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RESEARCH ARTICLE

Potential Site Selection for Eco-Tourism : A Case Study of Four Blocks in Bankura District Using Remote Sensing and GIS Technology, West Bengal.

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Abstract

Bankura district in West Bengal is a strong need to studying ecotourism, as part of an alternative form of tourism for the growth of low impact tourism in the area and for its natural ecosystem maintenance as well as for the benefit of local population. Ecotourism can have many components that can broadly be categorized into three: Natural, Cultural and Educative components. The aim of this paper is thus to identify potentially suitable sites for ecotourism in the surroundings of Bankura mainly based on the Natural components of ecotourism. Even factor, namely: Land use-land cover, Soil, Elevation, Slope, Vegetation map, Road net-work map, Drainage map and also Temperature and Rainfall were considered to determine the suitability of an area for ecotourism.

INTRODUCTION

The term 'Ecotourism' this is widely used today, but is rarely defined. It is often used interchangeably with other terms such as soft tourism, responsible tourism and nature tourism. In simple terms, ecotourism simply means that the main motivation for travel is the desire to view ecosystem in their natural state, both in terms of wildlife and the indigenous population. However, ecotourism is often taken to be more than this with its proponents claiming that is also concerned with a desire to see the ecosystems conserved and the lives of the local people improved through the effects of tourism.

2. Objectives

1. Producing a land use/land cover map of the study area using 2009 LANDSAT image.
2. Identify potential eco-tourism area using parameters-dense forest coverage, temple, heritage and water dam presence etc.
3. To assess the spatial distribution of other facility likes-transport network, accommodation facility which helps made for ecotourism development.
4. Environment conservation.
5. Economic and socio-economic development.
6. Identify determinant factors for ecotourism site selection.

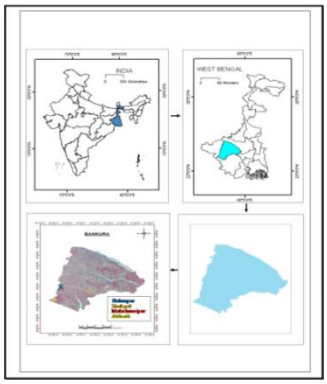

Figure – 1: Location map

3. Material and Methodology:

Satellite imagery, IRS LISS-III and IKONOS imagery and Topographical map. The whole study was done under following stages.

Pre-field study:

For Cadastral level planning high resolution satellite images like –IRS LISS –III (23m) of 2007 and has been collected and IKONOS (1.0m) data from GOOGLE EARTH are also consulted for mapping purpose.

Along with the digital satellite data some collateral information are also collected and consulting for procuring a good accuracy level. These were collected from Survey of India (SOI) topological maps and land use map of Bankura Form Nation Atlas Thematic Mapping Organization (NATMO), Tourist information Map from Department of Tourism, Govt. of West Bengal, and Socio-economic data form Census of India.

Laboratory Study:

Taking the rectified subset image & perform supervised classification depend on tonal value of the original image of FCC, land use and land cover classes are selected. This classification process is done by ERDAS IMAGINE software.

Following classes are selected for land use and land cover map.

Dense forest, mixed forest, Settlement, Waste land, Sand deposition, cultivated land, Fallow land, Water Body

For generating the socio economic informational layer the block level maps are used. Here the topological vector layers are generated and the associated data base is entered. Block map which each input as a GIS layer and socio-economic attributes are added form district census handbook, Bankura. On the basis of this attribute data thematic map are generated such as population density map, literacy zoning map etc.

National high way , state high way ,metal , un metal, trekking route in the forest all are digitized from the topographical map and district map of Bankura and wherever not available in map the high resolution data (IKONOS image) are also used to generate trekking route.

Generating the all the 'Eco-tourism' suitable potential parameter one after another and give attribute value. On the basis of the every value first create a range and then draw isopleths of this range, after that use overlay analysis.

