

## Local tourism initiative in an eastern Himalayan village: sustainable ecotourism or small-scale nature exploitation?

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### How to cite:

Datta, D. and Banerji, S., 2015: Local tourism initiative in an eastern Himalayan village: sustainable ecotourism or small-scale nature exploitation? In: Szymańska, D. and Rogatka, K. editors, *Bulletin of Geography. Socio-economic Series*, No. 27, Toruń: Nicolaus Copernicus University, pp. 33–49. DOI: <http://dx.doi.org/10.1515/bog-2015-0003>

**Abstract.** Many famous tourism destinations of the eastern Himalayas have become severely polluted and environmentally vulnerable due to decades of unsustainable mass tourism practices. The recent popularization of the so called 'ecotourism destinations' as alternatives to these degraded sites have raised considerable debate among academia, planners and decision makers regarding community based development and environmental conservation. In this study, the newly initiated tourism ventures of a mountainous village named Silerigaon located in this region were evaluated as a case study through participatory appraisals among tourists and local residents to comprehend whether these ventures could truly be termed as ecotourism initiatives. Results derived from the analyses of the primary data collected through these appraisals showed that although the area possessed pristine natural environment and excellent scenic beauty, lack of proper civic amenities and physical infrastructure was hindering the development of sustainable tourism. Here, tourism activities had notably contributed to the increase in annual savings of community members but these financial gains had not equally transcended to all spheres of sustainable community based development. Till now, the activities have lacked the systematic long-term planning required for sustainable ecotourism and nature conservation. Accordingly, these could not be designated as ecotourism activities in their present orientation and capacity. In this regard, several necessary corrective measures to transform these activities into proper ecotourism ones have been suggested.

### Article details:

Received: 18 December 2013

Revised: 30 April 2014

Accepted: 8 December 2014

### Key words:

community development,  
ecotourism,  
environmental conservation,  
participatory appraisal,  
sustainable tourism.

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## 1. Introduction

The tourism industry has experienced an unprecedented escalation in the number of tourist destinations, people involved and amount of capital flow during the past few decades (Ross, Wall, 1999; Grenčíková et al., 2013). In many countries, tourism accounts for a major proportion of Gross Domestic Product (GDP) and provides employment opportunities to millions of people. However, this rapid growth of tourism, specifically mass tourism activities, has also contributed towards environmental degradation and loss of the socio-cultural milieu of many destinations once regarded as pristine and serene (Green, 2005). The notion of sustainability has paramount importance in this context as, on the one hand, further growth of tourism is inevitable, and, on the other, most of these pristine and remote tourism destinations are becoming particularly vulnerable to environmental degradation. The increasing popularity and acceptability of the concept of ecotourism directly stems from these dichotomies as it has been widely cited as an economically viable and environmentally sustainable alternative to mass tourism (Cater, 1993; Vujadinović et al., 2013). Apart from attaining these dual aims, ecotourism can potentially enhance social cohesion and environmental awareness among community members, preserve cultural and natural heritages as well as minimize undesirable effects emanating from com-

mon tourism practices (Ondicho, 2012). In reality, substantial participation of local communities and their egalitarian control over and access to tourism revenues and resources are required to establish their activities as sustainable ecotourism ventures. However, local people of developing countries more often neither have these controlling rights nor the business and communication skills to initiate ecotourism ventures and subsequently sustain those in a liberalized market economy of the post-globalization era. In India, most of the so called 'ecotourism' ventures spreading from the southern tropical coasts to the northern alpine environs of the Himalayas are also suffering from the lack of these sustainability traits (Maharana et al., 2000; Sreekumar, Parayil, 2002). The monopoly of local elites over resources, alienation of ordinary community members from developmental decision making and decentralized governance as well as lesser attention towards management of environmental quality often make these ventures unsustainable and more akin to mass tourism activities (Ghosh, Datta, 2012). Hence, comprehensive as well as periodic evaluations of these ventures are needed before designating them as true 'ecotourism' endeavours.

In this regard, an attempt has been made in this paper to assess the actual status of the sustainability of the tourism endeavour of a remote mountainous village, locally known as Silerigaon, situated in the vicinity of Neora Valley National Park of India, using it for a case study and judging whether this

endeavour can be designated as ecotourism or not. An iterative and collaborative method of community based decision making has been adopted here to achieve these objectives. Three major groups of qualitative criteria were identified and used for this purpose. Firstly, the actual status of tourism practices of Silerigaon were analysed to determine how sustainable and eco-friendly these are. Secondly, the level of environmental conservation brought about by the tourism practices in the study area was assessed. Lastly, the impact of tourism on the socio-economic development of the whole community was evaluated to judge their societal benefits. Accordingly, a detailed review of existing literature on these aspects was performed first to identify the nature of sustainability criteria.

## 2. Review of the literature

Ecotourism has been defined as responsible travel to natural areas by which the local environment is conserved and the well-being of the local populace is improved (The International Ecotourism Society, 2009). Practice of ecotourism not only means conservation of nature, but also sustains indigenous cultures (Barna et al., 2011). In many ways, ecotourism is similar to sustainable tourism and nature-based tourism but is not exactly the same. In reality, sustainable tourism denotes a certain controlled form of tourism that does not exhaust all the available resources and does not hinder the possibilities to enjoy the same resources by future travellers. Conversely, nature-based tourism is a term with a comparatively broader meaning that includes any travel activity with a focus on nature and this may or may not become sustainable in the long-term (De Botton, 2003). Although ecotourism bears many of the characteristics of these two forms, more emphasis on the aspects of community development, heritage conservation and limiting scale factors considerably differentiate it from the other forms (Dearden, 2000). The primary criteria to designate any travel activity as a sustainable ecotourism venture are as follows: (a) minimization of negative impacts of tourism on nature and culture; (b) spread of environmental and cultural awareness; (c) provision of positive experiences for both visi-

tors and service providers; (d) generation of revenues to facilitate conservation; (e) ensuring the socio-economic well-being of the local community; and (f) emphasis on the infrastructure that has been developed in harmony with the local environment (King, Stewart, 1996). Thus, ecotourism ventures, by virtue of obeying these criteria, can never become mass tourism activities although the latter can be managed sustainably if planned and practised in an appropriate manner as exemplified in many North American cities (Weaver, 2001). However, initiation of mass tourism in environmentally fragile or protected areas is neither desirable nor legally feasible in most instances. In these places, the spatial and temporal extent of travel activities should be regulated, the amount of tourist inflow should be controlled, and conservation of natural and cultural heritage should be prioritized to maintain the naturalness (Urry, 1990). Accordingly, ecotourism activities are the most suitable mode of tourism to be practised in these areas, e.g. Silerigaon. Many similar sites in Europe have been recognized by the *United Nations Educational, Scientific and Cultural Organization* (UNESCO) for their successful ecotourism ventures like in the Central and Eastern Andalucían Littoral of Spain, in the Hateg Country of Romania, and, in the Dadia-Lefkimi-Soufli Forest Reserve in Greece (Barke, Towner, 2003; Svoronou, Holden, 2005; Barna et al., 2011). Here, the present study seeks to evaluate the actual status of tourism practices in Silerigaon based on these understandings.

