



Preparation of Payra Kuakata Comprehensive Plan Focusing on Eco-Tourism Project

**Government of the People's Republic of Bangladesh
Ministry of Housing and Public Works
Urban Development Directorate (UDD)**

Review and Analyze Relevant Policies, Design Criteria of Modern Cities, Eco-Tourism Spots and Exclusive Foreign Tourist Zones of Different Countries

1st Report

REPORT
ON

**Review and Analyze Relevant Policies, Design Criteria of Modern Cities, Eco-Tourism Spots
and Exclusive Foreign Tourist Zones of Different Countries**

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Executive Summary

This report is the outcome of architectural potentialities different national and international policies and legislations related to the tourism in Bangladesh. It consists of three different sections. The first section is related to the analysis of UNWTO international tourism policy related to the tourism in Bangladesh. Architectural prospect and facilities for the tourists are overviewed for understand the context, environment and eco-tourism. In section two, potential sites of the Payra-Kuakata region has been scrutinized from the architectural exploration. Those overviews may help to find the appropriate architectural functions respecting the site and its context. Heritage tourism may be patronized throughout the region and it will be add another element of tourism. Beyond that Payra-Kuakata region has opportunity to accommodate leisure tourism, Eco tourism, Cultural tourism, Family tourism, Sports Tourism, and Educational Tourism. Port area has a small possibility of Business Tourism. A survey may be needed to explore the religious tourism. In the light of previous observation, Sonar char has been assessed for its potentiality for an Exclusive Tourist Zone for foreigners. According to this initial assessment, it seems that Sonar char can be a gated Exclusive Tourist Zone along with some other chars in the area. This report has try to explore the sustainable programs for eco-tourism for the Sonar char. However, it needs further study to implement the activities accordingly.

REPORT SUMMARY:

This report is an efforts for the pre-assessments of the proposed development of Payra-Kuakata Comprehensive Plan Focusing on Eco-Tourism from the perspective of architectural development. .

To make the report comprehensive total development process is discussed in of following 3 (three) major Sections

SECTION ONE:

This section covers a draft **review on relevant policies** for Payra-Kuakata Comprehensive Plan Focusing on Eco-Tourism from the perspective of architectural development.

SECTION TWO:

This section discusses the Design Considerations **eco-tourism & related potentialities of the sites and contexts** which may be recommended and suggested to make the project a feasible one.

SECTION THREE:

This section focuses on the Sonar char and other potential sites. The report has been assessed for its potentiality for a Tourist Zone for foreigners. Similarly others nearby islands are grossly studied for the appropriate local tourism development. The outcome of these analyses may play an important role during the detail prefeasibility part.

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SECTION ONE:

1.1 INTRODUCTION

Payra-Kuakata region, located southern coastal part of Bangladesh, is rich of ample opportunities for creating facilities for tourists. The region is home to unique flora and fauna and possesses many panoramic beauties. Forests, beaches, lakes and rivers make the region ideal place for ecotourism development. Based on various locations that could be attractive for tourists, a composite tourist zoning map has been prepared that identifies 13 zones which have important characteristics that may attract tourists both domestic and international. Three of these locations are attractive because of high quality beach, five have a combination of forest and char (small island) and another five have both beach and mangrove forest. For proper development of these zones recommendations have been made for provision of adequate and proper Tourist Service Infrastructure for attracting tourists

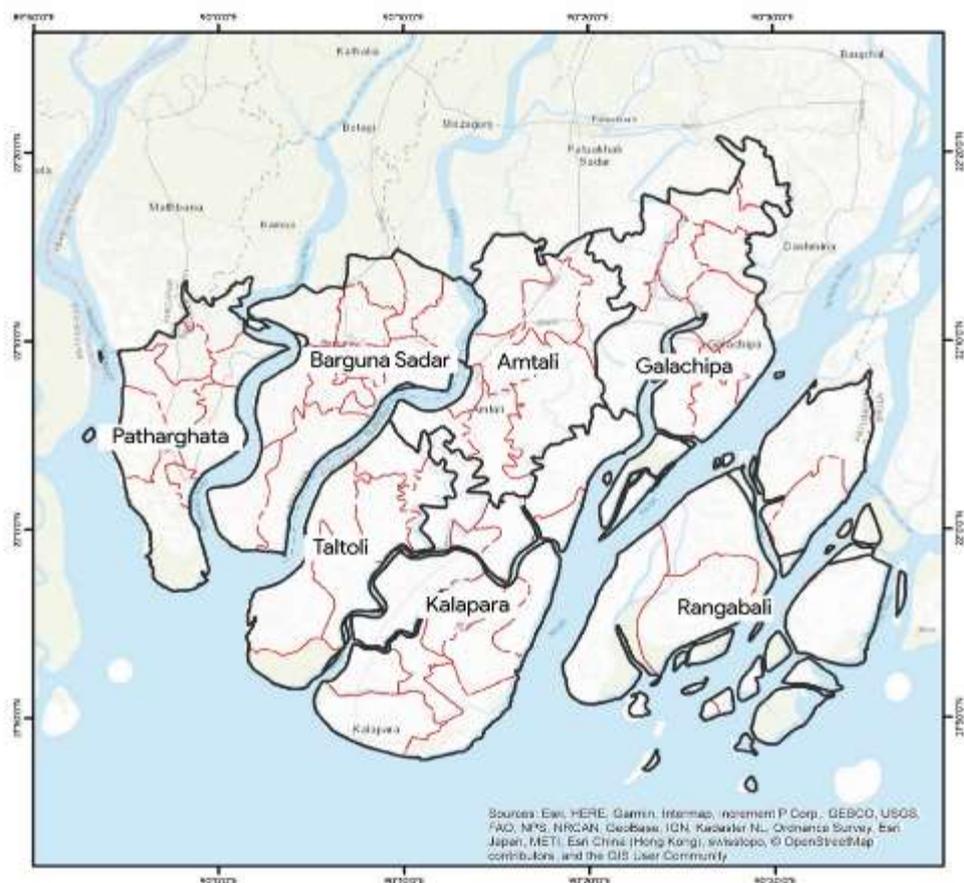


Fig 1.1 Payra-Kuakata region

from home and abroad.

The tourism business has seen significant growth worldwide as a result of economic growth and accompanying improvement in people's quality of life (Cui et al. 2016; Dwyer et al. 2020). Numerous studies have established tourism as a primary driver of economic growth in every country (Badulescu et al. 2020; Swangjang & Kornpiphat 2021). Numerous tourists visit various places of the world for leisure or business purposes (Korstanje 2011; Barbhuiya & Chatterjee 2020). Despite the global tourism industry's expansion, destination managers are growing increasingly concerned about the elements that contribute to tourist reservation (Pulido-Fernández et al. 2019; Drimili et al. 2020; Pal et al. 2021).

World Tourism Organization (UNWTO), a United Nations specialized agency, is responsible for the promotion of responsible, sustainable and universally accessible tourism geared towards the achievement of the universal 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs).

UNWTO's leadership vision acknowledges the most pressing challenges facing tourism and identifies the sector's ability to overcome them and to drive wider positive change, including the opportunities responsible tourism offers for the advancement of the 17 Sustainable Development Goals (SDGs).



Fig 1.2: 17 SDGs of UNWTO

Payra-Kuakata Tourism must be full-filled the compliance to 17 Sustainable Development Goals (SDGs) of UNWTO.

Beside that Tourism in modern times can be of vital importance to the economy of a country. Not only can it contribute handsomely to the naturally exchequer but it can also prompt good will among different peoples of the world. It leads to a high degree of social and cultural attainment too. Many of the world societies, cultures and civilizations would have become excellent ages ago had it not been for tourism. Every year thousands of tourists are attracted to the centers of these civilizations, which are ancient and traditional by nature, thus keeping them alive and thriving. Examples of such societies can be found in Mario tribes of New Zealand, the aborigines of Australia, the Red Indians of U.S.A. and the various ancient societies and tribes of Africa.

Tourism is an increasingly essential element of economic, social and cultural development and it has become one of the largest global economic activities (Western, 1993). Where Ecotourism refers to tourism that is based on the natural environment but that seeks to minimize the harmful impacts and better still, seeks to promote conservation. It focuses on local cultures, wilderness adventures, volunteering, personal growth and learning new ways to live on our vulnerable planet. Ecotourism has been defined as 'environmentally friendly' tourism, and classified by the International Ecotourism Society (1991) as: "responsible travel to natural areas that conserves the environment and sustains the well-being of local people". Ecotourism is one kinds of sustainable tourism, both environmentally and culturally, which has the capability to ensure economic and social benefits to the whole society. Ecotourism presents a small segment of nature-tourism, which is understood as travelling to relatively undisturbed or uncontaminated natural areas (Gossling, 1999).

1.2 Understanding Tourism & Facilities:

Tourism has grown from the pursuits of a privileged few to a mass movement of people with the urge to discover the unknown environment, to undergo new experiences and the desire to be both

educated and entertained. Tourism, today, has become a very emerging and the fastest growing industry both in the global and rural economy, and particularly in the developing countries. The importance of tourism as an instrument of economic development and employment generation is recognized all over the world. The data released by different global bodies, including the World Tourism Organization (WNTTO) indicate significant contribution of tourism to country's GDP and foreign exchange reserves.

Bangladesh is a land of scenic beauty of verdant forests, reverie countryside and long structures of sun-bathed beaches, fearsome wilds, meandering rivers and venerable shrine, which hold high potential for tourism. This country needs proper strategy and policy to attract both foreign and domestic tourists. Government as well as private sectors may come forward to create the base of the tourism industry.

From the wide variety of tourism, we need to understand the tourism opportunities for our project.



The project has well opportunity to explore the Leisure Tourism, Cultural tourism, Family tourism, Eco Tourism, Sports Tourism, and Educational Tourism. Port area has a small possibility of Business Tourism. A survey may be needed to explore the religious tourism.

To develop the tourist facilities, accommodation is the prime objective, especially to select the type of hotels and resorts.

