ECO Tourism in Sunderbans...A Life Line For Local People and the Ecology

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Abstract: Environmental concern is an integral part of human society which can be traced to the practices of the old civilization. In old civilization it was believed that the existence of human race is inseparably linked with the grace of surrounding environment. Industrial revolution gradually brought a change in this perception. Advanced technological knowledge, man started to think that he can modify the environment according to his command. Now, need based development of the pre-industrial era have been replaced by greed based development which is marked by the thoughtless consumption of resources by the society. This resulted in ugly and degraded environment. This is crucial moment where in one hand man is making rapid progress in technological progress whereas in the other hand environment is left to degrade at an alarming rate. Nature has been vanquished at the cost of human progress, thereby putting the very existence of human society at stake. Forests have become the most vulnerable area on the earth’s surface because of human trespassing in terms of sustainable forest exploitation, clearing the forest for various types of crops, mining, industrial development, construction of dams etc. The largest inter-tidal mangrove forest in the world and the home of the majestic Royal Bengal Tiger, Sundarban is also no exception from this lunatic destruction. This region criss-crossed by innumerable water channels or rivers. It’s high time to conserve this fragile ecosystem of Sundarban. Conservation steps put to an end to forest exploitation but it creates another problem. The local community which depended entirely on the forest is now in utter poverty. Their sustenance will be at stake if conservation steps fail to create alternative employment for the local people. Ecotourism has been the savior of conservation efforts of this delicate ecosystem as well as provide employment opportunity to the local people. These intend to resolve the various serious problems related to the local community, their ownership rights and conservation of natural resources and recognition of the strong ethical dimensions and survival spirit of the local community in a changing world where Ecotourism can prove life supporting apparatus as it works at local scale incorporate landscape and people- scape in particular. This paper emphasizes on the concept of ecotourism, different issues related to promote local economy, socio-cultural changes and life style of the people settled in and around the tourist locations, challenges related to opportunities and weakness of ecotourism as well its impact on development of socio economic condition of the socially challenged regions.

Keywords: Ecotourism, Socio-cultural changes, Exploitation, Economy

1. Introduction

Ecotourism has transformed over the past decade from unique to mainstream status. All travel professionals is buzzing the term "ecotourism". Since the early 1900's when an environmentalist, while visiting a shooting range in Africa, had a pioneering realization - sometimes more economic value can be derived from leaving a place of natural beauty intact for all to enjoy, instead of using the land for agriculture, mining, or commercial development. One hundred years or so later, ecotourism has come to be known as an ecologically, morally and ethically preferred form of tourism that, if done correctly, optimizes cultural and ecological benefits, while providing the tourist with an inspiring experience and the ecotourism provider with more economic benefit as cited by Jen Boulden, Ramon Escudero, and Bradley Weiss (2003).

One important contribution in the ecotourism framework came from Community-based Ecotourism of Kersten (1997) who defined Community-based Ecotourism as a kind of nature tourism wherein the local community maintains full (or major) control over the management and the profits of the project. The emphasis of this strategy is community development and participation of the marginalized sector (including indigenous groups) rather than on regional or national development. It also has the following aims:

- To help preserve ecosystems and natural areas (usually already within protected areas) with a high tourism potential;
- To cultivate environmental consciousness among the local population by educating them about the dangers of overexploiting resources and unrestricted number of tourists;
- To promote new economic incentives, e.g. selling of local (environmentally safe) products, crafts, and cultivated medicinal plants thereby create some entrepreneurial skills;
- To ensure communal ownership and control, and that part of the profits flow into community development programs rather than into personal enrichment; and
- To foster a feeling of pride and community through a revival or preservation of "traditional" practices and cultural techniques.