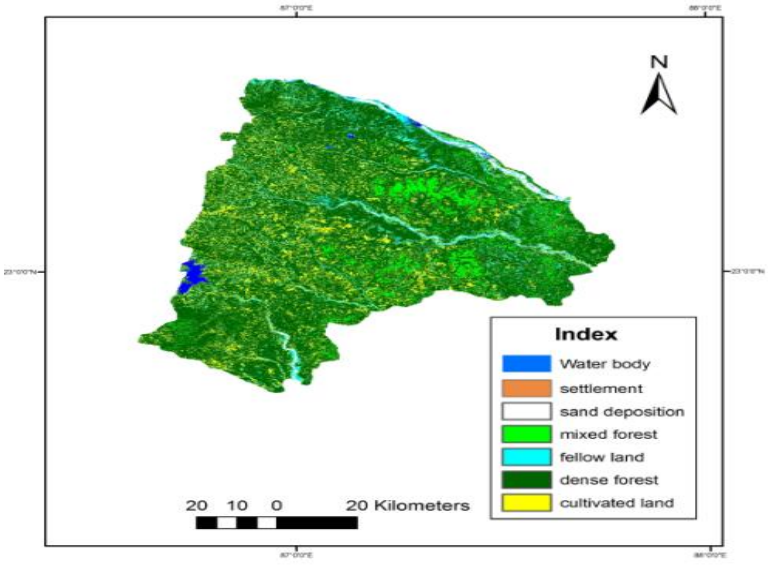

Figure – 2: Land use and Land cover map

4. Introducing the study area:

Bishnupur is a town and a municipality in Bankura District in the state of West Bengal, India. It is famous for its terracotta temples and the balucheri sarees. Bishnupur is located at 23°05′N 87°19′E23.08°N 87.32°E. It has an average elevation of 59 meters.

Mukutmanipur is a town in Bankura district of West Bengal, India. It is located at the confluence of the Kangsabati and Kumari rivers close to the Jharkhand border. Mukutmonipur is located at 22°56′N 86°43′E23.59′N 86.56°E. It has an average elevation of 50 meters.

Jhilimili is a tourist centre in Khatra subdivision of Bankura district in the Indian state of West Bengal. Jhilimili is situated 70 Km away from Bankura Town of us beauty of an undisturbed dense natural forest. A travel from Ranibund to Jhilimili offers a wonderful exposure to spectacular forest of varying heights on both sides on the route, and finally reaching Jhilimili mounted on the top of a hillock. The sparkle of micaceous soil adds to the beauty of the environment. Jhilimili is located at 22°49′00″N 86°37′00″E22.8167°N 86.6167°E. It has an average elevation of 228 meters.

Simlapal is an administrative division in Khatra subdivision of Bankura district in the Indian state of West Bengal. Simlapal police station serves this block. Headquarters of this block is at Simlapal. Simlapal is located at 22°55′22,″N 87°04′24 to ″E22.9227°N,87.0734°E. Simlapal community development block has an area of 309.20 km.

5. General description of the study area:

Geology: The greater portion of the district consists of a rolling country covered by laterite and alluvium. While metamorphic or igneous rocks are found to the extreme west, to the east there is a wide plain of recent alluvium. Strong massive runs of hornblendic varieties stretch across the region in tolerably continuous lines, the general strike being nearly east and west. The most characteristic geological feature of the district is the area of laterite and associated rocks of sand and gravel. At some places one finds hard beds of laterite. At other places it is decomposed and reorganized. Locally, the ferruginous rock is called kankar. The calcareous concretions, commonly used as the sources of lime, are known as ghutin. The Gondwana system is represented in the northern portion of the district, south of the Damodar, between Mejia and Biharinath Hill. The bed covered with alluvium contains seams of coal belonging to the Raniganj system.

