

Land use Planning and the Development of Eco-Tourism in the Stretch of Digha to Petuaghat Coastal Area, W.B, India

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Abstract: In the stretch of Digha to Petuaghat coastal area of Purba Medinipur district, W.B. is a progressive geomorphic unit. Coastal area includes of land-sea interaction with complex geo-environmental emplacement. Here many geomorphic processes (sea wave, wind, flood, shifting of sand dune, shifting of shoreline, salt water invasion etc.) show and which are most determinant to change of landuse pattern, agricultural practice and Eco-tourism. Now agricultural land, fishing land, grazing land, forest land, recreational land and also settlement are changing due to various coastal geomorphic process. Crop cultivation, horticulture, aquaculture are affected due to action of geomorphic hazards. Eco-tourism means tourism based on an interest in observation of nature. This coastal tract is an attractive tourist place where large number of tourists can rejuvenate yourself in the company of sea, sand and sun in the agreeable open air. So greater pressure of tourist puts more pressure on environment which also put harmful effect on coastal biodiversity. If the development of tourism industry is not properly planned and managed, tourism itself produces a myriad of negative effect include the every tourist destination.

Keywords: Biodiversity, Coastal tract, Eco-tourism, Geomorphic hazards, Geomorphic process, Landuse pattern.

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I. INTRODUCTION

India has a long coastline, which extends from West Bengal to Gujrat and along the island. India's total coastline is about 7577 km. of which about 5423 km. along the mainland and 2094 km. in the Andaman & Nicobar and Lakshadweep islands. The coastal stretch of West Bengal extends from the mouth of the river Subarnarekha on the west (Bordering the state of Orissa) to the mouth of river Harinbhanga on the east (Bordering Bangladesh). The entire coastline of West Bengal may be subdivided into three principal zones :-

1. Eastern Sector – Mouth of Harinbhanga river to mouth of Hugli river.
2. Central Sector – Mouth of Hugli river to mouth of Rasalpur river.
3. Western Sector – Mouth of Rasalpur river to mouth of Subarnarekha river. (Digha-Sankarpur-Mandarmoni-Tajpur-Soula-Junput- Bankiput- Petuaghat coastal plain)

Now I emphasize the Western Sector's Landuse planning and the development of Eco-tourism in the stretch of Digha to Petuaghat coastal area.

II. OBJECTIVE

The greatest significance in Geography is a close relationship between man and environment. As the environment have changed from place to place, the inter relationship between man and surrounding also changes. Same as human activity of coastal area have changed, the coastal landform also changes. This variation is the main object for this study and analyse the changing scenario of coastal landform and its impact on planning and development. Selection of this coastal area for study depends upon the following points :

1. To identify different types of natural resource of this coastal area.
2. To examine how people utilized these natural resources.
3. To show how coastal landform have changed.
4. To show different landuse planning.
5. To show development of Eco-tourism.
6. To show main causes of accretion and erosion of this coastal region.
7. To show process of urbanization and problems for urbanization.
8. To show the life-style of the inhabitants.
9. To identify the causes of Environmental pollution and loss of Bio-diversity.

10. To show decrease the agricultural land for increase of fishery and saline water.
11. To prepare the suitable method for sustainable land use.
12. To give the suggestion for better utilization of land.

III. METHODOLOGY

This study has been done on the basis of intensive visit of study area, extensive literature review, experimental documentary analysis and field observation to know the landuse pattern, man-environment relationship, socio-economic and socio-cultural condition of this study area. Department of Digha-Sankarpur Development Authority (DSDA), Reports of Geological Survey of India (GSOI) and recent research papers published in different regional, national and international journals and presented in different seminars are very essential and helping tools to prepare this study. Topographical maps (1:50000) of GSOI (No.- 730/6, 730/10, 730/14) have been used.