## 3. Study area

Silerigaon, a pristine village nestled amongst the eastern Himalayas is located in the Kalimpong-II Community Development Block of Darjeeling District in West Bengal at an altitude of 1800 m (Fig. 1). The name 'Sileri' is derived from the name of a plant that grows in abundance in the region. This area also abounds in cinchona plantations, introduced in this region by the British during the colonial period, as a source of Quinine.

Being located on the southern slope of the Himalayas, Silerigaon has dry winter months, whereas in summer the precipitation is caused by humid mon-

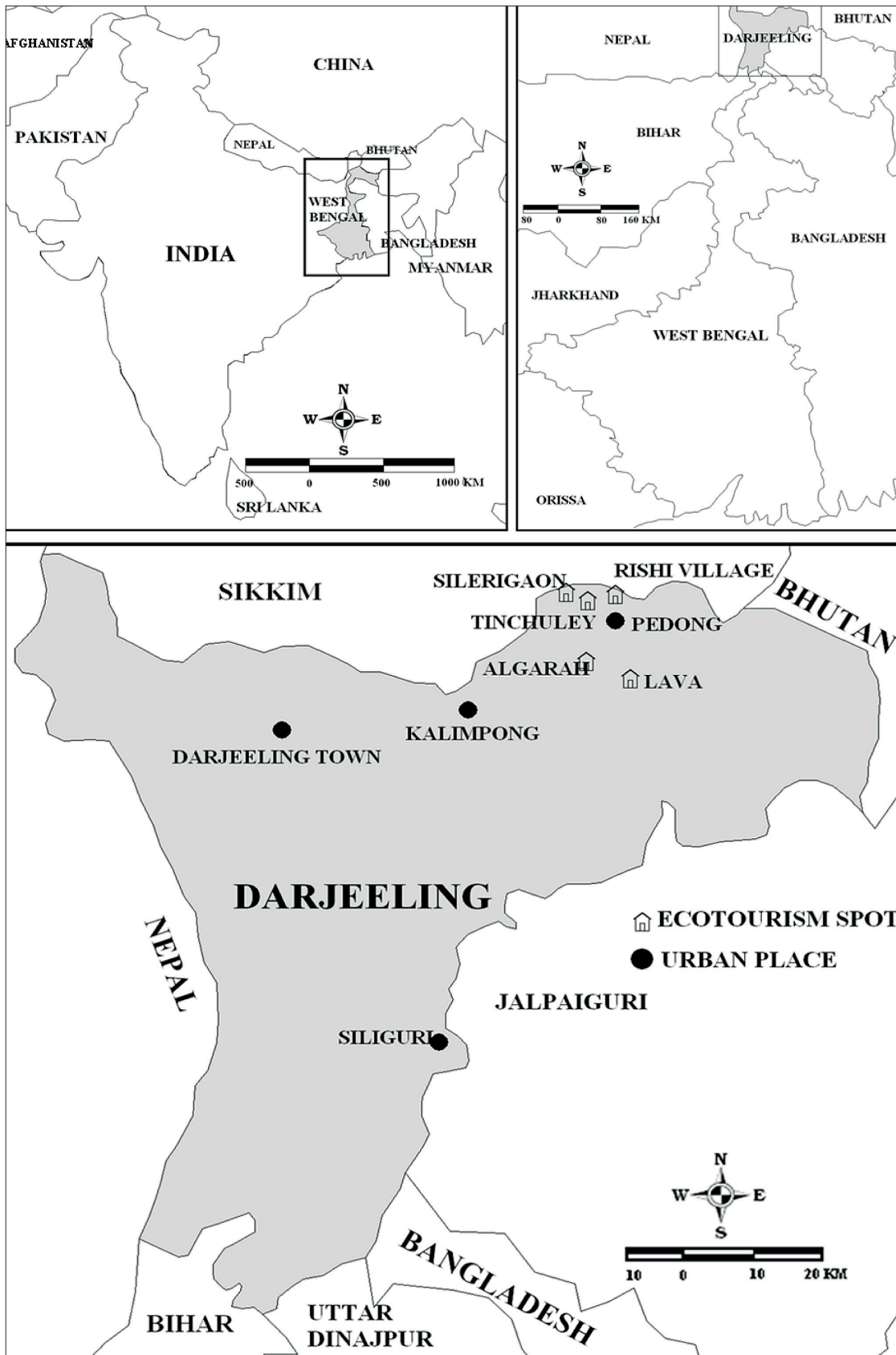


Fig. 1. Location map of the study area

Source: Authors' own elaboration

soonal air masses. The mean annual temperature of this region ranges between 10°C and 14°C and the annual precipitations range between 4000 mm and 6000 mm. Vegetation of the region is characterized by the tropical evergreen lower montane type comprising both broad leaved and coniferous varieties (Starkel, Basu, 2000).

There are 42 households in Silerigaon with a total population of 200 as found in the primary household survey of 2012. The majority of the villagers practise Buddhism whereas few households believe in Hinduism. Nepalese is the mother-tongue of the villagers. Apart from it, a small section of the villagers can also read, write and speak in Bengali, Hindi and English. The majority of the people of Silerigaon used to be cultivators before the initiation of tourism as their source of livelihood and some even worked as labourers in the nearby cinchona plantations. Of late, home-stay based tourism has become another important source of livelihood for the villagers.

Shrouded with tranquillity, Silerigaon offers a spectacular view of Mt. Kanchenjunga and this serene village is nowadays often called as the 'New Darjeeling'. The village can be reached by safari vehicles (capable of four wheel drive) through a 4-hour strenuous drive both from Kalimpong and New Mal Junction, the nearest railway station situated on the Kolkata-Guwahati route. The development of tourism in Silerigaon is a rather recent phenomenon. Depending entirely on the local endeavour, a few home-stays had started to provide accommodation, meals and trekking facilities since 2008-09. At present, almost 22 households are operating profitably as tourist home-stays with a total accommodation capacity of 70 tourists. Barring the monsoon months, the demand for lodging often exceeds the capacity and, consequently, tourists had to be shifted to other nearby tourist centres like Tinchuley and Pedong. The peak season for maximum tourist inflow has been identified as late October-November and February-April. The tourists visiting this remote village have mostly been of national origin until now but the numbers of international tourists are also rising steadily over the years.