Geomorphology: The area covered by Natural Resources lies between 22˚46’ to 23˚38N latitude and between 86˚36’& 87 ˚ 46’ E longitudes. It covers an area of 687124 sq km. The district has five hills. Biharinath is the highest hill of the district (1481ft.) near saltora with a beautiful temple of lord Parswanath & Lokeswar Vagawan Bishnu. At the foot of the hill near temple a small tank measuring 0.5 hec. Can be accommodating with facilities for recreation of the touring people. Susunia the second highest hill (1442ft.) with three small caves Marang Chery, Bharatpur Beer cave. One of the most historical inscriptions is a place to see. The hill is quite popular as the only rock-climbing spots of the district. This is also an important tourist spot for the people who visit to see the natural spring, ‘Dhara’. Koro Hill (400ft.) situated near Gangagalghati with a peaceful temple at the top Masak & Lady Hill (112ft.), near Khatra are two very beautiful tourist spot.

Climate: The climate, especially in the upland tracts to the west, is much drier than in eastern or southern Bengal. From the beginning of March to early June, when the monsoon sets in, hot westerly winds prevail, the thermometer in the shade rising to around 45 °C (113 °F). The westerly winds die down around sunset and allow cool winds to blow from the south. Nor' westers is frequent during this period and helps to mitigate the excessive heat. The monsoon months, June to September, are comparatively pleasant, as the weather is not as sultry as in other parts of Bengal. The total average rainfall is 1,400 millimeters, the bulk of the rain coming in the months of June to September. Winters are pleasant with temperatures dropping down to below 27 °C in December.

Vegetation: The variety of trees, shrubs and creepers noteworthy in the territory of the Bankura. Though the dense forests of the past are no more and many shrubs are almost extinct, nevertheless, the flora which is still left may bring about an all round good for the suffering of humanity. The hill like Susunia, Biharinath and its surroundings areas like deep forest zones of Ranibandh, Khatra, Sonamukhi, etc. are covered with lost of natural, rare and herbal plants. The tree are not only used a raw material for paper and tobacco industries or making furniture and use as fuel by local residents but also important for the medical use. The flora specie inside the forest are of most characteristic varieties like Sal, Bahera, Piasal, Kend, Palash, Mango, Jam, Haritaki, Sisu(Indian rosewood), Neem(Margora tree), Siris(Parorot tree) Amlaki,(Embeli) Bel(Wood-apple), Arjun, Teak, Aswatha, Mahua, Babla, Kadam, Akanda, Kuchila (Nux-vomika), Bona, Ata (ugar-apple)

etc.Besides there are creepers and/or shrubs like Baak, Shatmuli, Bera, Kalmegh, Anantamul, Bantulsi, Thankuni, Kantiikari and Hastikarna etc.

Drainage: The rivers of the area flow from the north-east to the south-west in courses roughly parallel to one another. They are mostly hill streams, originating in the hills in the west. The rivers come down in floods after heavy rains and subside as rapidly as they rise. In summer, their sand beds are almost always dry. Damodar River forms the northern boundary of the district with Bardhaman district for about 72 kilometers and then flows into Bardhaman district. Floods in the Damodar rarely do much damage to the district. Sali River which drains the northern part of the district is an important tributary of the Damodar. Amongst the other rivers flowing through the district, the most important is Dwarakeswar River. It has many branches or old beds in Onda and Bishnupur police station areas. The main tributaries of Dwarakeswar River are the Gandheswari, the Kukhra, and the Birai. Other major rivers are Shilabati River and Kangsabati River, both of which enter the district from Purulia district, run along a short course in the territory and then enter Paschim Medinipur district. There are some small but picturesque water falls along the course of the Shilabati near Harmasra, and along the course of the Kangsabati in the Raipur area. Amongst the minor rivers in the district are Jaypanda, a tributary of Shilabati, and Bhairabbanki. Mejia Beel is a large swamp formed by the overflow of the Damodar. There are several small tanks or artificial lakes developed by the former rajas, in and around Bishnupur.

Soil: Soil is the natural medium for the growth of plants. It is also a major supportive system of human life and welfare. Most of the lands biodiversity also live in the soil. The study area has seven types of soils which vertisols are most dominant.