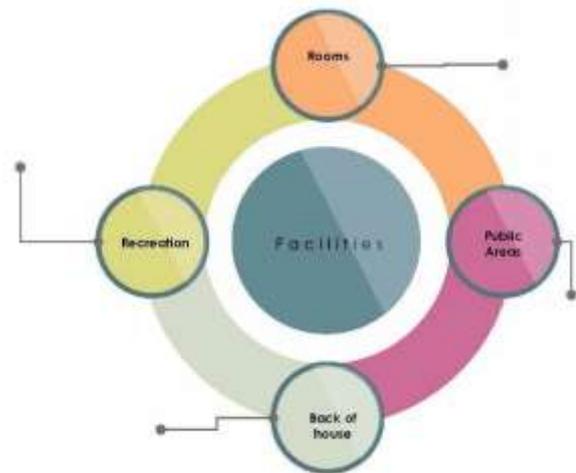
According to IHM India there are several hotel/ resort classification. A very common types are dissuaded here that are appropriate for the project.



From the variety of typology of hotels, motels, resorts, and restaurants will have opportunity to open or expand in proposed area. These hotels and restaurants will serve both domestic and international tourists in the future. A good business model and research must be accommodate in project Payra-Kuakata.

1.3 Understanding Eco-tourism & Community:

Eco-tourism has become very important to our society, since it deals with the preservation of natural areas, the wellbeing of the local people and their communities. Issue arise when there is not an adequate understanding and interconnectedness between tourists, communities, and our environment. This conflict has been present for years, and there is a need to inform the world about this crisis because of the destruction of our surroundings, and our future depends on saving our planet. Currently, people are focused on their own life routine; not considering that ahead of us there is an issue that has been following us for such a long time, and there has been done so little to resolve it.



Contemporary approaches |

Nature based

Eco tourism,
Adventure tourism,
Educational tourism etc.



- Focused on Natural conservation
- Involving community
- Self development and healing as consequence

Cases :

LooLa adventure resort



Community or culture based

Eco-cultural tourism,
Rural tourism,
Volunteercism etc.



- Focused on community and local culture
- Nature conservation,
- Self development and healing as consequence

Cases :

Adnman Discoveries, Thailand, CBT Vietnam; Jean marie cultural center, New caledonia, Golkanon, Mongla



Healing or retreat based

Meditation retreat tourism,
Wellness tourism,
Health tourism etc.



- Focused on self development and meditative healing
- Nature conservation,
- Self development and healing as consequence

Cases :

Osho international meditation resort, Ajo-wira & Mana meditation resort, Quantamom, Bandarban



Eco-tourism is about the care for nature, trying to conserve our environment, with as minimal impact to our surroundings as possible. Again, Sustainable architecture tries to minimize the negative environmental impact on the environment by buildings by enhancing efficiency and careful

use of materials, energy, and space efficiency. In many cases however, we as designers are not aware of “sustainable” architecture and its real meaning. With new discoveries and technologies, we have forgotten how to build with the environment. Therefore, the main challenge for us as designers, is to find solutions which do not disturb the environment.

The proposal for designing a sustainable tourism model and/or an eco-lodge near an Eco-tourist location should be connected to the community and nature. That will accommodate not only tourists coming to visit the area, but also local people that are going to interact with the tourists within a social and cultural aspect. A sustainable model will be introduced, while at the same time giving these local people employment opportunities, improving their quality of life, while still preserving their culture. Architects, designers and planners have some social responsibility along with ecological design.



Successful Characteristics of Ecotourism' include—

- Minimizing the negative impacts on nature and cult that can damage a destination.
- Educating the traveler on the importance of conservation.
- Stressing the importance of responsible business the work in cooperation with local authorities and people to meet local needs and deliver conservation benefits.
- Directing revenues to the conservation and management of natural and protected areas and biological diversity.
- Emphasizing the need for both regional tourism zonings and visitor management plans designed for either regions or natural areas that are slated to become eco-destinations.
- Emphasizing use of environmental and social base-line studies, as well as long-term monitoring programs, to assess and minimize impacts.
- Maximizing economic benefit for the host country, local business and communities, particularly peoples living in and adjacent to natural and protected areas.
- Supporting the economic empowerment of communities through training and hiring local people, paying fair wages and benefits, buying supplies locally, and supporting local ownership or joint ventures with outside business or NGO partners of tourist families and concessions.
- Ensuring that tourism development does not exceed the social and environmental limits of acceptable change as determined by researchers in cooperation with local residents.
- Relying on infrastructure that has been developed in harmony with the environment: minimizing use of fossil fuels, conserving local plant and wildlife, and blending with the natural and cultural environment

1.4 Architectural indicators for Eco-tourism

For designing the architectural conceptual model, following issues should be addressed well:

The Design: An efficient plan is a simple and effective method of limiting the environmental “footprint” of the building. He should be sensible to local site context and ecology.

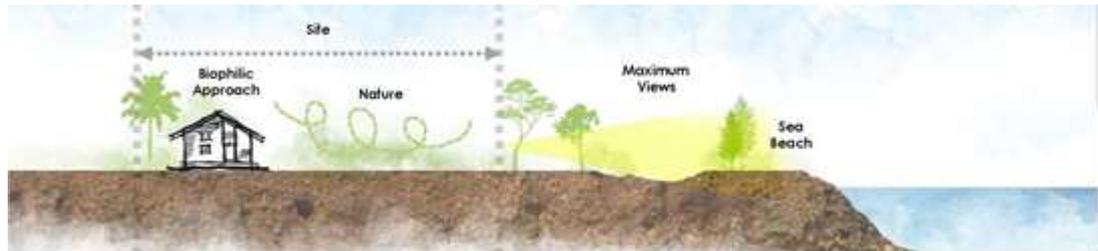


Fig 1.3 : Efficient planning with nature & sea

A conceptual design may be awarded after vigorous study of site, community, climate and context.

Structure and Materials: Sustainable structure and materials should be selected where building materials will be lightweight and allowed for simple construction techniques. A limited number of materials should use to minimize the amount of wastage.



Fig 1.4: Innovative structure

Thermal Comfort: A combination of thermal sensitive design and openable windows allow for efficient and effective cooling from cross ventilation. By shading the house during hot summer days and opening it during the cool evenings, comfortable conditions can be maintained without air conditioning.

Ancillary Services: A well network of back house hospitality will be the prime object of a decent resort.

Site Specific Development Responses: Design should address the sites. Before designing the retreat, designer should study the context. If the site is eco sensitive, design should be environment friendly.

Fire

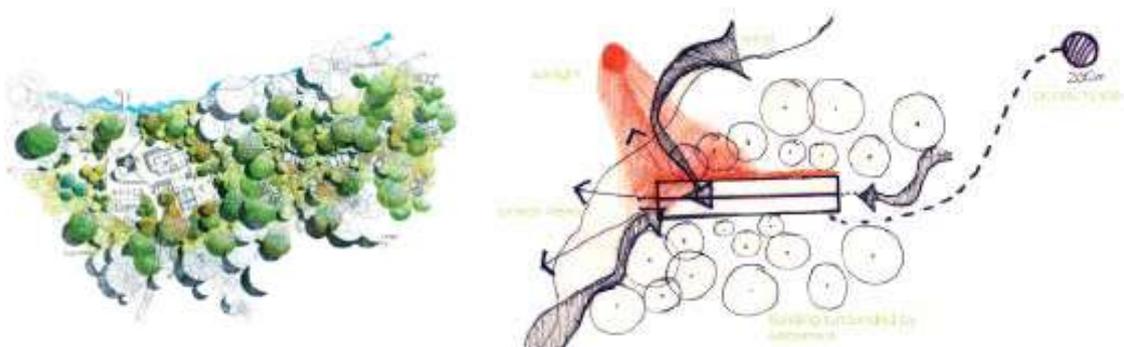


Fig 1.5 : Understanding context & climate

tection considerations: Forest and non-permanent building materials are consist high level of fire hazard. It will be the responsibility of designers to accomplish the considerations of fire detection (FDS) and fire protection system (FPS).

Safety & security: Safety and security are the prime responsibility of the complex operator and local authority.

Water: The water source for the Lodge is supplied by rainwater collector from the roofs and preserve into tanks or pond. This water is used for showers, kitchen use and bushfire protection. Rainfall to the area is providing an adequate water supply.

Waste: organic kitchen waste is treated on site through Dry composting system. Waste is passed through a 'digester' where it is further filtered. Solid waste is recycled where possible. The retreats rely on an Envirocycle septic system. The Envirocycle system is an aerobic waste treatment system that reticulates clean nutrient rich water into the surrounding landscape.

SECTION TWO:

2.1 Tourist Locations in Payra-Kuakata Region

Payra-Kuakata region offers ample opportunities for creating facilities for tourists. The region is home to unique flora and fauna and possesses many panoramic beauties. Forests, beaches, lakes and rivers make the region ideal place for ecotourism development. A Brief Description of potential tourism sites in the Payra-Kuakata Project Area is present in the following with the observation from the point of tourism, architectural interpretations and heritage perspectives.

2.2 Potential sites and their observation

2.2.1 a. Sonakata Ecopark

The Sonakata ecopark located in the forest of Fatra of the newly founded Taltoli Upazilla of Barguna District has recently been bustling with crowds, both from inside and outside of the district. The 19-acre ecotourism center is shrouded with exquisite flora and fauna, with numerous canals spread throughout the ecopark like spider-webs. The greeneries of both sides of the canals quickly captivate the visiting outdoorsmen. The tourists can also quench the thirst for more by visiting the sea beach located at south-west side of the ecopark. The ecopark is located about 40 kilometers from Amtali. The newly built roads without any need for ferries enables the tourists easily visit the park. Many tourists are visiting the park from Kuakata by launch, trawlers etc. The park gets crowded during the winter. Many visitors come to the park from various regions of the country for camping, picnic and other outdoors activity.



2.2.1 b. Observation: Tourist are visited the ecopark and enjoy the greeneries of both sides of the canals and birds and animals in reserved park. We need to develop the tourist facilities with minimal intervention of the existing ecology and nature.