2. Objectives

- Is to sensitize the tourists about conservation of nature and natural resources
- To opening up avenues for employment opportunities and various other economic activities of income generation for the local community. This will benefit the local community by bringing about socio-economic development in the area
- The guarantee of environmental security less dependence on ecology for income.
Sundarban is a tourists' paradise. Every year thousands of tourists flock to this mangrove tiger-land. The name ecotourism is already well known in Sundarban. This study analyses the strengths, weaknesses, opportunities and threats (SWOT) of the existing tourism/ecotourism condition in Sundarban and how it can be improved in accordance to the National Ecotourism Policy and Guidelines (1998).

3. Demography of Sunderbans

Physiographical, the entire coastline may be subdivided into three principal coastal zones, such as:-

- From the mouth of Harinbhanga river to the mouth of Hugli river, known as the Sundarban Delta Zone (Eastern sector);
- Saline tidal regime of the Hugli river, stretching up to Kulpi Point and the Haldia Port (Central Sector);
- Digha-Junput coastal plain along the sea (Western Sector).

But areas for intensive coastal tourism in West Bengal could be distinctly divided into two major zones, such as –

- Digha-Shankarpur zone in Purba Medinipur - District (Destination: Digha / Shankarpur/ Tajpur / Mandarmoni/ Junput/ Gopalpur), and
- Sundarban in South 24 Parganas District (Destination: - Sagar Island / Haribhanga Island Bakhkali / Frazerganj / Henrys Island / Jambu Island / Kolas Island etc

- The extent of mangrove reserve forest in Sundarban is around 4260 sq. km, out of which 55 % is under land vegetation cover & balance 45 % is under water body / inter tidal zone. Nearly 40 % of the reserve forest area...
has been brought under Protected Area networks (PA) as follows:

a) Area of Sundarban National Park: 1330 sq.km.
b) Area of Sajnekhali Wildlife Sanctuary: 362 sq.km.
c) Area of Lothian Wildlife Sanctuary: 38 sq.km.
d) Area of Haliday Wildlife Sanctuary: 6 sq.km.

4. Major Attractions of Sunderbans Ecology

4.1 Mangrove Forests of Sunderbans

The study was conducted in the Indian part of Sundarban. The delta of Sunderban and its mangrove forests showcases highest mangrove diversity. This is also the only mangrove tigerland of the planet. Due to both natural and anthropogenic reasons the Indian Sunderban has shrunk a lot during last 200 years. The mangrove ecosystems of Indian Sunderban contribute greatly towards coastal fishery of eastern India, apart from its immense tourism value. Thus it has become important to understand this mangrove ecosystem under changed conditions and take steps for sustainable use of this valuable resource. Sunderban is endowed with a rich flora and fauna. This mangrove forest has about 64 plant species which has more than 90% of Indian mangrove species. The core area of Sunderbans mangrove forest area is also conserved as "World Heritage Site" as designated by the IUCN in the year of 1989. The main trees and big shrubs of the area are "Bain", "Keora", "Garan", "Garjan", "Genwa", "Khali", "Bakul", "Karkra", "Dhundul", "Pasur", "Sundari", "Hental", "Golpata"

4.2 King of Sunderbans-Royal Bengal Tiger

60% of total Indian mangrove area which supports the maximum number of tigers in a single patch among the tiger reserves of the country. The amphibian tiger population, which is estimated to be over 260 in number here, has distinct behavioral patterns and this makes Sunderban Tiger Reserve special from the other tiger reserves of the country. The Royal Bengal Tiger is the king of this forest and it occupies the pinnacle of both the terrestrial and aquatic web. There are also Cheetal, Wild Boar, Rhesus Macaque, Fishing Cat etc.

4.3 The Acquatic Fauna

The creeks of Sundarban form the home of estuarine crocodile, the only surviving member of the Jurassic time. The aquatic fauna includes Gangetic Dolphin, River Terrapin (Batagur Baska), Olive Ridley Turtle, Green Turtle, Hawk's turtle, and different species of crabs, prawns, lobsters and fish.
4.4 Arial Majesty

To add to colour and melody there are birds like Rose ringed Parakeet, Crow Pheasant, Pied Myna, Drongo, Bulbul, Tailor Bird, Magpie, Robin, Brahmini Kite, Spotted Dove, Adjutant Stork etc.