Elevation: Elevation, also called altitude is the height of a place above or below a reference level, such as mean sea level. Altitude, like latitude, acts through climatic conditions to exert a major influence upon the distribution and abundance of living things.

Slope: Slope represents the gradient of an area expressed either in percent or in degree. It is computed as the vertical increase divided by horizontal increase. Slope can also be classified as gentle and steep slopes. Those experiencing little variation are gentle slopes and those experiencing extreme3 variations are steep slopes.

Socio-cultural setting

In the 2001 census, Bankura district had a total population of 3,191,822 of which 1,634,561 were males and 1,557,261 were females. Decadal growth for the period 1991-2001 was 13.79% in Bankura district against 17.84% in West Bengal. The urban population was 235,264 against a rural population of 2,956,558. The district had a density of population of 464 persons per km· The district had a scheduled caste population of 1,040,297 and a scheduled tribe population of 335,047. The first census was taken in 1872. The district as now constituted had a population of 968,597. In the 1901 census, 90.7 per cent of the population spoke a dialect of Bengali known as Rarhi Boli, which was also spoken in the adjoining districts. Santali was spoken by about 9 per cent of the population. 87.4 per cent of the population was Hindus, 8 per cent were Animists and 5.6 per cent were Muslims. Bankura has a literacy rate of 63.84 per cent.

6. Potential site selection for Ecotourism:

Keeping in the mind the basic thirsts of a tourist, ecotourism potential sites are selected based on these criteria.

- (Rr): The spot must have a high relative relief that tourist can have a bird's eye view of downstream plain and scenic beauties.
- (EI): The spot must be above an elevation of 300m.
- (Vd): To feel in lap of nature and for adventure also, there must be dense to moderate forest cover.
- (Wb): There should be a river, dam or water bodies near to spot.
- (Lu): Land use/land cover pattern of study area which is consider as Fertile agricultural lands are to avoid only barren land and forest-fringes are to be used.
- (Pd): Solitude is always a major demand of tourists, therefore block wise very low population density are preferred.

- (Rc): All the spot must be connected by road.
- (Fl): There should have some food & lodging facilities but could be build up later also.
- (L) : To develop ecotourism infrastructure (tourist cottage /rest house, green hotels and restaurant, public convenience facilities, Tourist Information center ,camping ground etc) there must be at least 200 ha of level ground , preferably under forest cover.

These criterions are to be taken as the parameters to evaluate the areas of high ecotourism potential. For these purpose a 'a weighted sum overlay analysis has been made with all the thematic raster layer that allows a linear combination of Probability weights of each thematic raster map (EP) with individual capability value (CV).

Mathematically, this can be defined as...

EP = ***f*(Rr, EI, Vd, Wb, Sp, Pd, Rc, Fl, L)**

Where EP is Ecotourism potential site, Rr is elevation, EL is absolute Relief, Vd is Forest coverage(mainly dense to moderate), Wd is River, dam, water bodies, Sp is waste and barren land, Pd is population density, Rc is Road connectivity, Fl is food & lodging facility is ecotourism infrastructure.

In this context we can say $EPS = \sum WiCVi$

With $\sum Wi = 100$

Where EP is Ecotourism potential map value, Wi is probability value of each thematic map that is theme weight and CVi is the individual capability value of each thematic map that is class weight.

The above equation can be written as

$EPS = \sum WiCVi$

= (27*CVRr) + (20*CVWb) + (17*CVLu) +
(14*CVEI) + (13* CVPd) + (9*CV

Following the weight age value are given for overlay analysis

Sl no	Layer	Class	Weiatage value	Class Weiatage	How much potential
1.	Elevation	>120m	34	9	Much potential
		80-120m		7	Much potential
		<2000m		3	Low potential
2	River, Dam and Water body	500m	22	9	River sites are highly important for scenic beauty or bottling
		1km		8	Tributary distributaries are also important for their scenic beauty