2.2.2 a. Rakhaine Village

13 Rakhaine Villages are located throughout the Kabirajpara, Agathakurpara, Tatipara, Monukhapara, Momeshepara, Tongpara, Laupara, Chhatonpara, Talukdarpara, Boro Ankupara, Chhoto Ankupara and Sawdagorpara of Taltoli Upazilla. A total of One Thousand and Five Hundered Fifty-Eight rakhaines are living in these villages. The Rakhaines are indigenous people of Taltoli Upazilla with origins rooted back in Myanmar. About Seventeen thousand Rakhaines are spread throughout Barguna, Patuakhali, Cox's Bazar, Chattogram, Rangamati, Bandarban and Khagrachari. Their village is seen illuminated at night, with them wide awake looming clothes. Many tourists visit these villages to experience the indigenous lifestyle and acquire the knowledge about the Rakhaines. A sacred and



historic Rakhaine temple is situated here aside from the village. Tourist spots like Ashar Char, Sonar Char are located near these Rakhaine villages.

2.2.2 b. Observation: Rakhaine Villages are rich with their unique lifestyle and culture. We should uphold and branding their culture to the tourists of both local and foreigners. We need to develop the cultural and interactive spaces within their villages or beside the villages. Community tourism or home-stay of tourist may be accommodated with inclusive hospitalities.

2.2.3 a. Shuvo Shondha Beach

The Shuvo Shondha Beach is located in Nalbunia in Nishanbaria Union of Taltoli Upazila. The main three river: Payra, Bishkhali and Bawleshwer of Barguna district has been all connected near the beach. The shoreline covers Four kilometer area and the sea beach itself is about 15 kilometers away from Taltoli Upazilla Sadar adjacent to the south western side Sonakata Ecopark. In the past due to its distance from Jila Sadar the sea beach was somewhat deserted and devoid from any form of tourism except from local people and fishermen who came here for livelihood purposes. Thanks to social media, the sea beach has attracted the attention of many tourist and nature enthusiasts.



2.2.3 b. Observation: We need to develop the better communication by both road and waterway to reach the beach and the surroundings. There are scope to develop the tourist facilities emphasis the community people and business entrepreneurs. A large fresh water pond and its surrounding maybe designed as tourist complex and cultural hub. Beside that home-stay facilities for tourists may be also possible.



The forest, flora and fauna of this context will need a special attraction and possibility for the tourism branding.



2.2.4 a. Misripara Buddhist Temple

A near thousand people come to visit the Buddhist Temple in Misripara of Kalapara Upazilla. The temple is about 8 kilometers from Kuakata has attracted the attention of many tourists throughout the nation. According to the temple authority, besides the local visitors many tourists of foreign nationality also come to see the temple. The 32 feet tall statue of the Buddha is considered one of the largest Buddha statues of Asia. The temple covers 2 acres of area. According to the local people the temple was damaged during the Sidr and Aila tropical storm. Thanks to the donation of German government the temple has been able resurface as a whole new religious site in 2014. Many shops have been built surrounding the temple and the transportation facilities have also been improved.



2.2.4 b. Observation: There are several **religious heritage trail** Buddhist complex around the Patuakhali and Burguna districts. We need to develop a connecting the all Buddhist temples surrounding the Payra-Kuakata region targeting the East and south-east Asian tourists. We should explore those Buddhist sites and develop the attractions and facilities.



2.2.5 a. Kuakata Sea Beach

Kuakata is one of the main sea beach situated at the southernmost area of Bangladesh. The sea beach is known as the “Sagar Kannya” (Sea Maiden). This is the only sea beach in Bangladesh where both sunset and sunrise can be seen .



Fig 2.1: Kuakata Sea Beach

Several tourist spots are also located nearest Kuakata Sea Beach. Other places of interest near the sea beach include:

2.2.5 b. Observation: This tourist spot need intensive branding to home and abroad and urban design solution regarding the world class tourist attractions. Broad walkway, green road foliage, tourist signage, security, amusement spots and cultural spaces. Detail observations may be finalized after a detail study.

2.2.6 Fatra Forest: A mangrove forest reserve at the western part of Kuakata sea beach which has been considered as the “second sundarban”. Keye, Gauya, Goran, Golpata etc type of mangrove trees are seen there. There are also many birds and animals like monkeys pigs etc. Visitors can go there by trawler Fare is Tk. 1000-Tk. 3000 and required travel time is 30 min – 1.30 hr. Fatrar Char is also a part of sundarban forest.

2.2.7. Well of Kuakata: An ancient well is built near the Rakhaine village of Keranipara. Legend has it the name Kuakata has been derived from the Well as the local people calls it The “Kua” (well) of Kuakata.



Fig 2.2 Error! No text of specified style in document.: Well of Kuakata

2.2.8. Sheema Buddhist Temple: The temple is standing right in front of the the Well of Kuakata. A buddhastatue weighing 37 mon made of osta metal is situated here. shows the image of the temple.



Fig 2.3 : Sheema Buddhist Temple

2.2.9. Coconut Foliage of the Sea Coast: The sea beach has numerous coconut foliage which enhanced the beauty of the beach to a much greater extent.



Fig 2.4: Coconut Foliage of the Sea Coast

2.2.10. Alipur Port: The Alipur Port which has been considered one of the largest of busiest fisheries port is about 4 kilometers away from the kuakata sea beach.

Fig shows an image of the port.



Fig 2.5: Alipur Port

2.2.11. Gangamati Forest: Gangamati forest (or Gajmati Forest according to some local people) is situated at the east side of the sea beach. Fig shows an image of the forest.



Fig 2.6: Gangamati Forest

A numerous fishermen family lives in Ashar Char and a large shutki (dried fish) industry has been established here. During the drying season many fishermen come to these chars like a nomad. The processing of dried fish takes most of the 7/8 months of a year. Many men and women are engaged in processing dried fish in Kalapara Upazilla of Patuakhali. The fishermen families have been flocking here to earn livelihood. The number of fisherman huts is increasing as a result of the profitable business. Several trawlers can be seen in the sea engaged in harvesting. The traders buy fishes like poa, sonapata, modhufaissha, rupchanda, potka, shaplapata, chapila, faissha, loitta, chingri,



chhuri, Hangor, bhol, med and other fishes of various species from the fishermen. Some people are seen busy clean and processing the harvested fishes. shows an image of Shutki Palli.

2.2.13 . Gurinda One Gambuz Mosque

Gurinda One Gambuz Mosque can be considered one of the most ancient artifacts of the Islamic architecture of Bangladesh. It is located in Ratnadi of Galachipa upazilla at the east side of Ulania Street. Due to the lack of much needed reparation and maintenance the mosque is almost turning to a ruin. It is believed that mosque has been built around the time of the rise of Muslim Empire in Chardadip Bakla. According to the legend, the mosque has been built before the catastrophic hurricane and cyclone of 1584. Moreover, according to some people, the mosque was built before the conquest of Chandradip in 1465 by Sultan Mobarak Shah. The main complex of the mosque is about 360 square feet of area and the height is about 16 feet. The mosque has only one froot and one Gambuz (Dome) thus gaining the name One Gambuz Mosque. The mosque has been built from 4 feet from the ground. It has one meeting house.



2.2.13 b. Observation: There are several early colonial and late colonial mosques and temples within or surround the Payra-Kuakata region in Burguna and patuakhali districts. We need to list those heritage structures and explore the sites with proper conservation. There are



Fig 2.7: Mosque

Heritage tourism also be possible if we prepare a well worked out heritage trail network map along with tourism facilities. We can accommodate following nearby sites for heritage tourism.



Fig 2.8: Old Heritage

2.2.14 a. Sonar Char Reserve

The reserve is located around 50 kilometer south-east and 40 kilometers from the Kuakata tourist zone at the estuary of Buragauranga river. The area of Sonar Char is about 10 square kilometers. The char was devastated in the 70's catastrophic cyclone. The trees were uprooted making sonar char a barren land. The Patuakhali Forest Department took the responsibility of reforesting the char in 1975. The department planted kewra, sundari, khulsi, koroi plants covering up to 5.5 acre of land. Besides, many plants were grown on its own through the natural courses. These plants turned Sonar Char into an amazing forest land. Besides the flora, Sonar char has ample amounts of faunas as well as foxes, bulls, boars, monkeys etc. In 1995 a total of nine deer were released in sonar char in two bouts. There are no confirmed statistics about the total number of deer in the char at present day however many of them can be seen grazing throughout the forest. In the beach an abundant number of red crab can be sighted. Myriads of species of birds can also be observed especially in winter when migrant birds arrive here. Realizing the tourism potentiality of Sonar Char, Bangladesh Parjatan Corporation (BPC) proposed a tourist complex at Sonar Char that includes a youth inn, a restaurant, picnic sheds, outdoor party area and eco-cottages. The project, however, would not be feasible right now because of lack of communication network, inadequate accommodation facility and very poor utility services (electricity, water supply, gas). According to the results of the cost-benefit analysis of the project prepared by the consultant, it is also seen that the project is neither economically nor financially viable.



2.2.14 b. Observation: Sonar char has a very bright Eco-tourism with minimum intervention due to reserve forest. Again it its geological formation is not suitable to develop exclusive foreign tourist facilities like guest accommodation in individual private cottages, pavilions etc. Only few service functions for day tourists and jungle safari may be accommodated. Detail possibilities for proposal may be introduced in separate writing.



Fig 2.9: Conceptual View for Beach lounge & Jungle safari

2.2.15 a. Laldia Forest

The Laldia reserve and Haringhata tourism spot is situated 6 kilometers away from the Patharghata upazila town of Barguna in Sadar union of Haringhata Bishkhali River. Across the Bishkhali River in the Bay of Bengal lies the Laldia sea beach. The tourism spot covers as much as area from Bishkhali river bank to the coast of Bay of Bengal. It's located at the south side of Patharghata upazila. The forest can be found strolling through about two hours of distance in the



Haringhata forest. Bishkhali river is at the east side of the and at west side is the Baleshwer river. The beach is clinging to the Laldia forest. Though the forest is quite small it has no lacking for entrancing the attention of nature loving visitors. The forest is teeming with wildlife and a tourist can become enthralled by the sound of sea water rushing on the coast. A flock of seagull and thousands of red crabs can be seen at the forest side beach. Four watchtowers, a total of ten benches and brick road has been built for the tourists. A fresh water pond has also been dug. Many mangrove plants like kewra and sundari has been planted as well as rain trees. Many species of wild animals can also be seen in the forest.