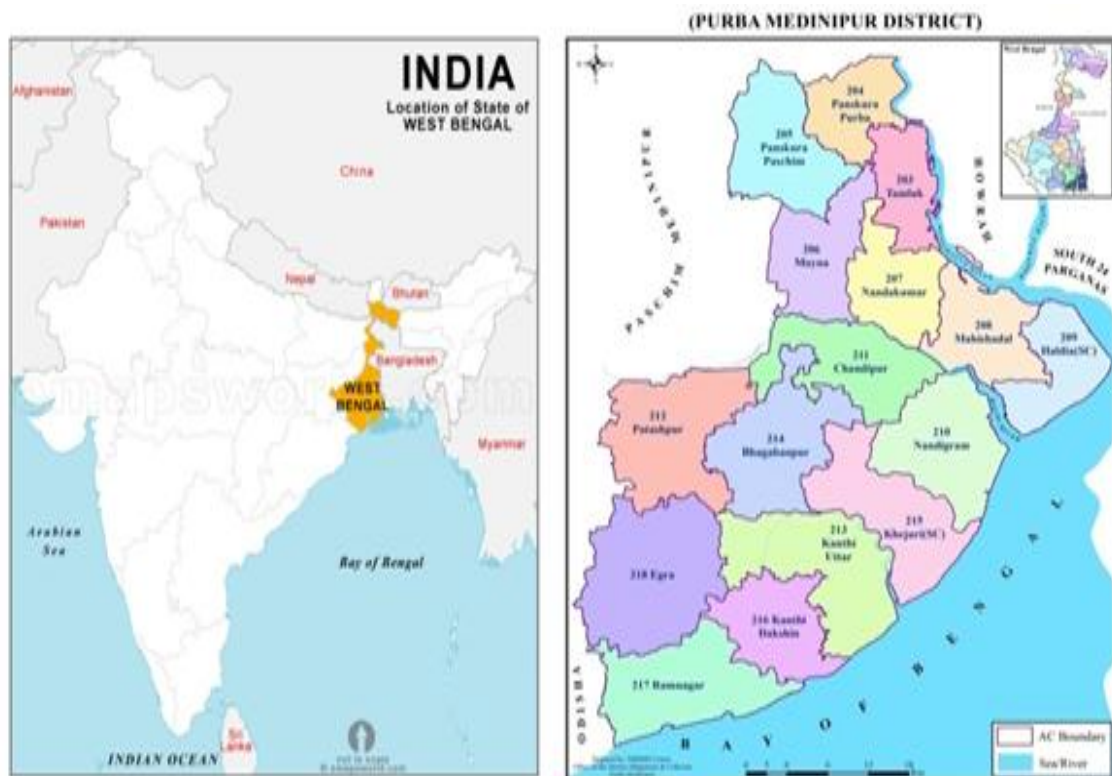
IV. LOCATION

In the district of Purba Medinipur of W.B., Digha, Sankarpur, Mandarmoni, Tajpur, Solua, Junput, Bankiput and Petuaghat locate along the coastal area of the Bay of Bengal. The latitudinal extension is 87°25' E to 87°55' E and longitudinal extension is 21°35' N to 21°50' N.

V. REGIONAL SETTING

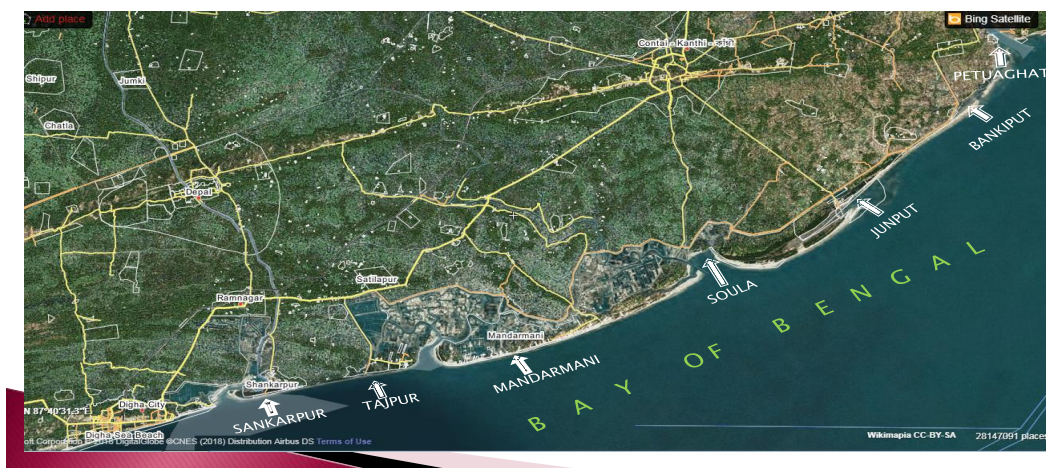
This study area is accessible by road from Kolkata (170-190 km) by following NH-6 up to Kolaghat, NH-41 up to Nandakumar and SH-4 up to Digha. Otherwise from Kharagpur (123 km) by road up to Digha. Sankarpur has access from SH-4 at Chauddamile near Ramnagar, Mandarmoni at Chaulkhola, Tajpur at Balisai; Soula, Junput, Bankiput and Petuaghat at Contai. Now This coastal area is very attainable by train from Howrah and Kharagpur via Mechheda or Panskura up to Digha.

VI. LOCATION MAP OF STUDY AREA



VII. SATELLITE IMAGE OF STUDY AREA

Satellite Image of study area



VIII. PHYSIOGRAPHY

The general surface of this coastal region is very gentle gradient and is nearly flat surface with very slow run-off towards the Bay of Bengal. The average elevation is nearly 5-7 meters above MSL.

