that tourism is already creating a variety of businesses in Kuakata that are contributing significantly to the local economy and changing their livelihoods. Thus, the concerns of the local community in Kuakata should be taken into account in order to make tourism sustainable in that location, as the local residents play an essential role in the development of tourism. Although agriculture and fishing were the main sources of the livelihoods of the locals, now tourism and tourism-related businesses are the main economic activities in Kuakata. Therefore, Kuakata in Bangladesh needs to make sure that tourism there is sustainable. Therefore, development policymakers, particularly the Bangladesh Tourism Board, should consider it and with the consultation locals in planning and making policies appropriately.

Even while this paper's research adds to the tourism research field, it is as vital to think about what other researchers could add in the future. More study is needed to learn about the locals' expectations and their levels of practice with sustainable tourism. The findings of this research will be useful for guiding sustainable tourism development and management in Bangladesh, in particular in the Kuakata region. Future studies may also look at how other factors, like climate change, affect sustainable tourism as well as local communities at Kuakata.

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