4.5 Impact of Local Economic Conditions on Ecology

The Sunderbans are a very remote and underdeveloped area. The people use the natural resources like paddy straw, mud and wood to build their houses. Electricity, sanitation and communication are non-existing, but slowly the situation is improving. For example the footpaths, which are very muddy during the rainy season, have now been paved. But still important infrastructure is lacking in many places, medical treatment for example still mostly is provided by herbal doctors.

The majority of tourists are only Indian compared to foreign tourists contributing only 1% of total visitors.
4.6 Traditional Livelihood-Threat For Ecosystem

The traditional livelihood of the local people is mainly fishing or prawn catching. The Sunderbans are the main source of fishery products for Eastern India. Agriculture yields only one crop per year due to saline conditions. Thus people are depending directly on the forest or forest based resources, what means severe threats for the fragile ecosystem.

5. Methodology of Study

The methodology used for this study was secondary research in the form of questionnaire survey of tourists, tour operators, Forest Department officials and local people. Analysis also includes group discussions, secondary data collection from Forest Department, hotels and lodges as well as by direct observation.

5.1 CONSTITUTION OF INDIA ensures the protection of Environment, Forest & Wildlife

The relevant articles for preserving nature through sustainable development:

Part N - Directive Principles of State Policy - Article 48An states that Protection and improvement of environment and safeguarding of forest and wildlife

Part IVA -. Fundamental duties - Article 51A (g) - To protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures.

2) Indian Forest Act, 1927
2) Indian Forest (West Bengal Amendment) Act, 1988
5) The Environment (Protection) Act, 1986
6) Coastal Regulatory Zone Rules.
7) Rules & regulations of Environment Deptt. Regarding environmental pollution
8) Fisheries Act of West Bengal Govt

5.2 Jungle Camps-A Promotional And Conservational Tool For Ecotourism To Reduce Man-Tiger Conflict In Sunderbans

The Sunderbans Tiger Reserve Management and the WWF India West Bengal State Office has taken special steps to find out ways and means for sustainable development of the village of Bali with the help of local dynamic young men. Help Tourism, an organization working for development of Community Tourism that supports the process of conservation has also joined hands. A demonstration project - Sundarbans Jungle Camp - a low cost tourism infrastructure involving local people is developed to be replicated by other villagers. Help Tourism followed the strategy to offer exclusive accommodation in ethnic style and good local food and service. Local staff is trained accordingly and a concept for an eight bungalow resort was developed. Initially the land for the demonstration project was given by Bali Nature and Wildlife Conservation Society, who is also a partner of the project. The money for the establishment of the ecotourism infrastructure was provided by Help Tourism. The company invested more than 50,000 USD, a part of this amount was support, soft loans or donations from patrons, friends and well-wishers. So far six of the eight cottages have been finished; the camp started operating in 2002. Additionally to the camp a boat had to be purchased to provide transfer and excursions to the Nationalpark for the guests. This has turned Bali into a tourist destination. The model will gradually be picked up by the other villages, thus supporting a large tourist inflow to the world’s largest mangrove forest.

The effort is not just to develop a tourism destination but to allow villagers an alternative source of income so that intrusion into the forest declines. It will have a direct impact on the forest as well as local villagers will turn
protectors rather than poach. Visitors to this destination will have the opportunity to experience this unique forest with its rich diversity of life. This will also help preserve local culture. Here villagers will be the owners who will manage their property. The management of Sunderbans Tiger Reserve has confirmed to give permission from the adjoining Bidya Range office to set up a jetty, a sweet water source. A manual boat will also be provided to venture into creeks to see wildlife.

5.3 Jungle Camps, an initiative to slow the process of ‘Climate Change’

- This was followed by Manas Tiger Reserve, a National Park in peril and a ‘World Heritage Site in Danger’ as declared by UNESCO, holding the local people responsible.
- With time 08 Jungle Camps were established across the east Himalaya & Indo-Burma Biodiversity Hotspots.
- Unlike conventional conservation organizations, Protected Areas with maximum human pressure were the target.

