

Integrated Eco-tourism Planning & Sustainable Development: A Case of Beyt Dwarka (Shankodhar Bet) Island Gujarat

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Abstract -The paper identifies the eco-tourism development planning and sustainable development in Beyt dwarka island Gujarat, India. Eco-tourism means management tourism and conservation of nature in a way so as to maintain a fine balance between the requirements of tourism, ecology, culture and local communities. The phrase “Integrated” includes aspects like environmental, social, economic, occupational and infrastructural which will ultimately leading to sustainable development of tourist destination. In a nutshell the development will be inclusive as much as possible so that sustainability can be achieved. The study purpose to formulate integrated tourism which leads sustainable development for Beyt Dwarka Island on the concept of eco-tourism. The objective of this research is to understand the parameters and selection for the integrated eco-tourism planning and sustainable development such as Tourism factors, Social factors, Environmental factors, Economic factors. The methodology will be adopted in this thesis, is primarily aimed to develop Beyt Dwarka Island, as an ideal eco-tourism destination of the state. Though, integrated eco-tourism planning for ecologically rich area having some specific type of constraints and problems, the applicability of this methodology will be shown with respect to Beyt Dwarka Island.

Key Words:Eco-tourism, Environment, Sustainable development, Conservation of Nature

1. Introduction

Eco-tourism has become an important economic activity in natural areas around the world. It provides opportunities for a visitor to experience powerful manifestations of nature and culture and to learn about the importance of biodiversity conservation and local cultures. At the same time, Eco-tourism generates income and economic benefits for communities. Eco-Tourism projects focus on pristine or fragile eco-system; hence run the risk of destroying the assets on which tourism depends. It could be as damaging as mass tourism if not properly organized. WTO has defined it

as ‘Tourism that involves traveling to relatively undisturbed natural areas with specified object of studying, admiring and enjoying nature and its wild plants and animals, as well as existing cultural aspects (both of the past and present) found in these areas.’ In the fields, well planned and managed Eco-Tourism has proven to be one of the most effective tools for long term conservation of bio-diversity when the right circumstances are present. With local people, Eco-Tourism is a form of nature-based tourism and a strong imperative of sustainability. Moreover, it is closely associated and culture. Conversation, sustainability, and biological diversity are three inter-related aspects of Ecotourism. But, sustainability is most important among the three because sustainable development ultimately helps to achieve the goal of eco-tourism of a particular tourist destination. Basically, eco-tourism planning follows the concept of sustainable development which tells proper or appropriate use of resources and sustains it for the future generation. The phrase “Integrated” includes aspects like environmental, social, economic, occupational, and infrastructural which will ultimately be leading to the sustainable development of tourist destinations. In a nutshell, the development will be inclusive as much as possible so that sustainability can be achieved.

2. Methodology

The methodology will be adopted in this thesis, is primarily aimed to develop Beyt Dwarka Island, as an ideal eco-tourism destination of the state. Though, integrated eco-tourism planning for an ecologically rich areas having some specific type of constraints and problems, the applicability of this methodology will be shown concerning for to Beyt Dwarka Island.

3. Problem statement

The overall physical infrastructure on the island is not very developed. The locals depend on Okha town for their basic health, education, water, power, and other daily needs. The condition of roads is extremely poor on the island with only part Island accessible. There is no sewerage treatment plant and solid waste management mechanism on the island. The place has religious importance and is associated with Lord Krishna. There is no tourism infrastructure such as hotels, motels,

passenger vehicles, tourist information centers, etc. on the island. Considering the religious importance and poor mainland connecting infrastructure, the government is keen to develop this location not only to provide connectivity to locals, support current pilgrimage activities but also to develop it as a tourist destination.