The sand dunes are the most outstanding morphological feature of this tract. This dune belt runs almost parallel to present shore line, though the width and height vary from place to place. These dunes generally rise up to 12-15 meters, though the height decreases towards the east.

The inter-dune tract is flat and generally dry, the dunes may shift their location under the influence of strong summer winds. With increasing distance from sea the character of the dunes have changed. They are more stable and more under vegetation cover towards north.

IX. GEOLOGY

This littoral tract consists of sand, silt and clay covering successively by beach, zone of dunes and interdune belt of recent formation. Geologically there are marine origin together with some Fluvialite and Aeolian sediment. The northern portion of dune belt there lies the older Pleistocene formation.

X. AGRICULTURE & FISHERY

In the Primary activity, Agriculture and Fishery are main activities of this coastal region.

In this region mainly paddy, cashew nut, mat, coconut, betel nut, betel leaf and different type of vegetables (potato, jackfruit, water melon, chiku, brinjal, chilli etc.) are produced.

Fishery is one of the most important livelihood for this coastal inhabitants. In this region a large tract of land which is depopulated by sea dyke, during the rainy season with the help of sea-tides it serves as an ideal place for fishery.

XI. FISHING PORT

Here the fishing port with all modern facilities known as Sankarpur and Petuaghat harbour which are connected by metal road to the SH-4, which helps the fishing industry in this locality. Sea fish and sea food is the main commodity which the harbour handles here.

XII. INDUSTRY

This region has mainly hotel and tourism industry and also has ice factory which is required for fishing trade. Many small industries (dry fish processing, mat making, cashew nut processing, brick making, boat manufacturing, salt manufacturing and saw mill) are shown in this region.

XIII. DIFFERENT PURPOSE OF LANDUSE

1. Landuse provision in Hotel Zone,
2. Landuse provision in Commercial Zone,
3. Landuse provision in Industrial Zone,
4. Landuse provision in Institutional Zone,

5. Landuse provision in Mixed-use Zone,
6. Landuse provision in Recreational Zone,
7. Landuse provision in Spill basin Zone,
8. Landuse provision in Residential Zone,
9. Landuse provision in Agricultural Zone etc.

XIV. ANALYSIS OF THE PROBLEMS FOR LANDUSE

For the development of these areas, many associated problems are shown in the natural environment :-

1. Deforestation,
2. Environment Pollution,
3. Illegal social activities,
4. Occasional Cyclonic Storm,
4. Water pollution of the Bay of Bengal,
5. Decreases Planktons,
6. Deficiency of security,
7. Inadequate tourist accommodation,
8. No modern local warning system for tourists, fisherman and local people for any kind of Natural Hazards,
9. Inefficient transport system,
10. Unimpressive shopping centre,
11. Unhygienic sewer system,
12. Insufficient Power,
13. Decrease the agricultural land for increase of fishery and saline water.

XV. SUGGESTION FOR FUTURE BETTERMENT AND ECO-TOURISM

For the development of Purba Medinipur coastal area, many problems have created and also pollute the natural environment.

In this situation, I also suggest that at first protect the Natural Environment from pollution and then develop the tourism industry.

Suggestion for future betterment and eco-tourism are given below.

1. No development of spill basin area,
2. Forest and plantation area along the sea coast is kept reserved as green area,
3. No hazardous industries are permitted within the jurisdiction of the planning area,
4. Preference is not given for accommodation of tourists within 1km along the sea coast beyond the coastal regulation zone,
5. No development other than residential is suggested in the existing settlement area including rural settlement,
6. Commercial activities, specially for promotion of attractive shopping facilities for the tourists,
7. Adequate areas are kept reserved to accommodate various recreation facilities for the tourists and the local students,
8. Priority is given to the sea-fishing and aquaculture activities to support the local economy other than tourism,
9. Adequate areas are kept reserved to accommodate various recreation facilities for the tourists and the local residents,
10. Social forestry and Agro forestry for Eco-tourism,
11. Help of Government,
12. People's awareness etc.

XVI. CONCLUSION

Present days Digha to Petuaghat coastal area is India's only illegal sea side resort that has come up over the past two decade to dreadful violation of the Coastal Regulation Zone (CRZ) notification of 1991. In this context West Bengal Coastal Plain Management Planning has created controversies between various resource users and interest groups, developers and environmentalist, engineers and geoscientists, land owners and economic men. Yet, I can say that the West Bengal Coastal Zone Environment provides many biotic and non-biotic resources (sand dunes, wetland, casuarina tree, flora and fauna etc.) and constrains many environmental hazards (storms, coastal erosion by fluvio-marine process), unsocial activities etc. which may be considered to explore the opportunities for development of eco-tourism for management of the coastal biodiversities.

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