There are quite a few tourist attractions in and around Silerigaon that draw tourists from various parts of India. Tinchuley is a wonderful hilltop vil-

lage near Silerigaon providing panoramic views of the Himalayas, the towns of Sikkim, mountain passes like Jelep La and Nathu La. Another picturesque location is Ramitey, which offers a magnificent view of the River Teesta along with the majestic Kanchenjunga Range. A major attraction for tourists visiting Silerigaon is the Sangchen Dorjee Monastery, a 300-year-old monastery in nearby Pedong town. The old section of the monastery is admired with some exquisite wall paintings and the major attraction of the new section is the mummified body of a highly revered Bhutanese priest. Reshi Bridge on the Reshi River, located 15 km from Pedong Bazaar is also a place for adventure sports like rafting, angling and bungee jumping. Aritar Lake is another splendid tourist spot located in neighbouring East Sikkim, which can be reached by trekking. In Silerigaon, tourists can also enjoy nature walks along the quaint landscape or may even trek to the sightseeing points of Tinchuley, Ramitey and Damsang Fort from the village.

## 4. Methods

The methods applied in this study include assessment of the status of tourism in Silerigaon, evaluation of the status of environmental conservation, appraisal of economic sustenance and finally formulation of management strategies to attain sustainable development. The study was carried out by the authors with the assistance of local undergraduate students from October, 2009 to November, 2012 on a once-a-year basis.

### 4.1. Assessment of the tourism status of Silerigaon

The process of assessment of the status of tourism practices in Silerigaon was primarily organized into two parts, i.e. study of opinions of tourists through a structured questionnaire and focus group discussions among local service providers associated with tourism. The questionnaire was designed accordingly to comprehend whether the tourism practices of Silerigaon were perceived by the tourists as eco-friendly ones or not as well as to determine

their likes and dislikes regarding the ambience of the local tourist spots (Deng et al., 2003). In addition, several interactive sessions of discussions were also conducted with different focus groups of local tourist guides, owners and employees of homestays and several tourist agents to identify the major impacts of tourism practices on the village economy and environment. They were also engaged for scoring those impacts accordingly through pair-wise comparisons (Mendoza, Prabhu, 2000). Rela-

tive importance ranks were then calculated through the application of the Analytic Hierarchy Process (AHP) (Golden et al., 1989). The scores of all pair-wise comparisons were arranged in a square matrix first and then the composite score ( $I_{CS}$ ) of every impact was calculated by dividing the arithmetic mean score of pair-wise analysis for each row by the sum of scores of pair-wise analysis for the corresponding column (Kang et al., 2002). The mathematical procedure is as follows:

$$I_{CSi} = \frac{\sum_{i=1}^m \left( \frac{S_{ij}}{\sum_{j=1}^m S_{ij}} \right)}{m} \quad (a)$$

Where,

$S_{ij}$  = Score of  $i^{\text{th}}$  row and  $j^{\text{th}}$  column of the square matrix of pair-wise comparisons

$I_{CSi}$  = Composite score of  $i^{\text{th}}$  major impact of tourism

$m$  = Number of major impacts of tourism ( $m > 1$ )

Under the AHP, analysis of the consistency status of responses collected by the study of pair-wise comparisons was also conducted. For this purpose, a consistency ratio (CR) was used which can be expressed as:

$$CR = CI/RI \quad (b)$$

Where,

CI = Consistency index

RI = Random consistency index

Here, CI was calculated from the following formula:

$$CI = (\lambda_{\max} - m) / (m - 1) \quad (c)$$

Where,

$\lambda_{\max}$  = Principal Eigen value of the square matrix derived from pair-wise comparisons

Conversely, RI is dependent on the size of the square matrix and its values were computed after Saaty and Kearn (1985). The results of the AHP can be taken as consistent if the value of CR is less than 10%, which means the response level is almost randomized.

Furthermore, local stakeholders were also asked to identify the major problems faced by them in developing tourism facilities in the village using a semi-structured questionnaire.

#### 4.2. Evaluation of the status of environmental conservation

Conservation of environmental qualities with respect to localized natural and cultural resources

and growth of ecotourism have an umbilical cord between them. Local economy depending on ecotourism can flourish by imposing charges and taxes on entrance, hiring of vehicles, parking of cars, wildlife tours, trekking trails, adventure sports, guiding services, cultural shows, etc (Tsaor et al., 2006).

If a considerable portion of the capital generated from these activities were effectively channelled to conserve the local environmental qualities, only then could a particular tourism venture safely be termed as ecotourism. Regarding the present study, an attempt was made to evaluate the environmental sustainability of Silerigaon from the perspectives of both tourists and local stakeholders. Structured and semi-structured questionnaires were used for this purpose. Firstly, residents from all the households were asked to judge the effects of tourism in increasing or decreasing the quantum of different environmental attributes in Silerigaon. Secondly, tourists were surveyed to assess the status of Silerigaon with respect to other ecotourism destinations of northern West Bengal in maintaining environmental qualities. Here, respondents judged the ecotourism sites by a 5-point Likert Scale (Tsaour et al., 2006).

#### 4.3. Appraisal of economic sustenance

In socio-economic terms, income from tourism can boost the local economy as well as support the administrative bodies to improve the status of physical infrastructure and the social well-being of the local population. Household surveys were performed on local stakeholders to rank tourism as a source of income with respect to other sources of livelihood available in the village surroundings through pair-wise comparisons. Regarding the assessment of the impact of tourism on the village economy and infrastructure, residents from all households were asked to score the major infrastructural facilities of Silerigaon by a 5-point Likert Scale in 2009 and 2012 to analyse the status of infrastructural development before and after the initiation of tourism in the village.