4. Study area

Introduction

Beyt Dwarka is located in the newly formed district of Dev Bhoomi Dwarka. It is a small island having a total population of about 8000. The development on the island is concentrated in a radius of about 500 m from the main temple complex. The total length of the island on the longer axis is approximately 12 km. The width varies from 300 m to 1800 m. The overall physical infrastructure on the island is not very developed. The locals depend on the passenger ferry service in to travel to Okha for their basic health, education other daily needs. The water and power requirements are met through the undersea connections with Okha. The condition of roads is extremely poor on the island with only part Island accessible. There is no sewerage treatment plant and solid waste management mechanism on the island. Portions of sewerage lines under construction can be seen in certain areas only The place has religious importance and is associated with Lord Krishna. Beyt Island also has several temples and mosques, where thousands of tourists visit every year. However, there is no tourism infrastructure such as hotels, motels, passenger vehicles, tourist information centers, etc. on the island. Three-wheelers are the only mode of transport available on the island. The temple complex lacks in support infrastructure like holding areas, tourism amenities, proposer circulation, security, etc. Other than religious activity, the Beyt also has beautiful untouched beaches in the Northern direction of the island, i.e. Dunny Point. During summer and winter, temporary camps are established to cater to the tourists interested in recreation activities and leisure. However, this number is very small as compared to persons visiting as pilgrimages. Considering the religious importance and poor mainland connecting infrastructure, the government is keen to develop this location not only to provide connectivity to locals, support current pilgrimage activities but also to develop it as a tourist destination.

On 15th August 2013, Devbhoomi Dwarka district was bifurcated from Jamanagar district and involved 4 Talukas this district. The Okha Municipality established 14 February 2006 and involve Okha ,Aarmbhada and Surajkoradi Village Panchayt. 31 December 2009 involve Beyt Dwarka Village Panchayt in Okha Municipality.

Location

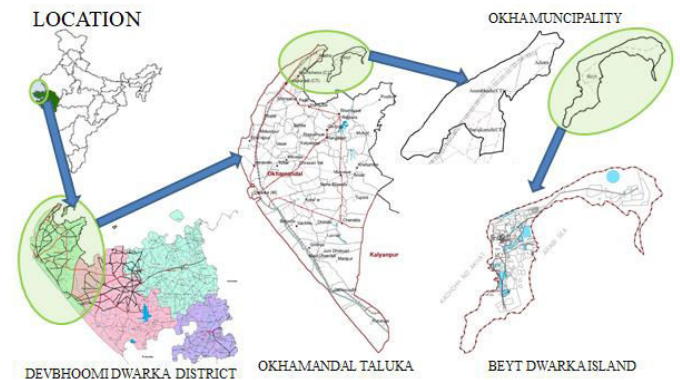


Figure 1 Location of Beyt Dwarka

Table 1 Beyt Dwarka profile

Island	Beyt dwarka (Okha Municipality)
District	Devbhoomi Dwarka
Taluka	Okhamandal
State	Gujarat
Country	India
Location	Latitude-22°26'58"N, Longitude - 69° 7'2" E
Area	8.87 sq.km
Population	8000 (2011 census)