		2km		6	Very important for summing pull & bottling
		3km		2	Low potential
		5km		1	Low potential
3	Land use	Forest	19	9	Mixed forest very important for ecotourism
		Bad land		8	Low dense forest important for ecotourism
		Agriculture field		0	Avoid
		Others		2	Not so potential
4	Population Density	Very low	14	9	Highly potential
		Low		8	Highly potential
		Moderate		4	Moderate to low potential
		High		2	Very low potential
		Very High		2	Very low potential
5	Road connectivity	1 km	11	8	Highly potential
		2 km		6	Moderate
		3 km		4	low potential
		3-4 km		2	Very low potential

Table-1: Overlay analysis table

A weighted overlay analysis approach was adopted to identify the suitable site for ecotourism development of the study area. After the weight overlay operation being compels the suitable fifteen zones are identified in Ajodhya hill and adjoining area which have a lot of opportunity to develop the eco-tourism industry. Criteria are already present there. All ecotourism potential zones are given detail bellow.

7. Suitable ecotourism potential zone:

Zones, which meet these criteria, were considered suitable for eco-tourism development. For suitability analysis, Land use - land cover map, Elevation map, Population density map, Road network map and other public and tourist utility maps of the area were used. From above analysis nineteen spots in Bishnupur, Mukutmonipur, Jhilkimili and Simlapal forest area and adjoining area ware found to be appropriate for ecotourism spot.

Zone - I: It covers some part of Bishnupur block with an altitudinal range of 100-150m. This zone is near Darekeswar River. Though the population density of the area is 354 per sq km but most of the population is lived in village mouza area not near the tourist spot. A metal road from Bishnupur rail station to Bishnupur bus stand and bus stand to all the tourist spot connects a other metal road. Here is various lodging facilities are available.

Zone - II: The rest of the zone is covered by dense to moderate forest and average altitude of 100-150m. The whole region is existing with un-inhabitant which is suitable forest adventure. This zone is located in border of west medinipur and Simlapal block. Mainly it is forest area but here road communication system is very good to visit the area.

Zone – III: This zone is located in border of Purulia and Khatra block with an altitude of 150m-200m the relative relief of the region is also very high and population density is 441 people per sq km and here located the India's 2nd largest dam.

Zone – IV: Deer park is located in southwestern block of Khatra near Mukutmonipur dam. Here population density is very low but communication system is very good and also located a Ambika Temple to visit every visitor.

Zone - V: This region is located in Khatra block. It area mainly covered with dense and mixed forest but population density is 345 person per sq km here adventure tourist is very good.

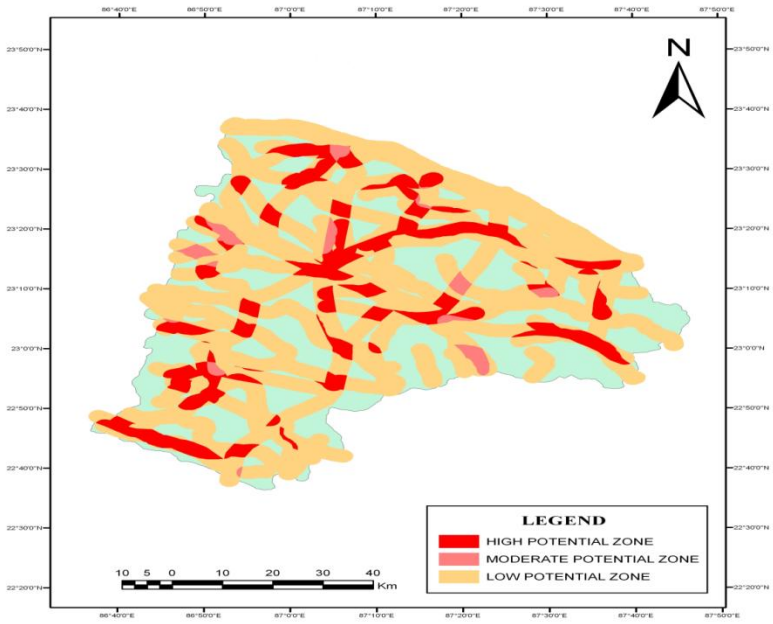

Figure – 3: Ecotourism potential zone

8. Results & discussion:

Tourism has been considered to be one of the crucial industries in the world due to being source of income. It also enables people from different cultures to interact with each other. Therefore every country must be conscious of tourism and make use of GIS directed towards tourism effectively. Every country should advertise her history, architectural characteristics of buildings in order to make them known all over the world. These details can be obtained in a query by forming a spatial connection with GIS.