#### 4.4. Formulation of management strategies

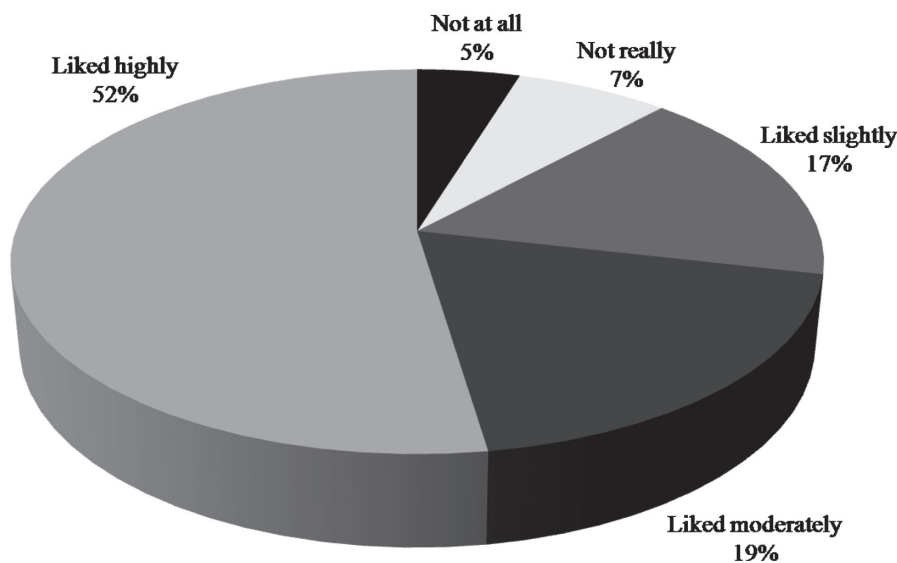
As an outcome of the study, major prospects and challenges of implementing sustainable ecotourism in Silerigaon were identified. Accordingly, a tentative framework of alternative management strategies regarding ecotourism was put forward keeping in view the needs for gaining economic prosperity and maintaining ecological balance.

## 5. Results

The whole study was conducted with the primary aim of identifying the status of environmental conservation and economic sustenance accrued through the ongoing tourism practices in Silerigaon and whether these practices could be termed as ecotourism or not. Consequently, the empirical and subjective analyses were subdivided into three parts, i.e. status of tourism practices, status of environmental conservation and levels of economic sustenance achieved through tourism activities. Here, particular attention was given to the assessment of the transformation in natural landscapes and the availability of natural resources and livelihood options to the community members of Silerigaon after the initiation of tourism practices.

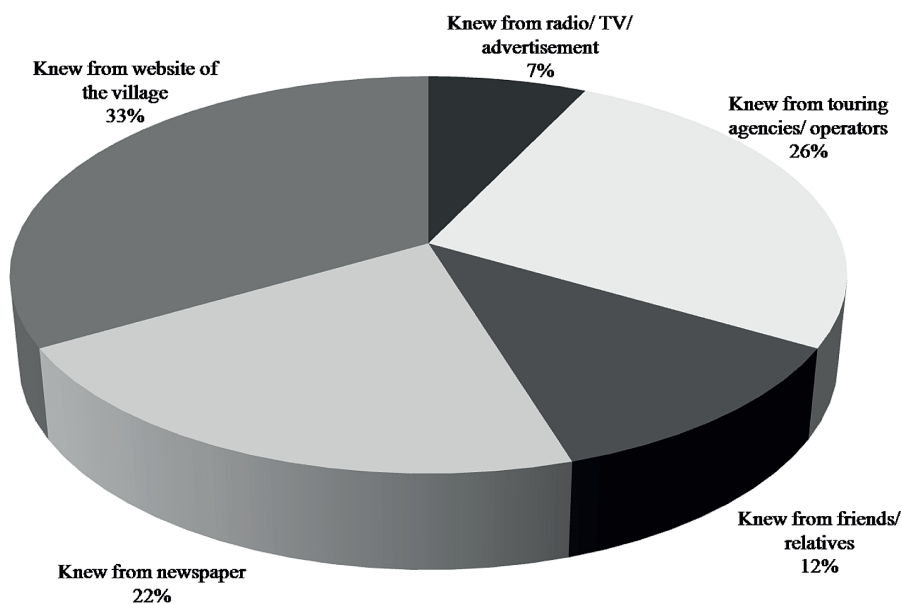
#### 5.1. Status of tourism practices

A total of 52 (80%) fully answered questionnaires of the original 65 distributed were collected from tourists, both of national and international origins, during the study period. The place was liked very highly by the majority (52%) of the respondents chiefly due to its serenity and tranquillity (Fig. 2). Moreover, an additional 19% also liked the place moderately, which meant that almost 71% of the responding tourists liked the ambience of Silerigaon. Conversely, only a mere 5% of the respondents did not like the place at all mainly due to its lack of proper tourism infrastructure. Regarding the source of information from which the tourists first came to know about Silerigaon, 33% of the respondents opted for the website of the village and 26% mentioned the role of touring agencies and operators (Fig. 3). Notably, another 22% also identified daily newspapers and travel magazines as the source of information. Therefore, the web-based promotion of this remote place along with the positive vibe in print media had been quite instrumental in attracting tourists and making direct contacts between tourists and community based service providers.



**Fig. 2.** Distribution of answers to the question: How much Silerigaon was liked by tourist respondents? (N = 52)

Source: Questionnaire-based Survey, 2009-2012



**Fig. 3.** Primary source of information on Silerigaon for tourist respondents (N = 52)

Source: Questionnaire-based Survey, 2009-2012

In the analysis of the status of tourism sustainability, thirteen major attributes were identified first from the focus group discussions with key informants. Subsequently, these were placed before the tourist respondents for scoring with respect to the existing conditions of these attributes in Silerigaon. According to the responses, only two at-

tributes obtained satisfactory to highly satisfactory scores ( $\geq 4$ ), viz. attractiveness of the natural landscape and housing conditions of the home-stays (Fig. 4). Attributes like scope for outdoor activities, performance of local guides, scope for relaxation and quality of drinking water achieved moderately satisfactory scores (3-4). Here, apart from the at-



tribute dealing with drinking water, all others were not associated with the physical infrastructural provisions. These were mostly related with either the natural landscape or the services provided by few community members. Even the attribute dealing with drinking water obtained a comparatively higher score (3.429) mainly because of the availability of non-polluted freshwater from perennial springs (*Jhoras*) and rivulets flowing from the mountains. However, attributes primarily associated with the

physical infrastructure of Silerigaon obtained very low scores (< 2) indicating less satisfactory to not at all satisfactory status. These were probably due to the fact that while the natural landscape, pristine environment as well as cordial behaviour and efforts of local community members had attracted and pleased incoming tourists, severe lack of minimum civic amenities (e.g. medical, sanitation and transportation facilities) in the village had harmed the prospects of tourism development.