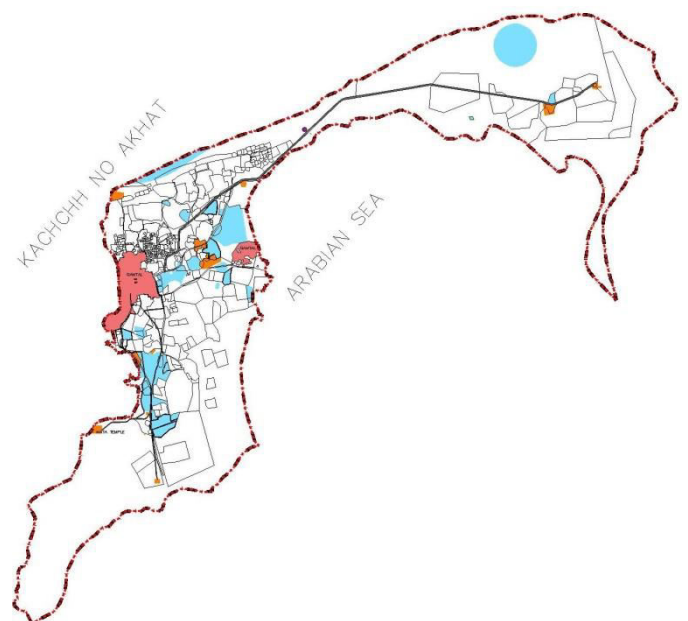


Figure 2 Beyt Dwarka map

History of Beyt Dwarka

Bet Dwarka is believed to have been the actual residential place of Lord Krishna during his ruling years at Dwarka. It is said the lord resided with his family at Bet Dwarka. The place derived its name from the ‘bet’ or ‘gift’ that Lord Krishna received at this place from his friend Sudama. In our ancient epic, ‘Mahabharata’ we often come across the reference of Bet Dwarka known by the name of ‘Antardvipa’ to which people of the Yadava clan needed to travel by boat. The island is also differently referred to as Shankhodhar. The reason is that it is dotted with a huge number and variety of conch shells. Explorations and excavations carried out under the sea revealed the presence of certain settlements whose age can be traced back to the era of the Harappan civilization and that of the Mauryan rule. The inscription of Simhaditya dated 574AD also makes a mention of Dwarka. The region was previously under the administration of the Gaekwad clan of the state of Baroda. During the revolt of 1857, Vaghers attacked the region and captured it. Around 1859 the rebels were overthrown and the region was retrieved by its actual rulers. Post-independence, the region became part of the Saurashtra state which later merged with the state of Bombay. When the state of Gujarat was carved out of the Bombay state, Bet Dwarka was included as part of Gujarat’s Jamnagar district. On 15th August 2013, Devbhoomi Dwarka district was bifurcated from Jamnagar district and involved 4 Talukas this district. The Okha Municipality was established on 14 February 2006 and involves Okha, Aarmbhada, and Surajkoradi Village Panchayat. 31 December 2009 involve Beyt Dwarka Village Panchayat in Okha Municipality.

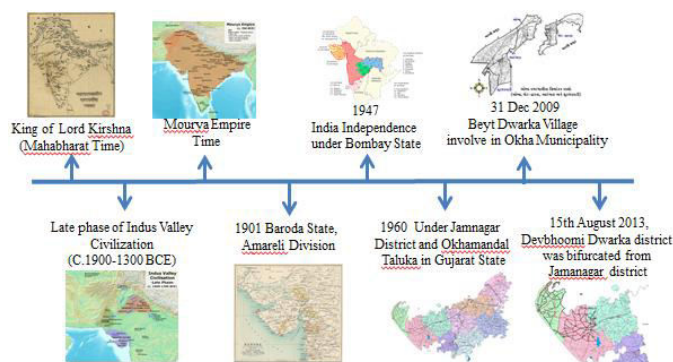


Figure 3 Beyt Dwarka Timeline

Important location of Beyt Dwarka

The place has religious importance and is associated with Lord Krishna. Beyt Island also has several temples and mosques, where thousands of tourists visit every

year. However, there is no tourism infrastructure such as hotels, motels, passenger vehicles, tourist information centers, etc. on the island. Three-wheelers are the only mode of transport available on the island. The temple complex lacks in support infrastructure like holding areas, tourism amenities, proposer circulation, security, etc. Other than religious activity, the Beyt also has beautiful untouched beaches in the Northern direction of the island, i.e. Dunny Point. During summer and winter, temporary camps are established to cater to the tourists interested in recreation activities and leisure. However, this number is very small as compared to persons visiting as pilgrimages.

Considering the religious importance and poor mainland connecting infrastructure, the government is keen to develop this location not only to provide connectivity to locals, support current pilgrimage activities but also to develop it as a tourist destination.