2.2.15 b. Observation: The site needs to visit for further exploration.

2.2.16 a. Haringhata Forest and Tourist Spot

Endless sea at the one side and natural forestry on other and in between stands the Haringhata Forest to fascinate the nature loving tourists. The forest is at the southern side of Patharghata upazilla. One can experience the sunset and sunrise as well as find many wildlife and myriads of plant species. The Haringhata name came from the fact that the forest use to be grazing ground for the spotted deer which can also be found at the sundarban. The



beauty of the forest has been enhanced by the three adjacent beaches – laldia, padma and lathimara. It can be said that this spot is one of the best for observing both sunset and sunrise. The naturally made forest is teeming with thousands of species of plants and trees. The mail flora includes mangrove trees like kewra, goran, gewa, ora etc. Spotted Deers, Monkeys, Wild cats, Boars can be seen in the forest. Aside from these several species of birds and reptiles can also be seen here. One of the most attractive aspects of the forest is its serpent like myriads of canals. During the high tide river cruising through the forest can be mesmerizing.

2.2.16 b. Observation: The site needs to visit for further exploration.

2.2.17 a. Bihongo Island

Bihongo Island is can be found at the estuary of the river Baleshwer of the Bay of Bengal. The island was named “Bihongo” recently. It is known as Dhansir Char to the local people. The island is much closer to the world heritage site Sundarbans. Patharghata and sundarban is at the east side of the island. According to the elders of Ruhita village the island surfaced around 20 to 25 years ago. The naturally decorated island is filled with wildlife and trees. The island looks like an emerald hill from afar, the red crabs on the white sand looks like red carpet, the grey seagulls far away. The afternoon looks great at this place especially when the sun sets the sky ablaze golden with sunlight. The fishermen flock around the sea during the fishing season. One can easily buy fishes from there at a really low price.



2.2.17 b. Observation: The site needs to visit for further exploration.

SECTION THREE:

3.1 Exploration of Sonar Char:

Administrative Identity: This area is under Galachipa Thana and Patuakhali District.

Location: Sonar Char is located at the South of Char Montaz, Rangabali and Undar Char.

Area: 7.27 km²

Forest Type: Coastal Mangrove Plantations

Bio-Ecological Zone: Saline Tidal Floodplain

Physiography: Ganges Tidal Flood Plain

Coordinate: 210 50'-260 30' N and 88047' - 90010' E

Forest Beat (S): Sonar Char Wildlife Sanctuary

3.2 Ecological Context:

At Sonar Char Wildlife Sanctuary, the soils are non-saline throughout the year over substantial amount of areas in the north, but grow to be saline to varying degrees in the dry season. In the north-east, there is moderately deep flooding during the wet season. A good number of weeds grow in this area and several types of palms and bamboo chumps grow throughout the wildlife sanctuary. Wild goose, wild duck, jungle fowls, cranes and spines are among the notable avian species found in this area. There is a forest Beat office.



Sonar Char is located around 50 kilometer south-east and 40 kilometers from the Kuakata tourist zone at the estuary of Buragauranga river. The Patuakhali Forest Department took the responsibility of reforesting the char in 1975. The department planted kewra, sundari, khulsi, koroi plants covering up to 5.5 acre of land. Besides, many plants were grown on its own through the natural courses. These plants turned Sonar Char into an amazing forest land. Besides the flora, Sonar char has ample amounts of faunas as well as foxes, bulls, boars, monkeys etc. In 1995 a total of nine deer were released in sonar char in two bouts. In the beach an abundant number of red crab can be sighted. Myriads of species of birds can also be observed especially in winter when migrant birds arrive here.

3.3 Tourism potentiality:

Regarding the environmental sustainability Sonar Char tourism may be recommended as responsible tourism that can promote awareness of and support for the conservation of local Eco-system simultaneously creating economic opportunities for our country and communities.

According to Islam (2014), Ecotourism is a form of tourism involving visiting fragile, pristine, and relatively undisturbed natural areas, intended as a low-impact and often small-scale alternative to standard commercial (mass) tourism. Its purpose may be to educate the traveler, to provide funds for ecological conservation, directly benefit the economic development and political empowerment of local communities, or to foster respect for different cultures and for human rights. Andersen (1993) describes ecotourism facilities as a “window to the natural world.” It explain as both

emblematic of our relationship to the environment and as a “vehicle for learning and understanding” (1993: 116).

Before the proposal of the tourism development for the Sonar Char, we should understand and explore the following elements of tourism development.

Attraction: Any visitor service or product which tourists would enjoy visiting or using. To be considered an attraction, a product must be: a. Findable (clearly located on maps and street addresses, and directions provided). If tourists can't find the facility, it is not a tourist attraction. For Sonar Char limited Forest safari can be proposed.

Accommodation: Accommodation (Acc) is the process by which the vertebrate opportunities and quality of living environment. For Sonar Char maximum 5~7 exclusive tent or temporal cottages (like Amanwana in Indonesia tourist facilities). The facilities must be minimum intervention of the nature & forest.

Adventure: An adventure is an exciting or unusual experience. It may also be a bold, usually risky undertaking, with an uncertain outcome. Adventures may be activities with some potential for physical danger such as skydiving, mountain climbing, river rafting or participating in extreme sports. The term also broadly refers to any enterprise that is potentially fraught with physical, financial or psychological risk, such as a business venture, a love affair, or other major life undertakings. Boat safari, mud beach experience, scuba diving, deer spotting/ sighting and any other thrilling experiences for the paid tourists may be housed at Sonar Char.

Hospitality: Generous and friendly treatment of visitors and guests: hospitable treatment and the activity of providing food, drinks, etc. for people who are the guests or customers of an organization. Leisure: Leisure, or free time, is time spent away from business, work, and domestic chores. For sonar char 5 star rated hospitality will be needed if we promote exclusive tourism. On the other hand, paid-tourists optimum in numbers may be visited the Sonar char during day schedule and take rest at nearby island's tourist complex.

Recreation: Recreation is an activity of leisure, leisure being discretionary time. The "need to do something for recreation" is an essential element of human biology and psychology. Recreational activities are often done for enjoyment, amusement, or pleasure and are considered to be "fun." For Sonar Char we may develop few amusement activity in a month to attract the people and must be 'branding' by media.

Tourist: Visitor who stays one or more nights in the place visited. For Sonar char there may be two type of options. One for exclusive tourism but limited in numbers like Maldivas or Amanwana in Indonesia. Other one, optimum number of tourists for day trip may be allowed they will stay neighboring island.

Same-Day Visitor: Visitor who does not spend the night in a collective or private accommodation in the place visited.

Tourism Policy: a progressive course of actions, guidelines, directives, principles and procedures set in an ethical framework that is issues-focused and best represents the intent of the community to effectively meet the planning, development, product, service, marketing and sustainability goals and objectives for the future growth of tourism.

Transport: Transport or transportation is the movement of people, animals and goods from one location to another. Modes of transport include air, rail, road, water, cable, pipeline and space. The field can be divided into infrastructure, vehicles and operations. Transport is important since it enables trade between people, which in turn establishes civilizations. For Sonar char, seaplane landing facility may be developed. Exclusive cruise service may be proposed.

Travel Agency/ Travel Organization: A travel agency is a private retailer or public service that provides tourism-related services to the public on behalf of suppliers such as airlines, car rentals, cruise lines, hotels, railways, and package tours. In addition to dealing with ordinary tourists most of the travel agencies have a separate department devoted to making travel arrangements for business travelers and some travel agencies specialize in commercial and business travel only. For branding and promoting Sonar char, a well network with national and international Travel Organizations will explore.

Virtual Tour: A virtual tour is a simulation of an existing location, usually composed of a sequence of video or still images. It may also use other multimedia elements such as sound effects, music, narration, and text. We shall initiate a virtual tour connecting Safari tour, Heritage tour, cultural tour etc. as promotion.

Airline: A system for scheduled air transport of passengers and freight. In another word, a business providing a system of scheduled air transport is also called airway. Recommendation for airline network.

Tourism Development Strategy: Tourism development strategy is future action plans, which define the long-term objectives, conduct a market and competitive analysis, assess the present scenario, do a SWOT analysis and required resources to achieve the desired goals for getting the destination competitiveness. It seeks to ensure maximum potentialities of the tourism industry enables it to grow in a way that is economically, socially and environmentally sustainably set the foundation for a vision and will be encompassed within the wider country's plan. Tourism Development Strategy must be complained with Sonar char tourism special regarding to Tourism Marketing Planning & Tourism Management.

Beach nourishment: Beach nourishment is the process of placing additional sediment on a beach or in the near shore. A wider and higher beach can provide storm protection for coastal structures, create new habitat, and enhance the beach for recreation.

3.4 Conceptual layout plan:

The planning strategy should be proposed to minimum intervention and remain the Eco-footprint less in limit. We suggest that most of the parts of Sonar char will be un-touch as reserve forest. Only permitted and limited visitors will be allowed for Jungle Safari. The most southern part of Sonar char has scope to accommodate few tourist facilities that shown by visual graphics.