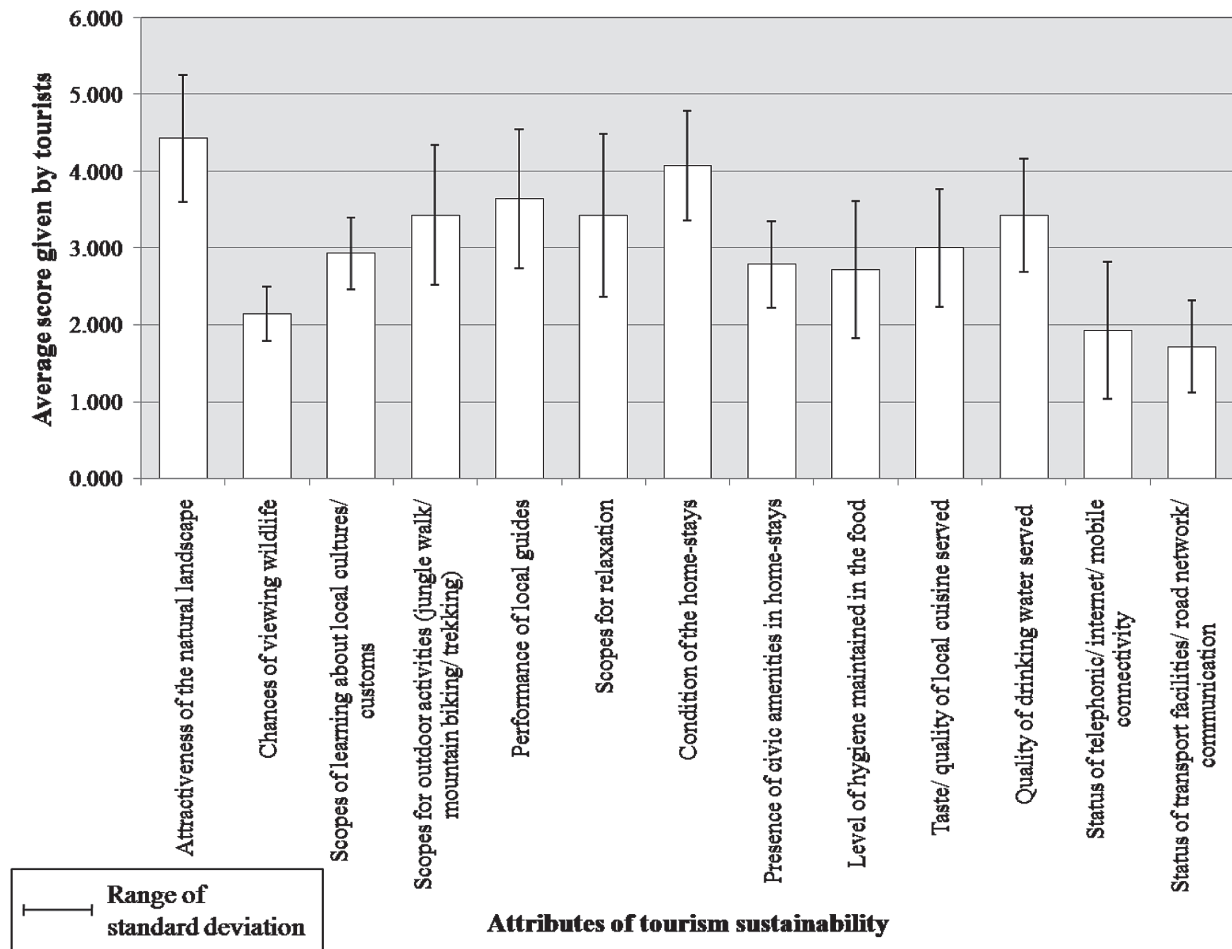


Fig. 4. Attributes of tourism sustainability ranked by tourist respondents (N = 52)

Source: Questionnaire-based Survey, 2009-2012

However small and lacklustre the tourism activities of Silerigaon were, these could only be termed as sustainable ventures if the community members experienced a noteworthy positive impact of these on their socio-economic well-being and provision of civic amenities. Among all the six major impacts of tourism on the village economy

and environment identified by the key informants (N = 42), the scope for new job creation obtained the highest composite score (0.287) through pairwise comparisons and subsequently the highest rank (Table 1). This was followed by preservation of local customs (0.199) and conservation of natural landscape (0.167) respectively. Notably, devel-

opment of tourism did not exert any considerable impact either on the development of infrastructure or on the conservation of wildlife according to the key community members. Here, a test of consistency of their responses was performed using the computed  $\lambda_{\max}$  (6.379) for the square matrix ( $m = 6$ ) of pair-wise comparisons. The value of CR was calculated as 0.061, which was less than 10%, meaning the results of this analysis could be taken as consistent and reliable. In this regard, it became imperative to identify the major problems faced by the community in implementing tourism in a sustainable manner so as to comprehend the

real challenges and obstacles for initiating ecotourism in Silerigaon. Here, the absence of proper physical infrastructure in the form of electricity, transport facilities, fuel sources and most importantly, shortage of funds to upgrade these facilities were again pointed out as the prime hindrance to sustaining ecotourism (Table 2). Thus, it could be inferred from these analyses that although tourism had enhanced the scope for creation of jobs and conservation of nature, the positive effects and financial gains of tourism had not equally transcended to all spheres of sustainable development of Silerigaon.

**Table 1.** Major impacts of tourism practices on the village economy and environment

A	B	C	D	E	F	G	H	I
Job creation	1.000	2.250	1.500	2.500	2.000	3.000	0.287	1
Infrastructure benefits to community	0.444	1.000	0.286	0.400	0.462	0.571	0.076	6
Conservation of natural landscape	0.667	3.500	1.000	1.500	0.800	0.571	0.167	3
Wildlife protection	0.400	2.500	0.667	1.000	0.571	0.462	0.114	5
Preservation of local customs/ traditions	0.500	2.167	1.250	1.750	1.000	2.500	0.199	2
Popularization of local cultural traits in the outer world	0.333	1.750	1.750	2.167	0.400	1.000	0.156	4
Sum	3.344	13.167	6.452	9.317	5.233	8.104	-	-
$\lambda_{\max} = 6.379$			CI = 0.076			CR = 0.061		

Explanation: A - impact; B - job creation; C - infrastructure benefits to community; D - conservation of natural landscape; E - wildlife protection; F - preservation of local customs/ traditions; G - popularization of local cultural traits in the outer world; H - Composite score; I - Importance rank; 1 = Equal importance; 5 = Five times more importance; N = 42