Figure 4 Important location of Beyt Dwarka

Tourism activities

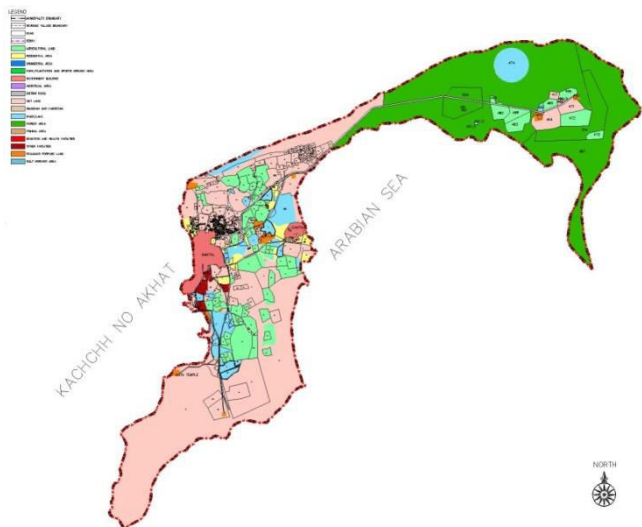
The major attraction of this island is the Dwarakadhish temple. It is estimated that about 2000 to 3000 people visit this temple every day and this number amounts to about 15000 to 20000 on festivals like Janmashtmi, Holi, Deepawali, Poornima, and Christmas. Several people visit the Hanuman temple during Hanuman Jayanti while during the id festival Hazi kirmani is reported to be visited by thousands of Muslims from Gujarat.

Land use map

Beyt dwarka is maximum land of wet land and forest area land and other propose land area. Gamtal area in residential, commercial, public utility area, religious propose area, government building, religious propose land. As mentioned, all the settlements on Beyt Dwarka Island are mainly concentrated in a radius of 500m around the Dwarakadhish temple. Many shops and other commercial establishments are alsolocated in the immediate vicinity of the Temple. Thus, land

availability close to the temple is a constraint. On the south side, large land parcels are available to locate the

Figure 5 Beyt Dwarka Land use map



facility.

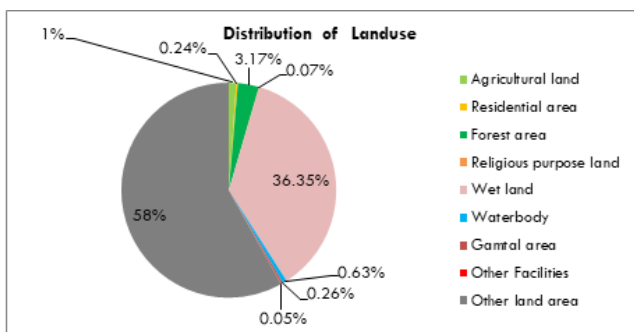


Chart 1 Distribution of Land use

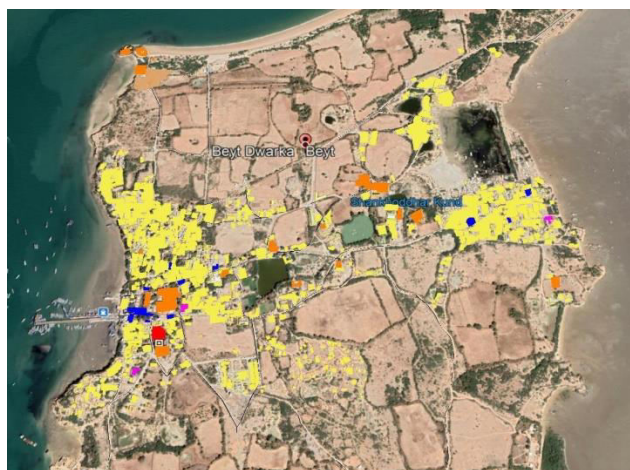


Figure 6 Gamtal & Out-Growth Land use map

5. Data Collection and Analysis

Proposed sea link-bridge connecting Okha with Beyt Dwarka

Construction of new 4 Lane Signature bridge with 900m long central cable stayed module connecting Okha and Beyt Dwarka including construction of approaches on

new national highway no NH-51 in the state of Gujarat. Bridge connecting Beyt Dwarka and Okha was carried out by GMB through M/s WAPCOS Ltd.



Figure 7 Proposed Signature Bridge location

Environmental and Ecological Data

The area has ecological significance due to its proximity to the Narara Marine National park, which is rich in biodiversity. It was very relevant to establish a baseline for environment and this section presents the air, water, noise, sediment quality and ecology of the area close to the site.

Ecology and Biodiversity

Location further north of the Hazi kirmani mosque has presence of forest and marine National park, while the entire area on the southern side of the island is marked as reserved forest. The area around Beyt dwarka is rich in biodiversity and is known to have Coral reefs, Hard and Soft Corals, Sponges, Prawns, Crabs, Molluscs, Endangered Sea Turtles like the Green Sea, Oliver riddle and Leather back, Porpoise, Common Dolphins (Indo-pacific bottlenose Dolphins and Indo-pacific Hump-backed Dolphins), Dugongs, Ray fishes, Brown, Green and Red Algae, Mangroves and many Birds.