Present study is an attempt to identify potential ecotourism sites in eastern India using Remote Sensing and GIS techniques in forest dominated area of south part of Bankura District in West Bengal. After identifying the potential sites, a demonstrative plan has been made for Ecotourism development based on locally available natural resources.

The study shows that the middle and northern part and also south western part of the study area is highly potential for Ecotourism development, most of this part is endowed with lush green forests, wildlife as well as rich cultural heritage and temples area. Along with this it also fall under the elephant corridor of west midnapur. So this

area can be developed as Ecotourism destination by facilitating proper ecotourism infrastructure and services under policy guidelines. This will help to conserve and maintain the biological richness of the areas as well as economic upliftment of the local people by providing employment and opportunities in the field of ecotourism management.

Jilimili and Simlapal's people are filling the lack of agricultural and forest land. From the field survey it is seen that few amount of school, collage are there. The student have to go few km for high school as well as people of area are not interested for the study because they have to faces great treble for their poverty They are depart. Whole the they are engaged in a boorish job for earning few money which is not sufficient for their daily life but at evening they come back home and become drunks drinking 'tari', hariha, chullu (local alcohol drinks). But this is true that the people are laborious, not only tribal women are extremely laborious and intelligent also. If give them proper guidance and engaged them in developing work will be better.

The IRS LISS-III digital data (satellite imagery FCC)showing that the major portion of Simlapal and Jilimili covered by Dense to moderate forest along with bad land topography and infill valley and also see a very large dam in Mukutmonipur. As the present study is related to the ecotourism planning, the elevated forest, and heritage gullied of the study area should be for its landscape diversity.

The ecotourism industry is basically developed as alternative economic activities where there are spume hindrances against other economic activities. Calm serenity and nature with its profile abundance silence of dense forest, twittering of birds and wild-life, beautiful flora and fauna are present here. Bishnupur is famous temple and heritage places are also present here. All of these make the place attractive.

Ecotourism can grow in this forest region of Simlapal and Jilimili area, Bankura because perimeter for ecotourism is mostly present here. The dense to moderate forest cover gullied region with moderate to small hills and late rite exposure, river, dam and other water bodies are suitable for ecotourism development. These features are profoundly distributed in whole study area.

In this paper, we have studied the relationship between the developments of eco-industries such as ecotourism and the community structure. From a theoretical perspective, we incorporated the Common Pool Resources approach and focused on both the structure of a community's cooperativeness and its effect on various outcomes such as local development of agriculture and tourism. Moreover, empirical research on factors that determine the system and situation of the management of CPRs in Bankura's rural areas has been analyzed. By using the data of the 2009 Census of Agriculture and Forestry in West Bengal, cooperative behavior in the community related to land use or traditional cultural events and the structure of community-based participation of the people was investigated.

In Bankura's rural areas, socio-economic factors have been adversely affected by the decline in the primary sector, its major industry. Accordingly, the community structure has also changed drastically. It is proven that the factors that determine the cooperativeness of various community activities are complicated; however cooperative activities for festival and events, or preservation of the cultural and natural environment in the community seem to be major factors keeping community activity cooperative. It is also proven that a factor like preservation of the cultural and natural environment can have such a positive effect that the cooperativeness in the community can positively affect the community's welfare.