Source: Household Survey, 2009-2012

**Table 2.** Major problems faced in implementing tourism in the village

A	B							C	D
	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	Rank 7		
Shortage of land for infrastructure	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	12 (28.57%)	20 (47.62%)	10 (23.81%)	5.952	7
Shortage of funds for infrastructure	30 (71.43%)	8 (19.05%)	4 (9.52%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	1.381	1
Poor status of electricity	5 (11.90%)	16 (38.10%)	18 (42.86%)	3 (7.14%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	2.452	2
Poor status of transportation facilities	6 (14.29%)	15 (35.71%)	12 (28.57%)	4 (9.52%)	4 (9.52%)	1 (2.38%)	0 (0.00%)	2.714	3
Shortage of fuel sources	0 (0.00%)	3 (7.14%)	7 (16.67%)	13 (30.95%)	8 (19.05%)	3 (7.14%)	8 (19.05%)	4.595	4
Shortage of drinking water	1 (2.38%)	1 (2.38%)	4 (9.52%)	5 (11.90%)	13 (30.95%)	14 (33.33%)	4 (9.52%)	5.048	6
Lesser level of awareness of people on tourism and language problems	0 (0.00%)	0 (0.00%)	8 (19.05%)	12 (28.57%)	9 (21.43%)	10 (23.81%)	3 (7.14%)	4.714	5

Explanation: A - major problem faced; B - number of respondent household(s) assigning; C - average rank; D - Adjusted rank; Number within parentheses denotes percentage of households; N = 42;

Source: Household Survey, 2009-2012

### 5.2. Status of environmental conservation

In order to assess the overall status of environmental conservation and eco-friendliness of tourism activities in Silerigaon, perspectives of the local stakeholders and the tourists were studied. Members from all the households were asked to evaluate the positive and negative impacts of tourism on different environmental attributes (Fig. 5). Among all, 64% of the respondents were of the opinion that despite the growth of tourism in Silerigaon, the amount of forest cover had increased during the last decade and even 52% of the respondents stated that as a consequence of increasing forest cover, their income from the sale of forest products had also increased. Notably, 88% of the stakeholders mentioned that instances of wildlife hunting in Silerigaon had become very rare nowadays; yet

71.43% pointed out that the number of wildlife in and around Silerigaon had decreased. According to them, this apparent anomaly could be due to the accentuated level of human interference in the local forest environment in the form of nature walks, treks and camping incidents. Moreover, the majority of the respondents pointed out that the flow of fresh water in springs (73%) as well as the availability of non-polluted water (59%) in the area had considerably decreased in the past 10 years. However, most (95%) of the respondents admitted that facilities for nature conservation through tourism had increased in recent times. This finding was also supported by the statement of the majority of respondents (61%) that efforts of the local community for management of soil erosion in the area had amplified. Hence, this could be taken as a positive sign towards growing synergy among community members and the direct impact of initiating tourism in the village.

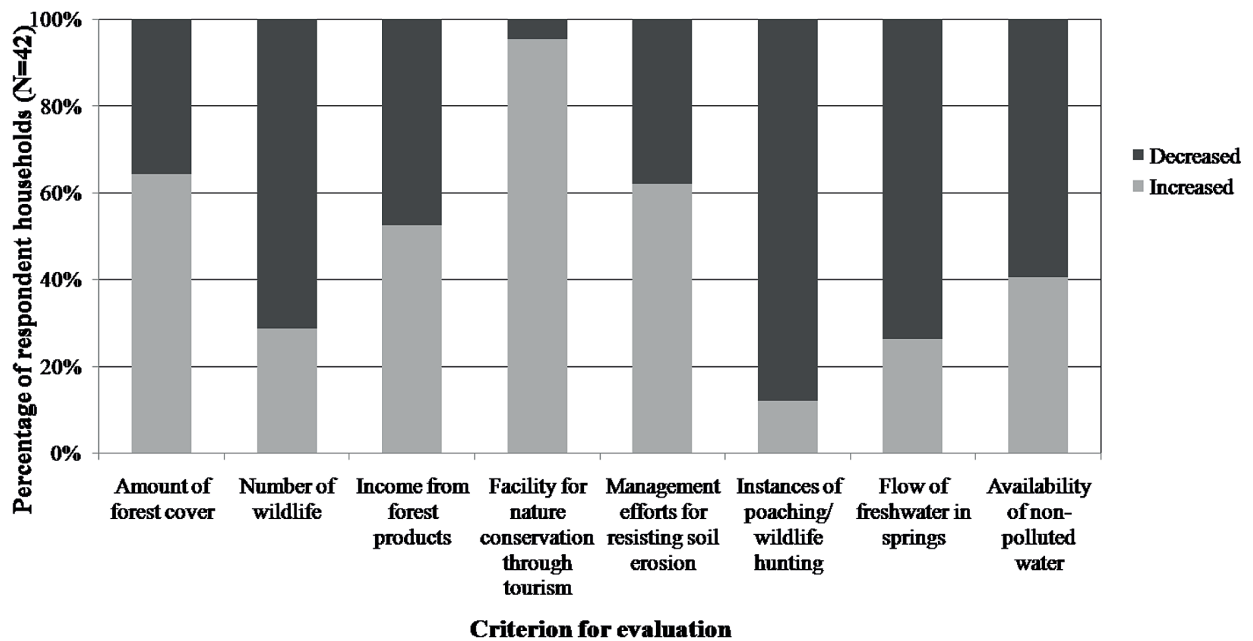


Fig. 5. Changing status of environmental attributes in the last 10 years (N = 42)

Source: Household Survey, 2009-2012

In a separate query, the tourists ranked Silerigaon on a five point scale with respect to ten environmental attributes according to their level of contentment and also identified the best sites in the northern part of West Bengal regarding these attributes (Fig. 6). It could be seen from their perception scores that over-

all scenic quality, presence of forest cover and quality of air of Silerigaon had achieved moderately good scores compared to the scores of the best sites. However, Silerigaon could not meet the optimum satisfaction level of the tourists with respect to the flow of natural water in springs, availability of non-pol-

luted water, lesser level of visual pollution and status of biodiversity. Moreover, its average score achieved with respect to instances of soil erosion was also extremely poor as compared to Lolegaon. This could be attributed to the practice of intensive subsistence farming on the hill terraces and burning of forest floors for generating livelihoods prior to the initiation of tourism in Silerigaon. Decades of this unsustainable terrace farming had aggravated soil erosion in the area. The score of Silerigaon regarding chanc-

es of viewing wildlife was also quite low compared to Neora Valley Camping Site. However, lesser instances of poaching had been noticed in Silerigaon and in this respect its score was on a par with the best site, i.e. Buxa Tiger Reserve. Thus, it became evident from these analyses that although Silerigaon had the potential to grow as a viable eco-tourist spot in North Bengal, lack of appropriate environmental planning and management was often hindering the possibilities of its sustenance.