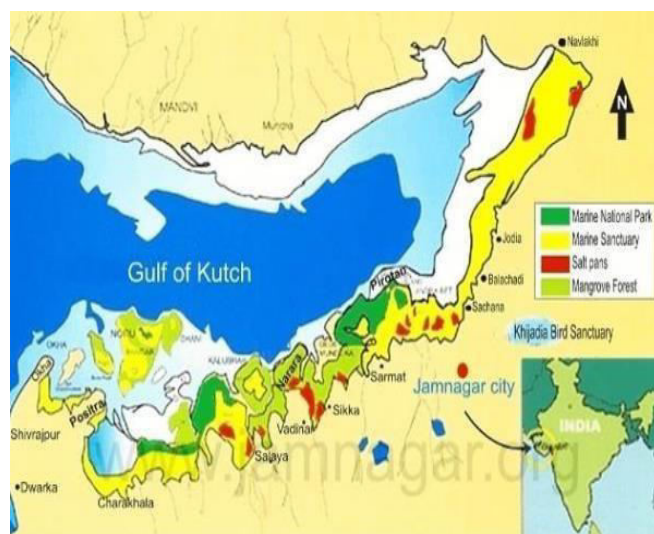


Figure 8 Narara Marine National Park and Sanctuary

Flora and Fauna

Marine flora and fauna

The marine water samples indicate poor phytoplankton concentration which was also evident from the pigment concentration. Nitzschia, Thalassiosira, Navicula, Pleurosigma and Chaetoceros were recorded to be the most dominant genera observed in Beyt Dwarka Island. Similarly, zooplankton biomass also indicated very low secondary productivity. Copepods, Foraminiferans, decapod larvae and gastropods were dominant in Beyt Dwarka Island. Beyt Dwarka Island is rocky and shallow along with poor phytoplankton and zooplankton diversity could be a significant reason for absence of fish resources. Beyt Dwarka Island does not support any fishing activities.

Terrestrial flora and fauna

Shankodhar island reserve forest represents tropical dry mixed deciduous shrub and desert thorn type of forest. Owing to less rainfall and hot climate vegetation is Xerophytic in nature. Prosopis juliflora is a dominant tree species along with acacia Niatica, acacia Senegal. Azadirachta indica, Emplica officinalis, Pithecellobium ducle, Prosopis cineraria, Tamarindicus indica, Ziziphus mummularia and Ziziphus oenopli. Shrubs such as Euphorbia, Euphorbia nivulia, Calotropis gigantean, Calotropis procera, Lantana camera, Nerium indicum were also reported during the study.

A total of 65 species were identified from the study region and Common myna, Black myna, Rosy pastor, Redvented bulbul, Whitechecked bulbul, Drongo, Bluerock pigeon, purple sunbird, house crow, jungle crow, cattle egret, house sparrow are commonly observed birds.

Coastal Zone

It is very important to ascertain the coastal regulation zone(CRZ) status of the site proposed for the sustainable eco-tourism facility. Any development has to abide to the CRZ Notification, 2011 and is also required to obtain environmental clearance.

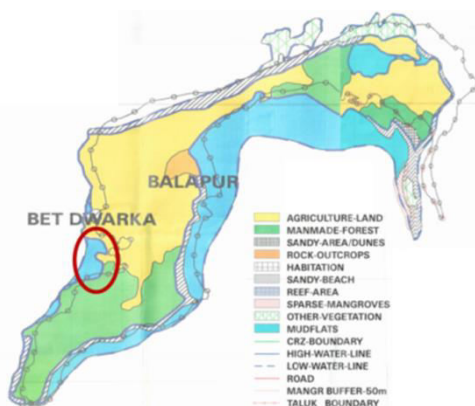


Figure 6 Coastal Land use map

Archaeological significance

Beyt Dwarka Island has been identified as an important archaeological site. National of oceanography (NIO), Goa had undertaken many excavation works within intertidal zone as well as on the land. The earliest excavation work on the island was undertaken in 1930s, while work carried out during 1969 and 1970 provided a large number of evidences, i.e., potsherds from late harappan to medieval period. Many investigations were undertaken between 1981 and 2002.