Last but not least, from a theoretical viewpoint, it can be easily proven that the effective management of Common Pool Resources to keep the local community sustainable should be dependent on some cooperative activities by residents. However, from the empirical viewpoint, we could not make robust estimates of the significant relationship between cooperativeness and community welfare.

This is partly because of a lack of adequate data sets and seems mainly due to the poor definitions of 'cooperativeness' and Common Pool Resources for empirical research. These are further tasks to be done.

9. Suitable places to visit in this study area:

Place of interest	Spot ID	Name of tourist spot	Location
	1	Rasmancha	Near Bishnupur Bus stand
	2	Madhanmohan temple	2 km. from Bishnupur Bus stand

Bishnupur Temple and Heritage Area	3	Birth place of Srinibash Acharya	3 km. from Bishnupur Bus stand
	4	Shyamrai temple	1 km. from Bishnupur Bus stand
	5	Jorbangla temple	2.5 km. from Bishnupur Bus stand
	6	Malleshwar temple	1.5 km. from Bishnupur Bus stand
	7	Chinnamasta Temple	3 km. from Bishnupur Bus stand
	8	Dalmadal Kaman	3 km. from Bishnupur Bus stand
Mukutmonipur Natural and Reserve area	9	Mukutmonipur Dam	60 km. from Bankura
	10	Deer park	Near dam
	11	Bangopalpur Reserve Forest	Near dam
	12	Kumari and Kangsaboti River	Meet the dam
	13	Ambika Temple	3 km. from Mukutmonipur Bus stand
	14	A nice Picnic Spot	Beside dam
Simlapal Forest Area	15	Ashrimik Environment	Main forest area at Khatra subdivision
	16	Rajbari	Near Simlapal
	17	Silabati River	Beside simlapal
Jhilimili Forest Area	18	Natural Forest area	70 km. from Bankura
	19	Eco-Park	12 km. from Ranibandh

Table-2: Suitable places to visit in this study area

10. Planning for Ecotourism infrastructure in the study area:

From the above result, the ecotourism planning can be done which can bring development of the under development back log tribal people of Bishnupur, Mukutmonipur and seditious activity prone area by employing the local people as well as by infrastructure development. Ecotourism being truly a form of environmentally conscious tourism and only pursuits of remote pristine locations but also it can be sustainable with continuous capacity to safeguard natural environment as the very basis of tourism attraction. It should also provide and maintain quality of tourist experience and satisfaction as well as benefit to the local people in this area.

Ecotourism is increasingly being advanced as a strategy to help address economic and social problems in local communities, and as an appropriate and effective tool of environmental conservation. The full and effective participation of local communities in the planning and management of ecotourism is, however, rarely a feature of ecotourism projects At best, ecotourism projects tend to aim for the involvement of local people, and at worst, ecotourism projects can ignore the issue of local participation completely. Such projects frequently fail after a relatively short period of time.

Therefore following strategies could be adopted to involve local people in ecotourism planning and management in Bishnupur, Mukutmonipur, Simlapal & Jhilimili. To fulfill this purpose, there is needed to be following some guidelines which are highlighted bellow:

Sustainable development of ecotourism requires the balance between three elements the tourists, people and the host community. Therefore, a management level Government should involve local people along with NGO and private organization.

Involvement of local administration (e.g. Gram Panchayet) in selection of site for ecotourism development.

Generally the ecotourism destination is developed in eco-fragile area, which has time specific attraction. The duration of visit and activity pattern of the tourist should be decided by implementing authorizes to maintain natural harmony.

Social forestry and Participatory Forest Management (PFM) in the site to rejuvenate the degraded forests and encourage wildlife tourism.

All the employees of the hotels / guesthouses from manager to housekeeper should be local people and employment of women are also encouraged.

Employing aged and experienced people as guides in local tours and forest safari and as night guards in the hotels and camping grounds.

To create a suitable eco tourism destination it is very essential to make the place peaceful from deadly us activity engaging the tribal people in much creative and developmental activity by giving them proper study and tanning.