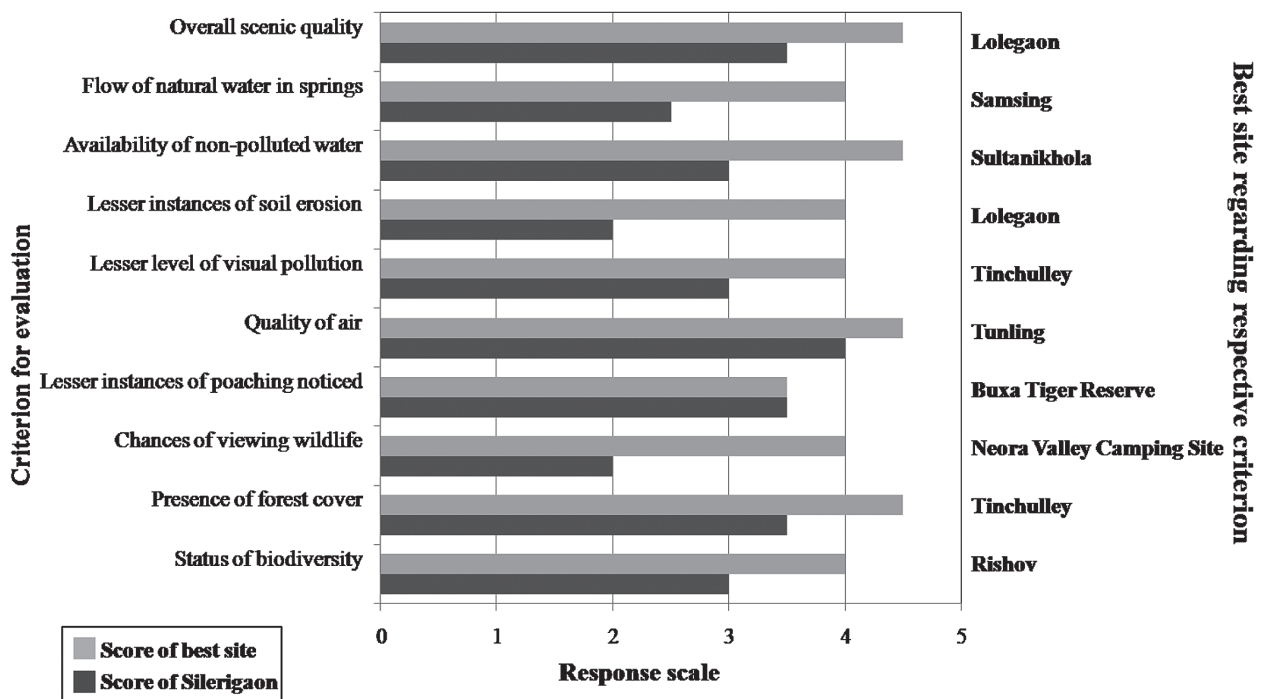


Fig. 6. Perception scores of Silerigaon regarding environmental attributes with respect to the best site (N = 52)

Source: Questionnaire-based Survey, 2009-2012

### 5.3. Levels of economic sustenance achieved

The inevitable aspect of evaluating tourism sustainability of any locality is to know about the economic benefits reaped through it. Moreover, these benefits should reach all sections of the local community across the social fabric homogeneously to make the venture socio-economically acceptable and feasible in the long run (Tosum, 2005). Regarding Silerigaon, tourism activities were found to be a secondary source of livelihood for most of the community members even after three years of initiating tourism. Forestry, labouring in cinchona plantations and

terrace farming were identified as the primary livelihood options (Table 3). However, younger people and women were found to be more engaged in tourism services as they worked as cooks, guides, drivers and managers in the home-stays. In their opinion, share of tourism revenues in their total annual income had been escalating steadily year after year. Consequently, more community members were becoming interested in participating in these activities and thus tourism was gradually becoming one of the major sources of livelihood. These findings could be taken as reliable and consistent across the whole community as the value of CR was calculated as 0.017 in this regard, i.e. less than 10%.

**Table 3.** Tourism as a source of income with respect to other sources of livelihood available in the village surroundings

A	B	C	D	E	F	G	H	I
Tourism	1.000	0.400	0.286	2.500	0.750	2.500	0.118	4
Agriculture	2.500	1.000	0.500	4.500	2.000	4.500	0.249	3
Forestry	3.500	2.000	1.000	4.500	3.000	5.000	0.745	1
Business	0.400	0.222	0.222	1.000	0.286	1.000	0.100	5
Labour in cin- chona planta- tions	1.333	0.500	0.333	3.500	1.000	3.500	0.277	2
Others	0.400	0.222	0.200	1.000	0.286	1.000	0.099	6
Sum	9.133	4.344	2.541	17.000	7.321	17.500	-	-
$\lambda_{\max} = 6.104$				CI = 0.021			CR = 0.017	

Explanation: A – impact; B – tourism; C – agriculture; D – forestry; E – business; F – labour in cinchona plantations; G – others; H – composite score; I – adjusted contributing rank with respect to village income; 1 = Equal importance, 5 = Five times more importance; N = 42

Source: Household Survey, 2009-2012

Sustainable tourism ventures generally have considerable multiplier effects on local and regional economies by enhancing per capita income, purchasing power and most importantly socio-economic capital for improving infrastructure (Tsaur et al., 2006). For this purpose, scores were generated from the responses of the community members in 2009 and 2012. Averages of these scores and their percentages of annual increases for the two study years were then computed to realize the impact of tourism on various sectors of development (Table 4). In 2009, all the development criteria except supply of water (2.00) and food security (2.00) obtained very low scores indicating the dismal status of development. In fact, the comparatively better score of the food security related criterion was probably the effect of subsistence based terrace farming (rice, maize, cabbage, etc) occurring in the village surroundings as this helped immensely in providing staple foods for the majority of the tiny village community. However, the introduction of tourism did bring some noteworthy changes in the economy and infrastructure of the village as revealed in the scores of 2012. Here, all the criteria except medical services (1.500) exhibited moderate to higher status of development. The direct benefits of tourism could be viewed in the increased levels of annual savings (4.500) and food security (3.00) as well as growth of communication networks (3.00). Notably, only three criteria, i.e. communication (83.333%), amount of annu-

al savings (66.667%) and availability of electricity (50%) showed higher rates of growth between 2009 and 2012. As tourism flourished in Silerigaon, public and private mobile telecommunication operators established network towers in the village leading to superior communication facilities. Similarly, electricity had become available in the form of solar power in most of the home-stays as a result of tourist demand. However, the most important aspect of developing tourism with respect to social well-being was the considerable increase in the amount of annual savings of community members. Conversely, several basic development criteria like transportation and roads (2.000), medical services (1.500) and educational facilities (2.000) did not accrue such satisfactory scores indicating a very low status of development. This was similar to the findings of section 5.1 as individual monetary gains did not induce the production of socio-economic capital and resources. Although it was not possible to observe the desired transformation of financial benefits of tourism into common property resources (CPRs) only within a three-year time-span, it could be safely predicted that growth of tourism would certainly bring basic civic amenities to this remote village in the imminent years. For that purpose, egalitarian distribution of tourism revenues among every effective member should be ensured. However, most of the tourism revenues generated so far had been found to be amassed within few influential families at present.