Figure 5 Excavation Sites of Beyt Dwarka

Table 2 Coordination of the Excavation sites close to the proposed Marine facility

Sites	Latitude	Longitude	Remark
BDK-I	22° 25' 40"	069° 05' 24"	Early historic
BDK-II	22° 25' 52"	069° 05' 40"	Early historic
BDK-III	22° 25' 53"	069° 05' 46"	Early historic
BDK-IV	22° 26' 03"	069° 06' 13"	No archaeological remains
BDK-V	22° 26' 41"	069° 05' 46"	Early historic
BDK-VI	22° 27' 38"	069° 05' 46"	Proto historic

Traveller profiling

The survey respondents were found to be categorized in their distinct forms which were dominated by family group. These travellers are accounted as homogenous pilgrimage group of party size varying from 4 to 8 which includes both adults and young kids.

The analysis of responses to the query for registering the place of origin for the visitors arriving in Beyt dwarka island gave an interesting comparative in which its lead by regional travellers which includes drive distances varying from 2 hours to 12 hours. The majority of regional tourist traffic comes from larger cities in neighbouring districts i.e. Rajkot, Porbander, Jamnagar, Junagadh and Ahmedabad.

During the interviews, it was recorded that Beyt dwarka island visitation is considered as an extended itinerary for most of the pilgrims visiting Somnath and Dwarka temples. There were very minimum international tourists recorded during the interview, however, it can be attributed to limited road and air connectivity to larger tourist attraction towns in Gujarat.

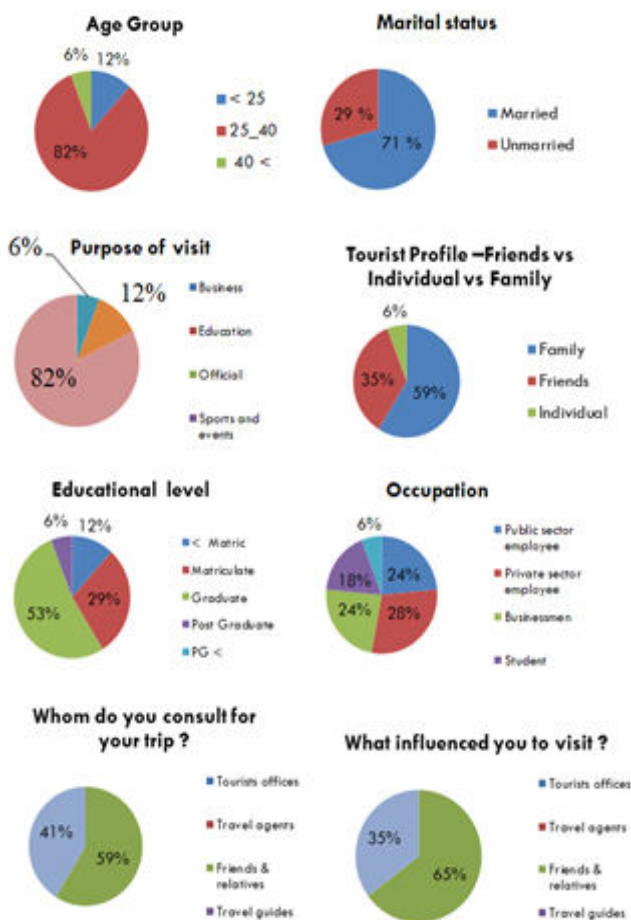


Chart 2 Traveller profiling survey

Local people profiling

The role of tourism in the development of the area for local people regarding the opinion of Beyt Dwarka island tourism is responsible for overall island growth, tourist inflows increase the occupational opportunities, tourist inflows provide the guidelines for modernization in infrastructural facilities. The tourism impact of the community for it increases the educational opportunities to the children of the area. Impacts of tourism for tourist inflows effect on the local culture, tourism provides employment to local youth.