5.3 The concept of the Jungle Camps

This is one of the best places to stay in Sunderban. Generally a package is offered to the customers which include transport from Kolkata to camp and back, stay, all meals, boat safari to the mangrove forest, village walk and birding, cultural performance, entry fee, camera charges, guide charges, naturalist (on demand) charges etc. It’s always advisable to opt for the package as traveling to Sunderban on your own will be tricky affair otherwise. A separate vehicle will be provided for a group. Similarly, a separate boat for the group. The camp is on Bali island and is very close to the Sajnekhali island where the entry permits are obtained from. Stay is in comfortable mud huts, which are ecologically sustainable. Rooms are neat and clean and the wash room too. Mosquito nets are provided for every bed. Local towels (called “gamcha”) will be provided to each member of the group. Rooms generally have a double and a single bed but 3 in a room might feel cramped, unless traveling on a shoe-string budget.

Food is awesome. Local cuisine is encouraged and freshly caught fish / prawn / crabs will be in the menu. Options are equally good for both vegetarians and non-vegetarians. Food is served in a dining space if you are at camp, otherwise on the boat if you are on a cruise.

The boats provided for the jungle cruise are basic yet comfortable. The boatman and guide do have the extensive knowledge of the local flora and fauna, and not to mention, the weather. Each group will be provided a separate boat so serious wildlifers can be rest assured that they can have a peaceful and productive cruise. A trained naturalist is also provided if the group is looking for some serious wildlife viewing. Always remember that most of the travel is on the water and we (the outsiders) do not understand the head and tail of it, considering the tidal effects. So rely on them, they will do their best to provide you the experiences of this mangrove forests single bed but 3 in a room might feel cramped, unless traveling on a shoe-string budget. Food is awesome. Local cuisine is encouraged and freshly caught fish / prawn / crabs will be in the menu. Options are equally good for both vegetarians and non-vegetarians. Food is served in a dining space if you are at camp, otherwise on the boat if you are on a cruise.

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6. Results and Discussions

6.1 Infrastructure

The basic requirement for any tourism destination is proper infrastructure. The questionnaire survey as well as observation showed that hotels, guest houses or tourists lodges are present in good numbers. Records from the hotels, lodges and guest houses revealed that even during the peak season the occupancy rate is slightly more than 80%. That means the basic infrastructure for lodging is adequate in Sunderban. Apart from these, there are tour packages where the stay is entirely on the boats or launches where no stay in hotels or lodges is involved. Only a few tourists responded that the toilet facilities need improvement in a few of the hotels and lodges in terms of bathing water.

6.2 Role of Jungle Camps for Visitors

- To ‘deurbanize’ them and to help them appreciate & adopt ‘BIODIVINITY’, the oldest religion of mankind in this world.
- To help them to undertake activities which is in tune with the local people’s life & livelihood, like understanding walks, bicycles & other forms of local transport. Visiting the carbon free & fair trade practicing ‘traditional local weekly markets’ called ‘Haat. Participating ‘traditional’ local cultures & event etc.
- Contributing in creating RT destinations by participating in developing community support institutions and community capacities for meaningful livelihoods.
- Helping in rediscovering the real ‘I’ through authentic engagement with rich local resources.

6.3 Ecosystem

Tourists come to Sunderban to see the beauty of nature as well as the wilderness in serenity. So, in order to make this destination a sought after destination for the tourists, maintenance of healthy ecosystem for Sunderban is of prime importance. The ecosystem of Sunderban is very delicate. Rise in the sea level has taken its toll on this delicate ecosystem, causing a rise in salinity. As a result the low salinity tolerant mangrove species have gradually shrunk in number. Only the high salinity tolerant species are surviving well. Rise in salinity has also resulted in a drop in the fresh water table. The Forest department is taking adequate measures by digging up pot holes so that wild animals can get drinking water. Moreover, driven by poverty more than 2 lakh people resort to tiger prawn seed collection. The collection process is very harmful for the natural regeneration of the mangroves as it destroys the mangrove
seeds along with other species. All these are responsible for putting the Sunderban ecosystem under threat.