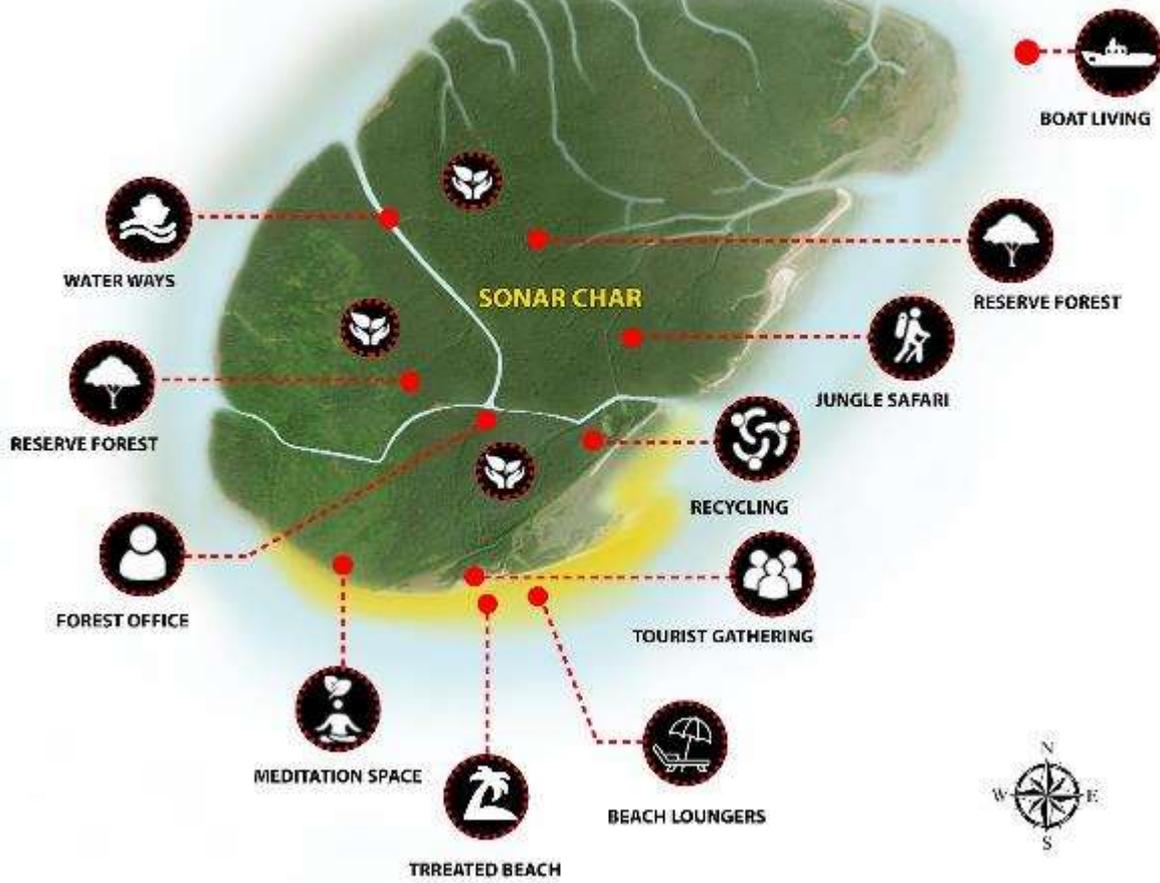


Fig 3.1: Conceptual Plan of Sonar Char

Above layout, only for the conceptual understanding. A detail master plan proposal will prepare after the site analysis of the Sonar char area. Beside that beach nourishment is necessary for stable beach of Sonar char.

We can develop different tourist facilities located on neighboring islands of Sonar char to keep its environment less interrupted. Detail study on those islands is necessary to explore this design concept. More over a well worked water transport network is essential to connect those islands for sustainable tourism.



Fig 3.2: Conceptual Plan of Sonar Char and Surrounding Area

Tourist facilities can be developed in Char Muntaz, Andhar char, Char Hare where geo-formation is more stable keeping the Sonar Char intact of Eco-forest.



Tourist can visit and having jungle safari with limited scope that insure the ecological sanctuary. A good network of water transport may be provided to connect Sonar Char with neighboring islands.

3.5 Architectural Exploration:

For sustainable eco-tourism, architectural intervention and foot print should be minimum as possible accommodating optimum hospitality for tourists. Architecture and development proposal should be innovative respecting the context and landscape. Here we are suggesting 3 (three) different conceptual model for Sonar char and its adjacent island.

3.5.1 a. Option 01: Luxury Leisure Tourism

Adjacent Sonar char, Eco-tourism may be belong to gated exclusive foreign tourists who are fond to enjoy their leisure in nature, forest and water at **Char Hare** and **Andhar Char**. This type of tourism are exist in Maldives, Indonesia, Philippines, island of Mediterranean Sea and Caribbean Sea. Generally international tourism facilitator chains has engaged to develop, construct and operate the sites. They will explore the facilities like guest accommodation in individual private cottages, pavilions or tents, attraction, amusements, back hospitality functions etc. through a unique concept and context. The case of Aman-i-Khás in India, Amanwana in Indonesia, and Amanpulo in the



Keemala Eco Resort, Thailand



Diphlu River lodge, India

Mermaid Resort, Bangladesh Diphlu

Rua resort, Sumba, Indonesia

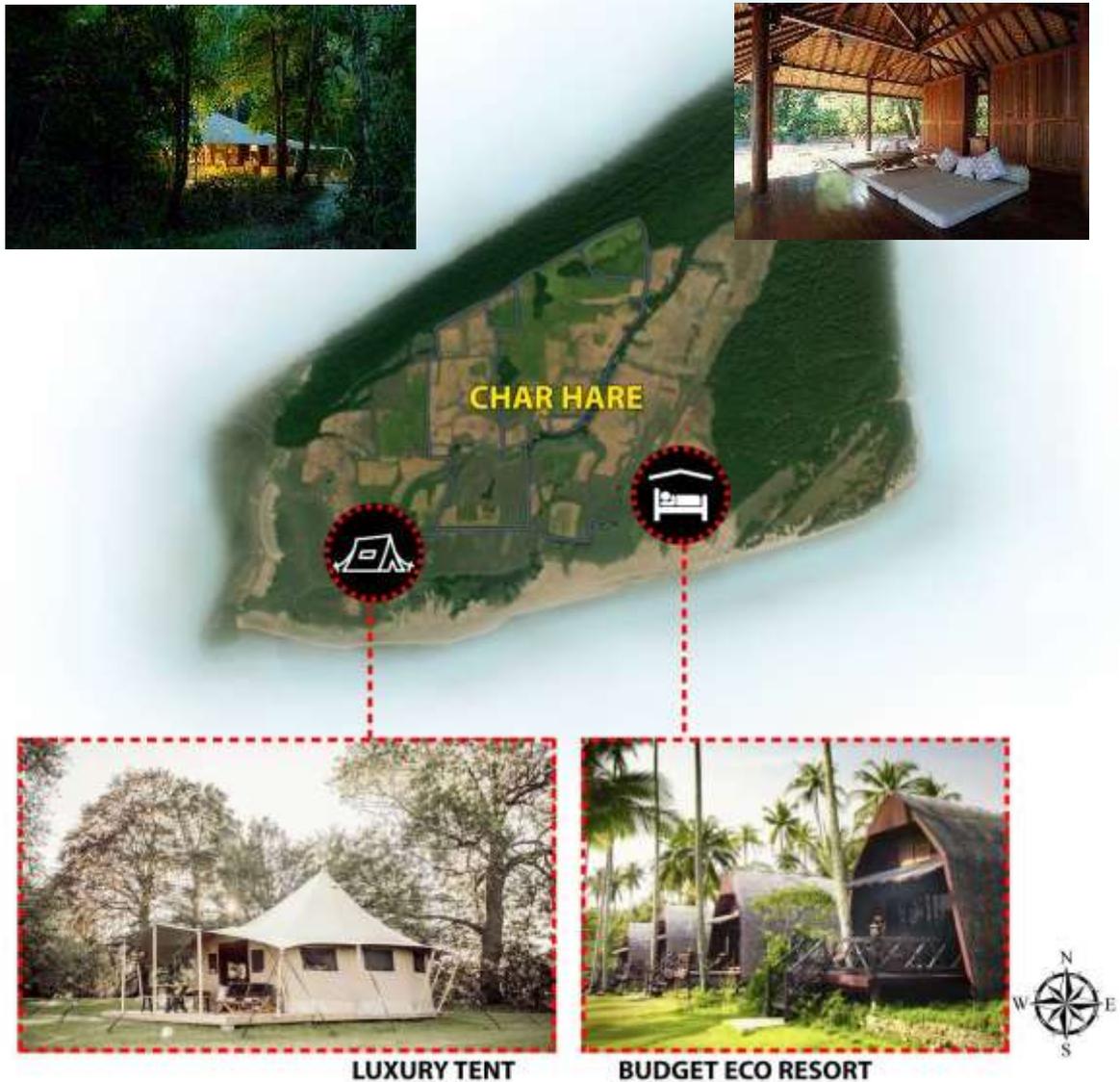


Amanwana Tent resort, Indonesia

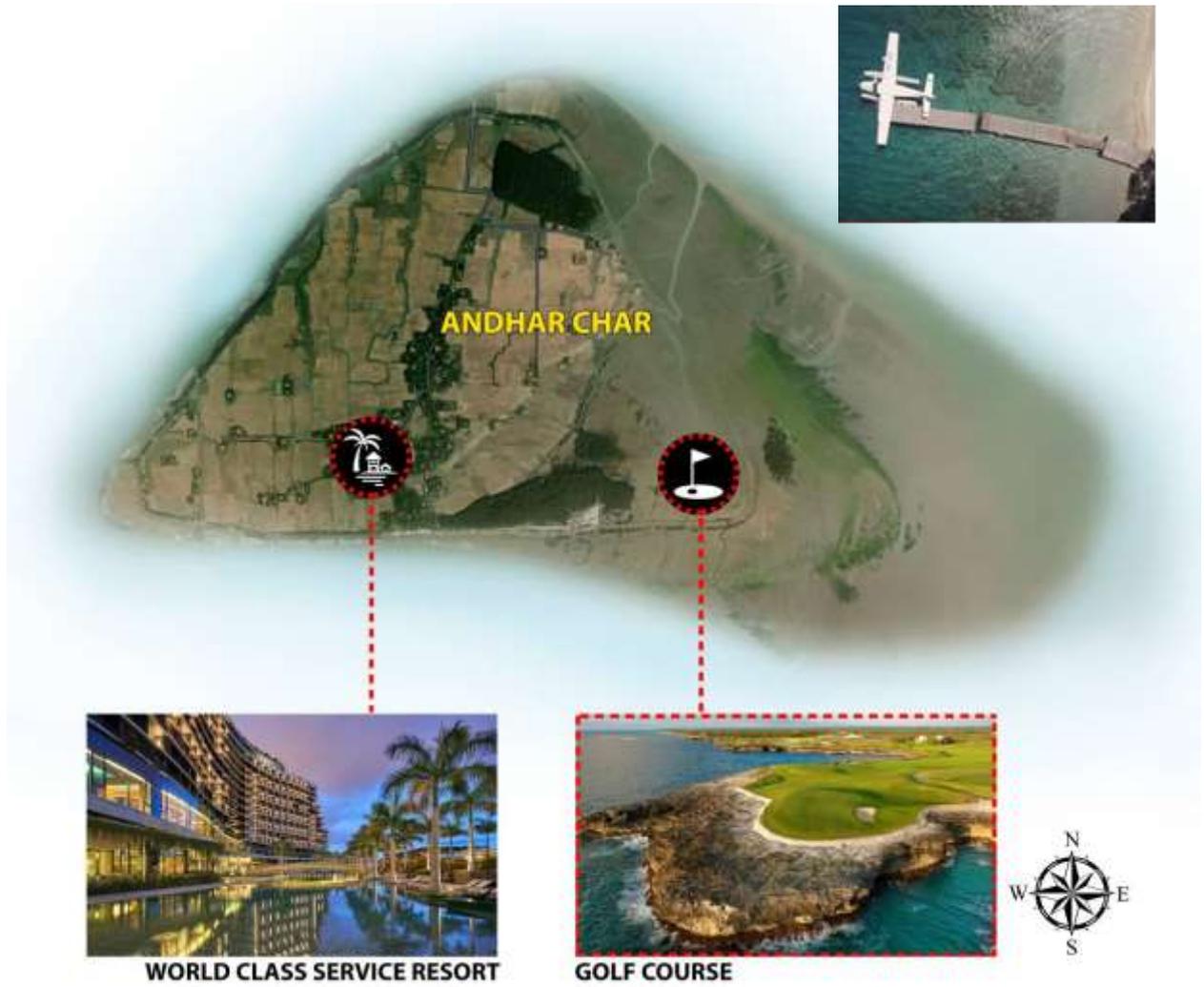
Philippines are the good examples of this kind