Along with this there is also need for publicity and advertisement of ecotourism destinations, Environmental group accreditation (tour operator) and adequate funding to maintain the environmental quality of the potential ecotourism destinations.

Encouraging folk cultures by including them in tour packages (e.g. ‘Chhau’ dance, in guesthouses).

Providing loans to local youths to purchase eco-friendly vehicles for tourist transportation and tour operation.

In the action area there is lack of approach road to visit this place. For this purpose few non metallic road has been designed as a loop, which can be utilized by tourists as trail walk along the dense and open forest zone.

Communication facilities likes’ bus service, tale-communications service etc which are now present now these have to be modified.

It is very essential to highlight about the infrastructural development in existing and future eco-tourism spot in national and international level.

In this study area’s economy are shortage to progressive the transport-communication and hotel management system. Yet, various business man and self depositor don’t invest their money because now a day’s crime, political problems, terrorism, will see a marked increase to search and visit areas that do not have them -safety and economic stability have already become a product that will continue to affect market share.

Bankura,is a land of historical and forest base spots but tourism in the state is being affected by the presence of Maoists 'The Maoist presence is affecting tourism. 'Jangalmahal has the potential to attract a large number of tourists but there is a law and order problem due to the rebel presence. Maoists regularly call shutdowns which send the wrong message among tourists and it ultimately affects tourism in this district. An estimated 6 lakh tourists, including foreigners, visited Bankura district in 2007, according to official figures. But the number has decreased manifold from4.5 lakh domestic travelers and 1,500 foreign tourists in 2010.

Tourist cottages/rest house, green hotels, and restaurant, public convenience facilities, Tourist Information Centre, conveyance facilities, Tourist guide map, public convenience facilities, Detail map of ecotourism destination. Tourist circuit maps to show its like to other place of tourist interest, Do and don’t board, medical aid facilities, communication facilities etc are to be developed.

11. Scope and Limitation:

There are number problem to develop socio-economic condition of local people of Bankura through developments of ecotourism .These are –

1. **Accommodation:** Providing accommodation and better house kipping is the fore most function of hotels, attracts more tourists.

2. **Condition of transport & networking system:** Road conditions of Simlapal & Jhilimili deep forest area are not sufficient and most of road is unmetal.
3. **Lack of drinking water**: The drinking water supply system is not available in deep forest area and around the area.
4. **Lack of infrastructure**: Sufficient amount of transport & communication like as bus, taxi, and auto are absent.
5. **Deforestation:** Due to deforestation large portion of forest area is mainly Jhilimili & Simlapal forest area.

12. Conclusion:

Eco-tourism development is visualized as a development tool–not just in promoting tourism growth but also in reducing poverty particularly in the rural areas. Though poverty is widespread and pervasive, it is even more acute in the forest areas. Economic pursuits in those areas are limited to agriculture, live stock and trans-boundary trade. All these activities suffer from low productivity, and are subsistence oriented. Ecotourism is expected to engage them in the higher productivity areas by linking to commercial process, and marketing chain extending beyond borders.

It may be authorized that Mukutmonipur, Bishnupur, Jhilimili and Simlapal will appear as an ideal ecotourism destination where thousands of local people could be employed. Apart from planning for ecotourism infrastructure ideas will be gained on what are areas should be afforested immediately, where expansion of settlement and cultivation should be restricted, instead of large scale cultivation, thrust area will be forestry and forest based economic activity like agro forestry, sericulture, aquaculture, animal husbandry etc. the yields will meet the demand of tourists as well as the local people.

The beauty and mystery of the world have attracted the human mind .People don't find any urge in their mundane day to day busy life. For that they want to some relaxation spending few times with beauties of nature. From above study it is seen that the major portion of Mukutmonipur and Bishnupur have sufficient amount of natural resource to develop the ecotourism. Expressing the natural beauties to the world not only it will bring a new area for West Bengal tourism but also tribal people of Mukutmonipur, Bihnupur, Simlapal and Jhilimili will see the new path for socio- economic development having behind the unsocial activity.

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