6.4 Steps for Human Ecology Harmony

- The idea of the ‘tourist centre’ was included and additionally this was used to create ‘local communities as stakeholders in conservation, thus creating green human buffer around the PA’S.
- In the first phase the habitat or PA’s with critically endangered species were selected in consultation with the local people and the Forest Departments.
- The Jungle Camps have been established with the help and partnership of local people to confirm their empowerment and participation in protection of the nature and traditions that helps to to keep the micro-climate of the area intact to a large extend and change their roles, which reduces the tendency of villagers to consume/exploit forest produce.
- Accordingly, with time adjoining villages have been included in the tourism and conservation network to confirm the continuity of regional biodiversity conservation by the people.

To clarify the potential benefits of a touristic engagement and to create a strong backing inside the local communities the benefits of the camp have to be spread as wide as possible. The diagramme shows how the revenue of the camp after the deduction of the costs is spent for community development activities. Here the differing business economical understanding has to be regarded. For example marketing and reserves for maintenance are included in this amount, in Europe this would be considered costs. I don’t want to go into details about the percentages but instead focus on concrete examples. The quotation is given by one of the managing directors of Help Tourism

![Diagram](image_url)

6.5 Livelihood Generation For Local People Through Camps

Tourism is a seasonal activity in Sunderban. The local communities cannot solely depend on tourism as the only livelihood option. The income from tourism for the local people is mostly from working as cooks and guides. Apart from this, local people also get 25% of the revenue collected from tourists as the entry fees to the National Park. A tourism project is embedded in a social environment. In the Sunderbans outsiders and especially foreigners are very seldom and earlier encounters with them have not always been positive. Thus it was obligatory to raise maximum acceptance of the local people for the camp. The benefits of the camp had not only to be given to the employees but to a maximum number of people. Already for the construction local staff was engaged to the largest possible extend. So far more than 3,000 man days have been created for construction. Due to the family structure roughly some 2,000 people from 7 villages have been benefiting. 70 % of all materials used for the camp have been purchased locally. Regarding that many furnishings like for example sanitation systems are not available in this remote area, this number is equal to maximum extend. Direct beneficiaries of the camp are the local staff, receiving regular payroll for their activity in service, housekeeping, gardening or maintenance. Food is largely purchased locally. However beverages mostly have to be bought from outside. The camp is a socio-cultural meeting point, unfortunately as yet only during the absence of paying guests. Discussions and community development procedures take place here as well as spare time activities like card playing.

The local goods produced by the self-help groups are partly sold in the camp. The landphone and the boat ensure safety in cases of emergency. Additionally they allow networking in conservation initiatives and on time preparation for the arrival and transfer of new guests.

By engaging guides for village walks, wildlife and mangrove tours additional income is given to local people after they have been trained accordingly. Young fishermen are hired for rowing tourists on country boats into the mangrove creeks.
To create entertainment facilities for tourists the **age old culture of Bono BibiYatra** has been brought back. A big number of local theater actors are earning additional income with every booked performance.

### 6.6 Role of the Jungle Camps in the Villages Adjoining to PA

- The Jungle Camps are always in the fringe villages adjoining to important **Protected Areas** (PA’s).
- They help the area to act as an extension of the PA and facilitate easy passage and migration of wildlife.
- The camps act as hub for alternatives livelihoods, social and cultural activities for the local people and a window to the world.
- Facilities like water, approach roads and electricity often follows to destinations after establishment of the Jungle Camps.
- The camps often enhance the basic facilities like medical, education, waste management and livelihood training through volunteer visitors.
- The process has helped not only to retain youths in villages but has helped to bring back several of them to their villages.
- This has helped to bring back a lot of local cultural traditions.