**Table 4.** Impact of tourism on the village economy and infrastructure of Silerigaon

A	B	C	D	E
Transportation and roads	1.000	2.000	33.333	Low
Communication	1.000	3.500	83.333	Very High
Medical services	1.000	1.500	16.667	Low
Schools and education	1.500	2.000	11.111	Very Low
Supply of water	2.000	3.000	16.667	Low
Availability of electricity	1.000	2.500	50.000	High
Food security	2.000	3.500	25.000	Low
Amount of annual savings	1.500	4.500	66.667	Very High

Explanation: A - Criterion of evaluation; B - Score before initiation of tourism (2009); C - Score after a few years of initiating tourism (2012); D - Percentage of annual increase in the score; E - Rate of development; 1 = Very low status of development, 5 = Very high status of development; N = 42

Source: Household Survey, 2009-2012

## 6. Discussion

Silerigaon is located amidst one of the most environmentally fragile zones of India, i.e. the eastern Himalayas (Tse-ring et al., 2010). Many renowned tourist spots (e.g. Darjeeling, Kalimpong, Pelling, Gangtok, etc) of this part of the Himalayas have already become vulnerable in terms of quasi-natural disasters (Mukhopadhyay et al., 2012). Therefore, sustainable management of the natural environment of these areas is the immediate task and cannot be achieved without appropriate attention towards multidimensional aspects of local community, resources and tourism interactions. In the case of Silerigaon, tourism is rapidly emerging as a prospective livelihood option by creating new jobs and enhancing village revenues. Consequently, the occupational structure of the village population is also transforming, which is quite typical of a budding tourist spot (Akama, 2000). The owners of the home-stays have performed a praiseworthy job in promoting the village as a viable ecotourism destination through print and electronic media. At the community level, socially cohesive bonds have been observed among the members, which could be taken as a major impetus towards community based ecotourism development. However, these positive aspects and capital generated through tourism have still not asserted any notable impact in upgrading the village infrastructure. This is evident from the severe lack of medical and transportation facilities as well as the lesser number

of educated members in the community affecting both the tourists and service providers in a dreadful way. Efforts towards conservation of nature and natural resources were also found to be minimalistic as revealed in the study. Until now, the natural environment had acted as the most attractive aspect of Silerigaon. However, environmental qualities are bound to deteriorate if the uncontrolled growth of tourism and absence of proper environmental management by the community persist for long (Ghosh, Datta, 2012). An apt example of this could be the case of availability of non-polluted water in the village. Though tourists had not been complaining about the quality and quantity of drinking water until recently, they also mentioned that it was not up to the mark with other ecotourism sites of northern West Bengal. This observation was also supported by the community members as they pointed towards the gradual reduction in the amount of fresh water flow in springs in recent times. Similarly, conservation of wildlife was not found to be an active part of communities management agenda. These shortcomings could become disastrous in terms of tourism development in Silerigaon in the long run. However, efforts towards resisting soil erosion have already been initiated in the village and this should lead to the successful implementation of other conservation measures in future.

Regarding the designation of tourism activities of Silerigaon as ecotourism, it could be stated that although community efforts were present in initiating and managing tourism in the village, subsequent

measures towards environmental conservation and socio-economic well-being are still not implemented with adequate vigour. Moreover, community efforts lack the coherency and long-term vision required for ecotourism development. Hence, these activities could not be termed as ecotourism initiatives in the truest form and definition at present but these have all the entailed potential to transform into the same in the near future if appropriate measures are taken. For example, the present model of accommodating tourists in household-based home-stays should be kept intact to ensure egalitarian distribution of revenues across the community. The necessary funding for establishing the minimum civic infrastructure in this area could become available from the West Bengal Tourism Development Corporation (WBT-DC) if appropriate campaigning and development proposals are put forward. Here, large scale commercial development like other tourist destinations of northern West Bengal is neither ecologically permissible nor socially desirable for the local community. Only tourists willing to bear the hardship of rudimentary facilities of village life for the sake of experiencing undisturbed natural beauty would then visit the village as a true ecotourism destination (Urry, 1990). In addition, the following management guidelines, formulated in consultation with the community members, should be followed stringently for ensuring the ecotourism status of Silerigaon: (a) a community based tourism management institution or cooperative should be established in the village to administer all the tourism related activities and infrastructure development; (b) the illegal and ecologically harmful activity of forest floor burning should be ceased immediately for the purpose of landscape and biodiversity conservation; (c) in spite of the fact that Silerigaon receives a considerable amount of precipitation annually, rainwater harvesting and treatment facilities should be created in every home-stay for serving purified water to the tourists; (d) an all-weather metalled road linking Silerigaon with major regional towns should be constructed immediately; (e) practices of mulching, planting of erosion resistant native grasses and trees in landslide prone areas should be given priority; (f) a proper waste disposal system for the whole village should be established to enhance the overall scenic quality; (g) appropriate training on tourism entrepreneurship development and environmental

awareness should be made available to community members.

## 7. Conclusion

This paper has tried to unearth the intricacies and actual ground condition of a tourism venture superficially regarded as community based ecotourism in popular media and traveller domains of India on a case study basis. Here, tourism development has undoubtedly ushered economic growth into the village but that has not transcended equally across the social fabric. Inequitable distribution of wealth generated through tourism among the social hierarchy and power structures within the village community and lesser synergy with the external market and society have hindered its development as ecotourism. Moreover, this study has also revealed that matters of environmental conservation have never been regarded as priorities in the community based developmental activities except in a few instances. For these reasons, tourism activities of Silerigaon have to be modified considerably from its present orientation and capacity to accommodate the qualities of true 'ecotourism' endeavours. In its present format, it could only be designated as a small-scale rural tourism initiative entirely thriving on the exploitation of local natural resources. Regarding the methodology followed, quantitative appraisal of economic benefits accrued by the tourism activities in monetary terms could not be performed here as qualitative assessments based on life experiences of community members and feedback of visiting tourists on this mountainous ecosystem were given emphasis in the empirical design of the study. Future in-depth studies incorporating more refined methods of assessment and periodicity especially from the stakeholders' side will definitely strengthen the quest of local communities in conducting sustainable tourism in the long run in this tiny Himalayan village.

## Acknowledgements

We are grateful to all the community members of Silerigaon, tourists and tourism operators for par-

participating in this study and providing relevant information. We also want to thank all the local students without whose direct assistance this work would remain incomplete.

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