Fig 3.3: Luxury Eco-Tourism of Different Country

of tourism development. For the option 01, tourism facilities will be expensive and gated-accommodation where pavilions should be limited to 20~50 in numbers. Due to exclusive of nature, privacy and buffer zones in-between will be the prime challenge for the designers.



Char Hare will be a nest of exclusive foreign tourists. Eco-friendly resort with special architectural visual attitude may be proposed here with world top hospitalities similar in the case of Aman-i-Khás in India, Amanwana in Indonesia, and Amanpulo in the Philippines.



Andhar Char is another potential island to develop the world class service resort with all possible hospitalities. Mini golf course may be proposed here as extra attractive feature. Sea plane transport can add an extra feature for this site.

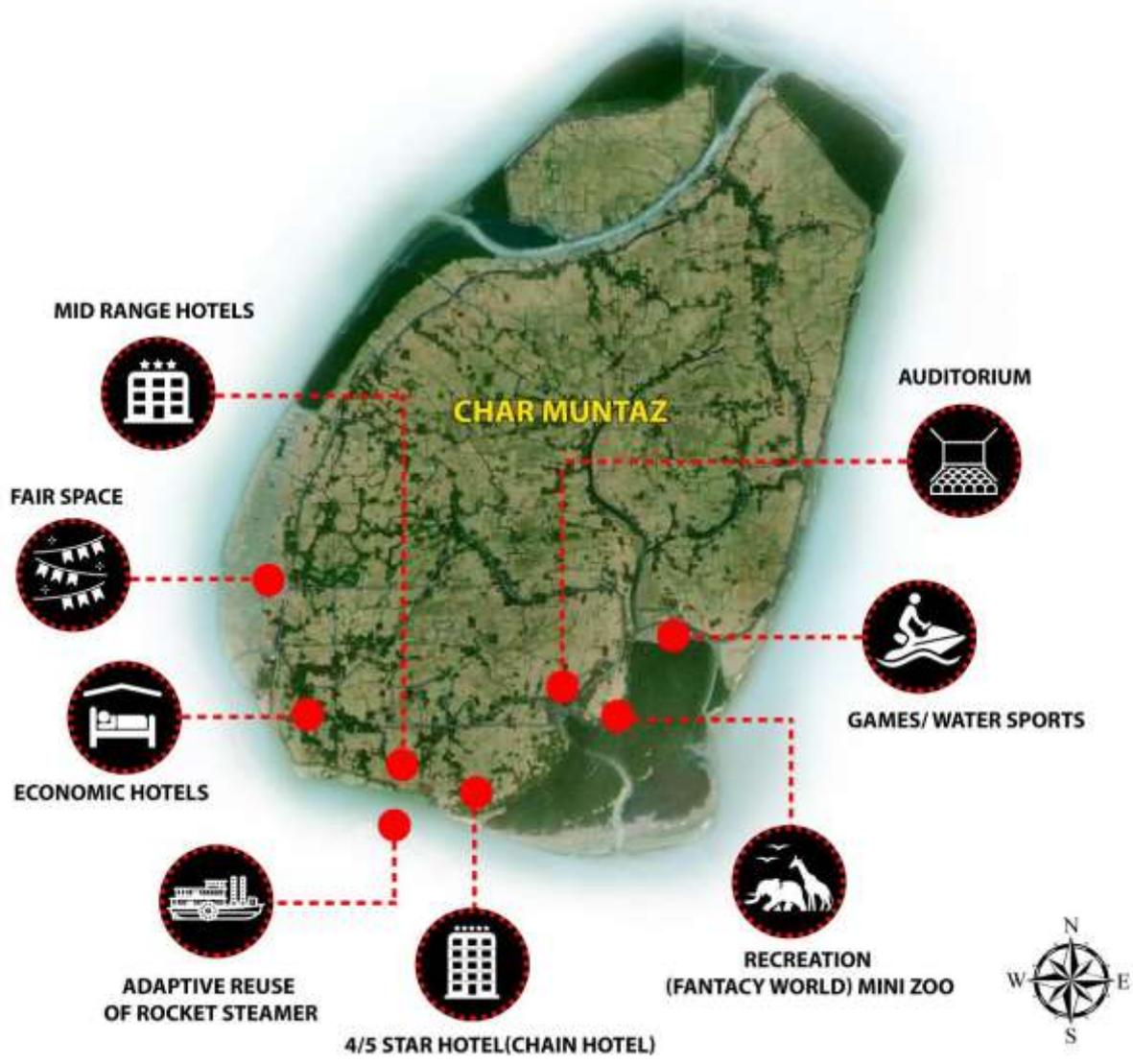
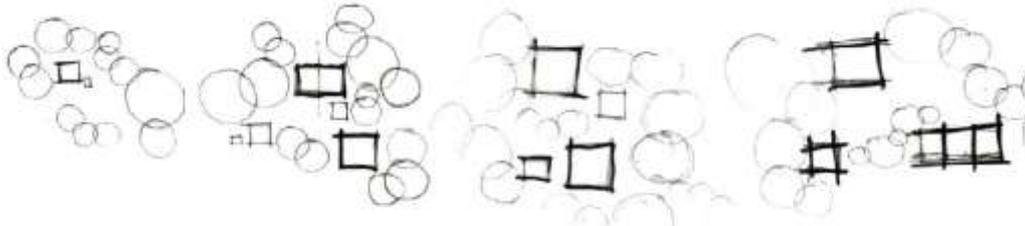


Fig : Potentialities for Tourism development at Char Muntaz

Char Muntaz is large and stable island that has bright scope to develop different type of tourist facilities. Both budget hotel and exclusive hotel can be proposed here. Ancillary facilities for tourists like sports, convention hall, exhibition pavilion, water games etc. could be arranged at Char Muntaz. There is a scope to road connectivity with main land of Bangladesh.



3.5.1 b Conceptual idea:



Idea of grouping & buffer for the pavilions



Placing elements on beach



Non-permanent & local construction



Flexible landing dock



Roaming deer



Watch tower



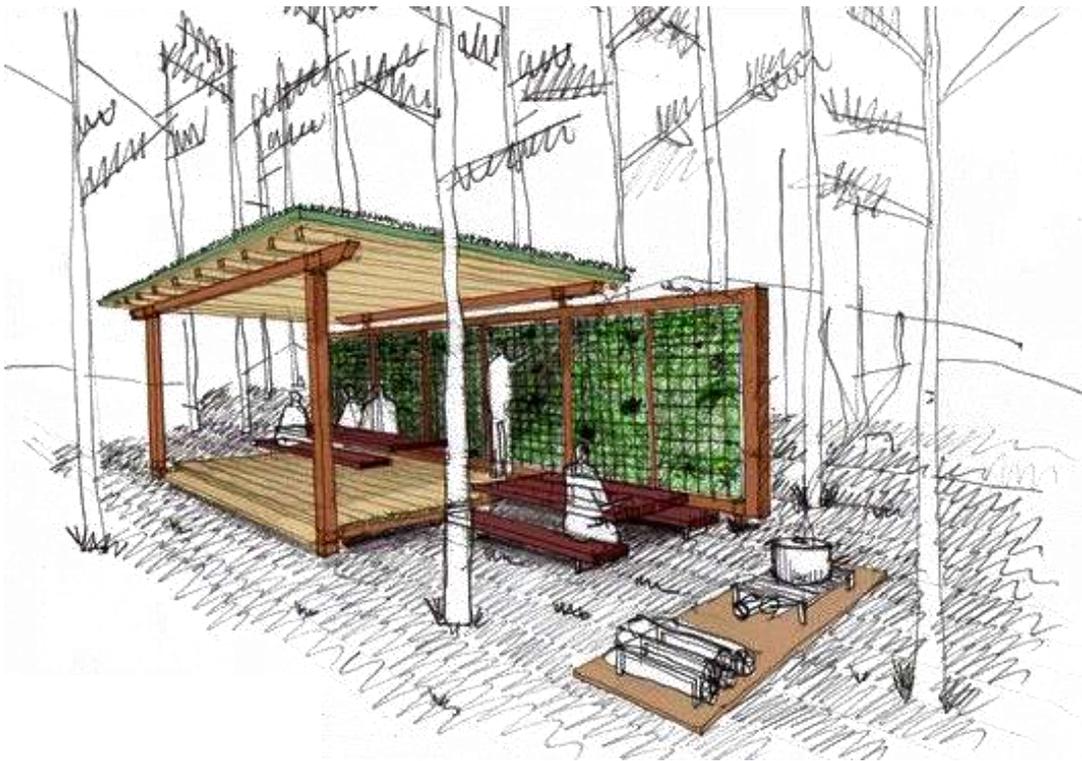
Privacy



Beach nourishment, Miami



Beach nourishment engineering



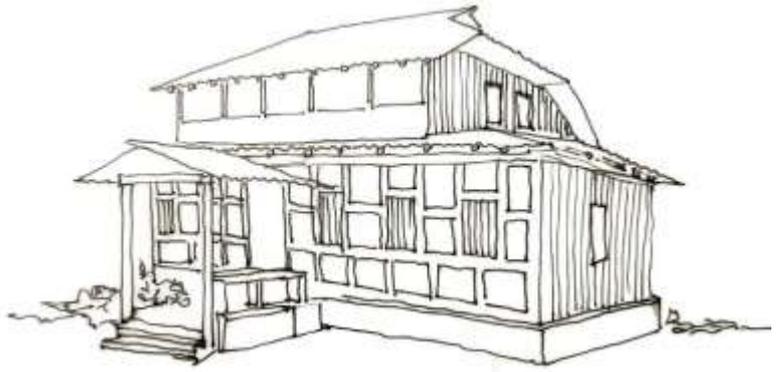
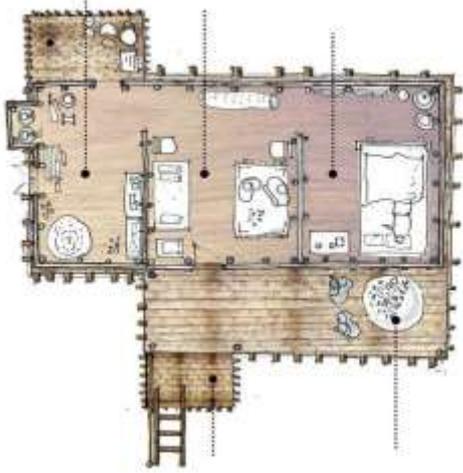




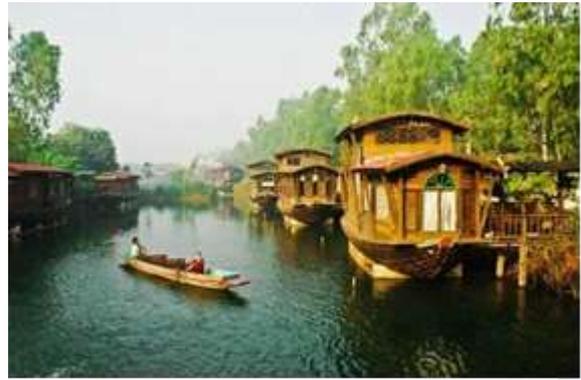
Fig 3.4: Conceptual Plan for Sonar Char

3.5.2 Option 02: Luxury on Water

Bangladesh is the land of rivers and the boats on the river are the niche of our riverine life. Similarly sea going boats are the soul-beat of our costal life. We may have opportunity to transform those boats into 'Flotel' for the tourists like the example of Alappuzha in Kerala, India. The glory of Alappuzha sightseeing grabs the attention because of the beautiful Laccadive sea that shares its borders with the palm-fringed lakes and lagoons. The Alappuzha houseboats were inspired by upgraded version of the old-age Kettuvallams and are well-equipped with all the luxuries of a good hotel room like air conditioners, modern toilets, cozy living rooms, etc. Those are widespread among the honeymooners, backpackers, foodies, families, solo travelers, or weekend vacationers. Thus the Alappuzha tourism to gain recognition from across the globe.



Rin Beach Resort, Thailand



Alappuzha, Kerala, India

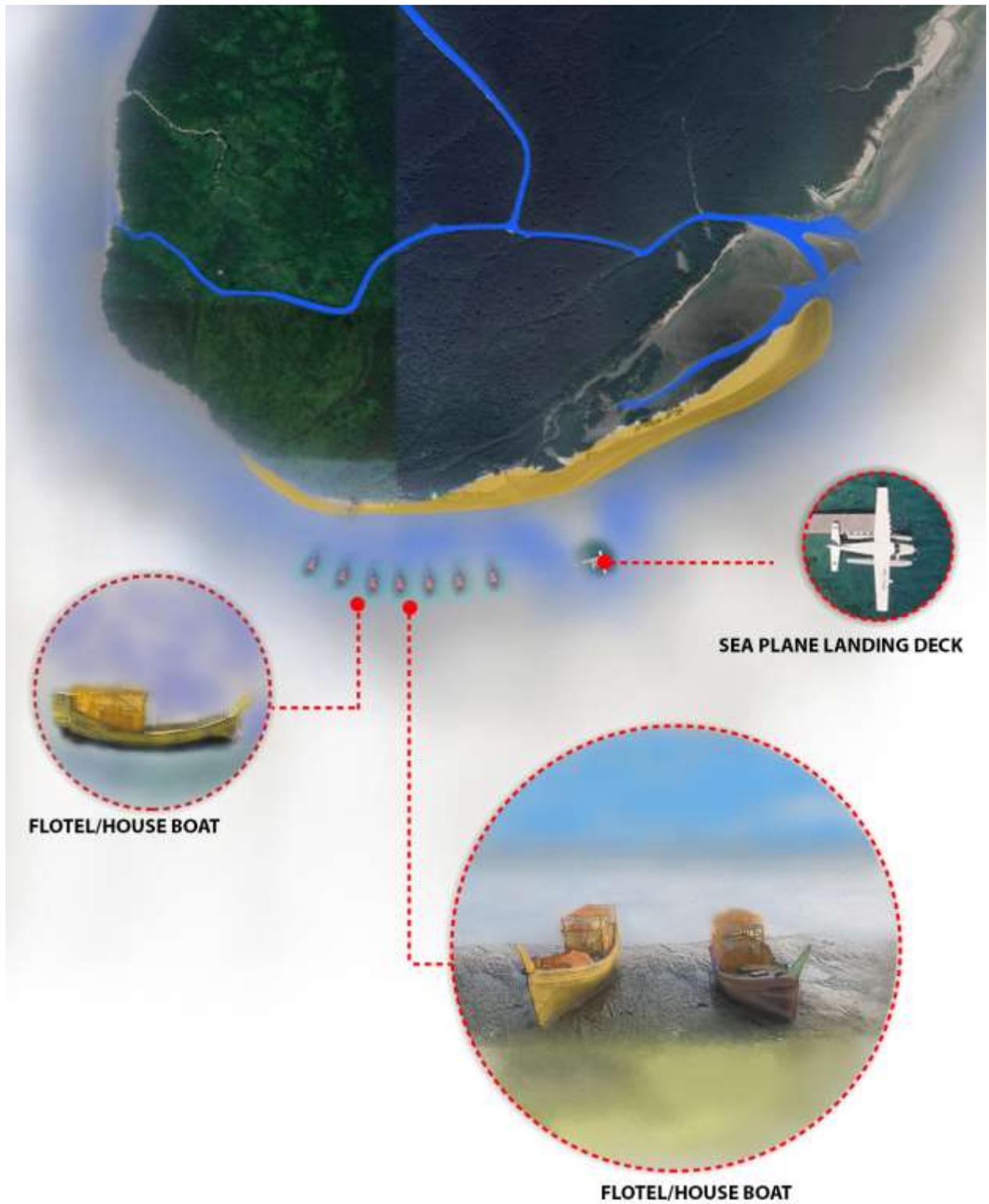


Examples of House boat (Flotel) tourism showing environment & facilities

Fig 3.5: Water Tourism Plan for Sonar Char

Similar like that, we may convert the sea going fishing boats into houseboats and adapt the modern hotel room facilities within those. These transformation will be the main pull factor and attraction of the tourists. At the same time, we can make sure the less eco-foot print on the Sonar char. Only dining, landing dock, back house facility and security concern may be constructed on soil.

Conceptual idea:



Design Concept of Flotel/ House boat

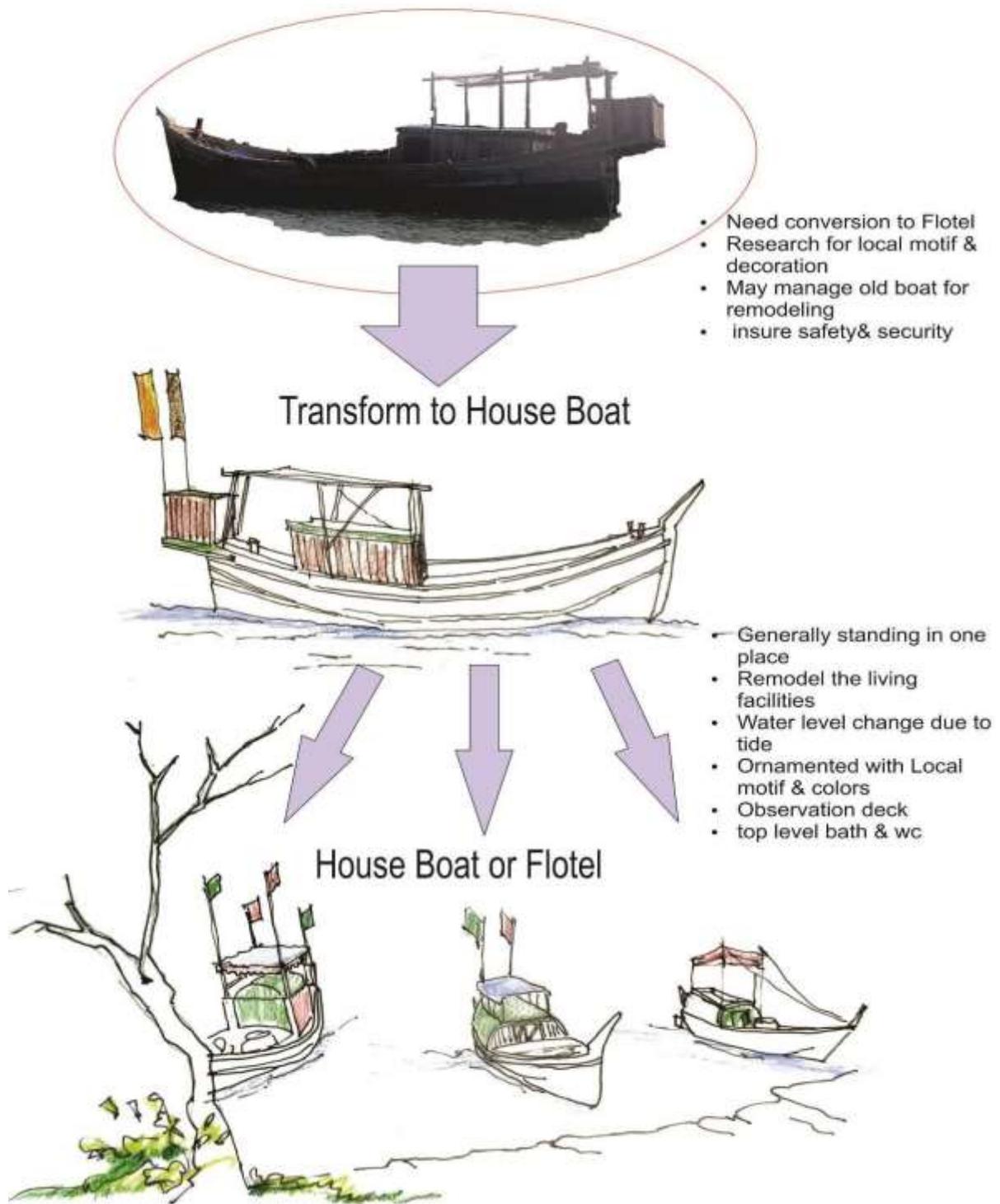


Fig 3.6: Water Tourism Boat for Sonar Char

3.5.3 Option 03: Develop day-stay tourism & community tourism

With this option, night stay facility for the tourists may not allow on Sonar char. Tourist will come and enjoy the natural landscape, forest, beach and facilities till the evening or having the early dinner in moonlit night. After then, with a guided transport, they will back to their hotels that accommodate nearby island like Char montaz, Andar char or Ragabali.

Various day-tourist facilities like boat safari, mud beach experience, scuba diving, deer spotting/sighting and any other thrilling experiences for the paid tourists may be housed at Sonar Char. An eco-tourist complex with dining, landing dock, back house facility, security post, beach loungers, elevated forest path, watch tower, pool etc. will be designed and constructed following the principles of sustainable development.



Relax with nature in day tour



This option allow to promote the community tourism with local people and they will be the prominent stakeholder of this project. Our female members of the society will benefited. Beside that Local house form any act as inspiration for architectural form.



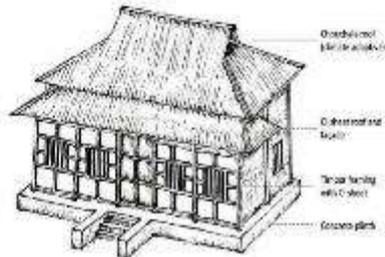
Landscape and House Type



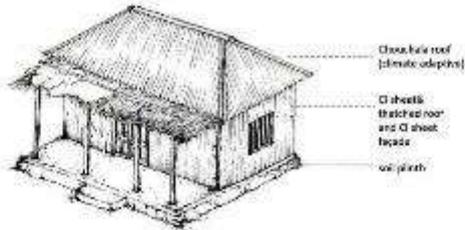
Fig: Thematic Landscape of this region



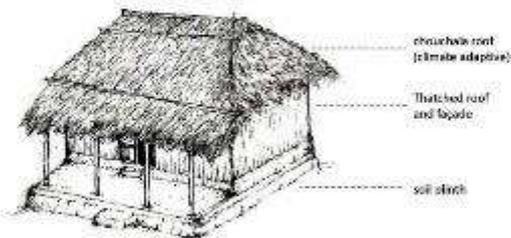
House Type-1



House Type-2



House Type-3



House Type-4



House Type-5



Fig 3.7: Local House form Study

A house is a dwelling place, constructed as a home for one or more person. It is synonymous with love, warmth, protection and shelter irrespective of whether it is a crude hut or an elaborate mansion, and whatever its degree of intrinsic architectural interest. The physical appearance of a house depends on the surrounding environment (climate and terrain), available building materials, technological know-how, and such cultural determinants as the social status and economic resources of the owner or owners. In rural areas until modern times, people and animals were often housed together; today's houses frequently include storage, work, and guest areas, with several separate spaces for different activities. Those Traditional house will be the source of design ideas for eco resort. A detail study on those houses are need further.



Conceptual idea:

Following maps showing the inter connectivity of the neighboring islands with the development of different facilities of tourism.

Design concept of Community Tourism

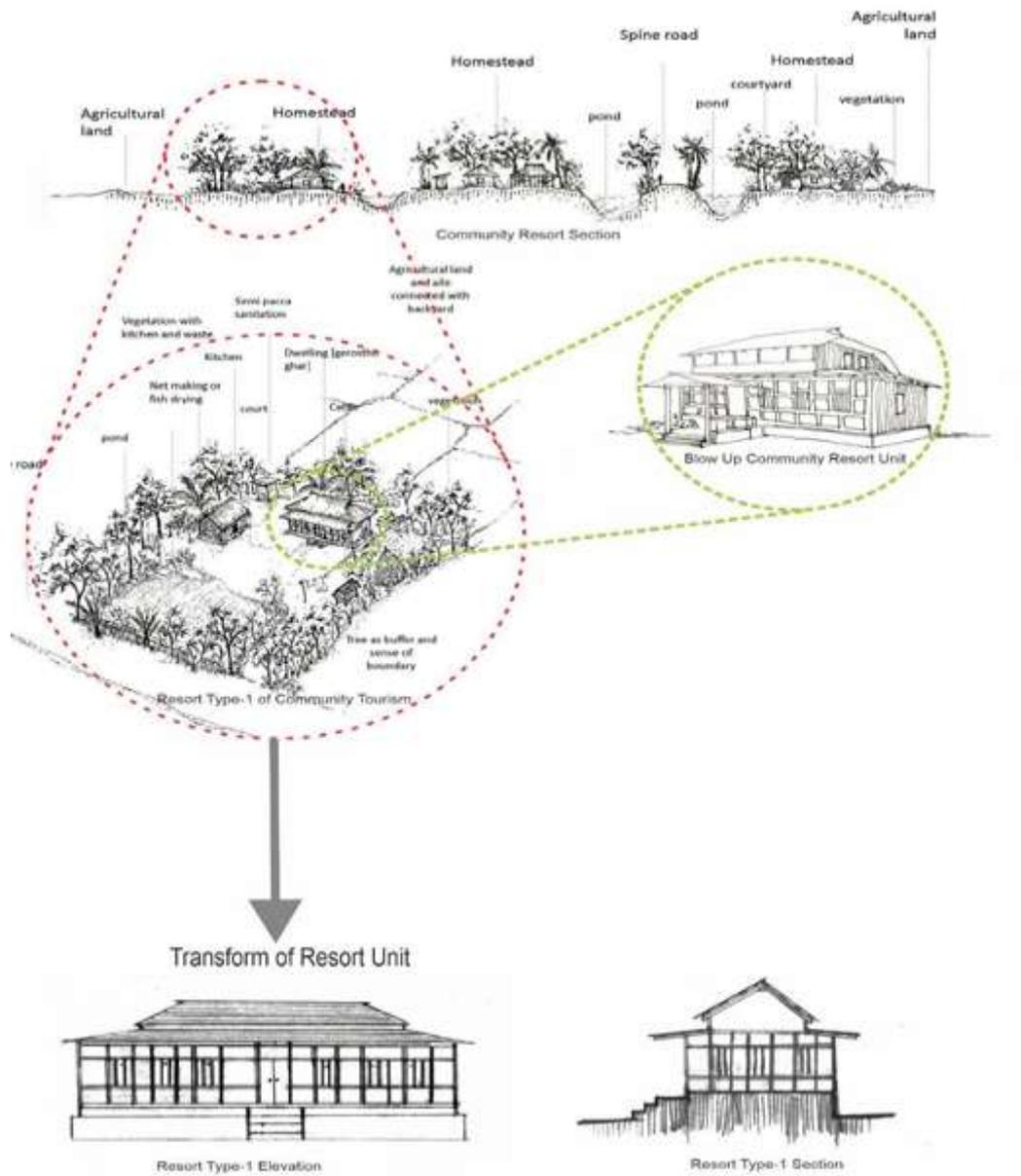


Fig 3.8: Local House Conceptual Idea

3.5.5 Option 04: Hotel barge or aristocrat steamer living

A hotel barge is a type of ship/ boat that has been built or converted to serve as a hotel or other kind of lodging. Hotel barges are generally found on rivers and canals in Europe, and may be used for river cruises or permanently moored in one place. Hotel barges came into being following the decline in commercial and freight carrying on the canals of Europe. Many working barges have been converted into floating hotels of varying degrees of luxury. This trend began in the 1960s and has now grown into a network of hotel barges operating on the canals and rivers of France, Belgium, the Netherlands, Germany and the UK.



We can convert the century old rocket steamer to this kind of barge hotel. The aristocracy and significance of heritage living on water will attract the tourist as a special magnet of attractive feature for this region. Moreover new establishment cost for resort may be minimized. This type of adaptive reuse of old ships will open a new scope to hotel living in Bangladesh.

Design concept of Adaptive reuse of Rocket Steamer



- Need conversion to rocket steamer.
- Research for local motif & decoration.



Transform of accommodation use



- Generally standing in one place.
- Remodel the living facilities.
- Water level change due to tide.
- Ornamented with Local motif & colors.
- Observation deck.
- Top level bath & wc.



4.1 Conclusion

This study has covered some components in both eco- tourism as well as scope of community tourism for the Payra-Kuakata region along with architectural potentialities and possibilities. The main inspiration for the development and form of the eco-concern architecture comes from the local context and the surrounding community. Main approach to eco-design is through the least disturbance of the site and its surroundings. The report propose some idea and concepts of architectural building that conserve and enhances the natural environment, through human conscience and habitat renovation by introducing different levels of sustainability. Further study with other detailing as well environmental significance may enrich the design components.