### 6.6 Projects Started by Help Tourism

A **medical camp** is held for the local people. A doctor, originating from the Sunderbans, but now working in a Kolkata hospital is voluntarily providing examinations against a very reasonable price of 10 Rupees per patient. **Medicine is distributed free**, summing up to a volume of more than 10,000 US-Dollar. These camps bring benefits in two ways. The patients benefit from the medical supply, and supporting staff by additional income for their work. More than **10,000 people from 15 local villages** have been treated.

An **education project** named ‘adopt a poor student’ is financing the higher education of meritorious pupils. A **book bank and donation programme** is supporting some 60 students with necessary literature, which for many locals is unaffordable. A **non-formal school** is under construction where the drop outs and poor village children will get free education.
The initial idea of the Sunderbans camp was nature protection, the former poachers are passionate conservationists. Wounded animals are nursed, prawn seed catching has decreased significantly. The locals are contributing to various research and monitoring activities. One important step of tourism development is on the way. A new guesthouse is constructed for offering homestay facilities to tourists. With the installation of solar panels public lighting is provided in the surroundings of the camp.

6.7 Enabling Ecotourism Project Models for Sustainable Development

Sustainable development is a permanent process. Help Tourism and ACT are working on the realisation of new projects and self-help groups. For an alternative livelihood development the implementation of organic farming, medical plant or mushroom cultivation, local crafts and repairing shops for small plants and machineries are planned. Additionally various health service enterprise models are suggested for self-help groups. To improve the sanitation facilities of the community currently different development agencies are requested for funding. The maintenance of these facilities could be organised by self-help groups against the collection of nominal fees. Another challenge is the creation of a health insurance system. Here different approaches are discussed with the community. A great contribution to an improved livelihood would be the existence of a mobile swimming hospital. By enlarging the area of operation resident doctors and nurses could be justified and attracted. The technical equipment would allow for example the cold storage of anti-venom for snake bites.

6.8 Help Tourism and the NGO ACT-Association for Conservation and Tourism came in 2000

a) Tourist Satisfaction

The success of any tourist destination lies in the satisfaction of the tourist after visiting the place. This is manifested in the number of tourists visiting the place, their feedback, duration of stay as well their desire to make repeat visits. The number of tourists visiting Sundarban is increasing on a year on year basis. However, most of the tourists are not satisfied since tiger sightings in the wild are rare and destinations are over-crowded. As a result they did not want to make a repeat visit to Sundarban.

b) Target the tourists-Abroad and Domestic

If we look at Sunderbans from the tourism point of view, the number of travellers visiting Sunderban is approximately 100000 per year (The Telegraph, 2008). Out of these only about 3000-4000 are foreign travellers and out of the 100000 the remaining 96000 are from India. Statistics also show that out of these 96000 tourists, around 60% tourists come from Kolkata and its suburbs and so the remaining 40% are from other parts of India. Out of these above 60% travellers from Kolkata, approximately around 30% are from the main city of Kolkata. So clearly our target would be to increase the reach of Sunderbans to the domestic Indian markets as well as to the foreign markets.

c) Positive Effect of Ecotourism

- The local people strongly supporting the need of ecotourism in this region.
- Status of Biosphere Reserve and World Heritage Site of Sundarban.
- Good number of domestic and foreign tourists visiting this destination.
- Unique culture of the local people.
- Already existing tourism infrastructure.
- Social mobilization through JFMs, SHGs, EDCs etc.
- Proper ecotourism package development involving local people in decision making and planning so that there is a larger involvement of the local people.
- Diversification of ecotourism products like stay in country boats, trail walks etc. which will help in retaining majority of the income generated with the local people.

d) Negative Effect of Ecotourism

- Lack of coordination among local people.
- Low involvement of local people in tourism.
- Little incentive for the local people from tourism in terms of income generation.
- Migration of extremely poor landless people to Kolkata in search of job opportunities.
References


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