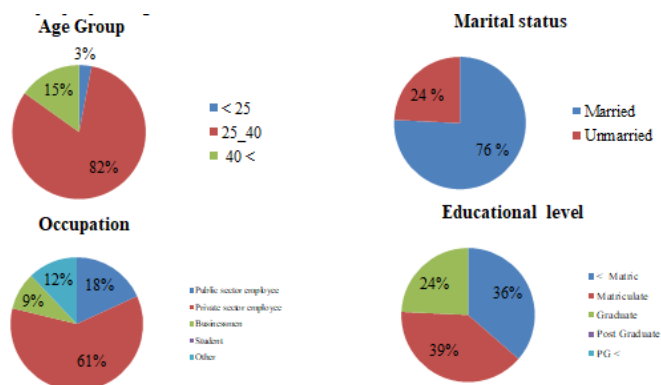


Chart 3 Local people profiling survey

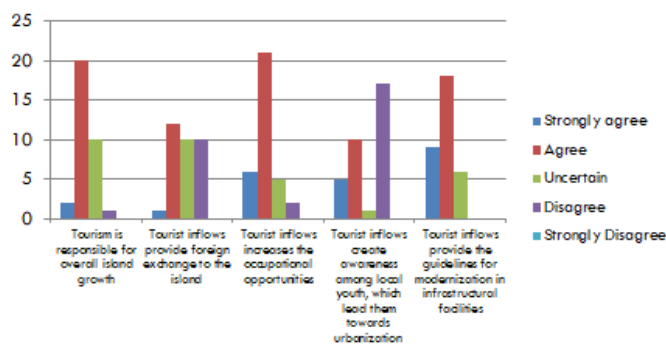


Chart 4 Role of Tourism in the development of area

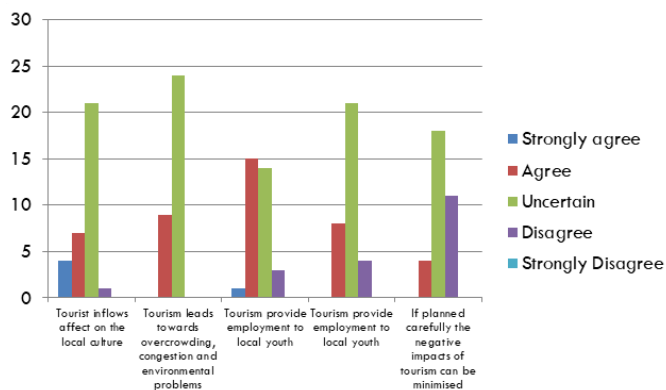


Chart 5 Impact of Tourism

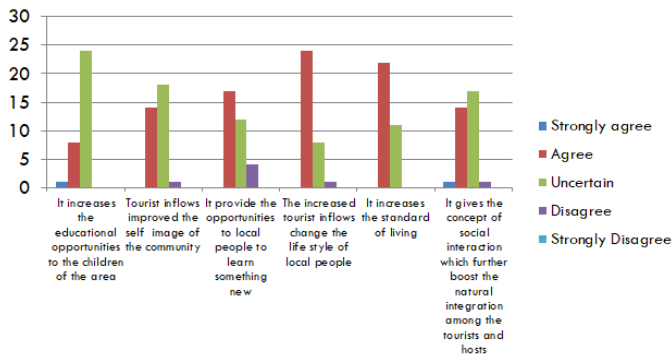


Chart 6 Tourism and Community

6. Inference

SWOT Analysis

Based on the outputs provided by the Position Beyt dwarka study area, it is possible to take out the main strengths, weaknesses, opportunities and threats of the present ecotourism organization of the project area. This methodology is a critical approach for identifying long term ecotourism sustainable model to be implemented by local public and private stakeholders.

Table 3 SWOT Analysis

Strengths S	Weaknesses W
-Destination already knew at national level for its religious attractions	-Very limited tourism infrastructures
	-Very low quality of the existing tourism infrastructures
	-Lack of professionalism of the staff
	-Lack of skills and competences about tourism sector at public and private level
	-Lack of self-sustainable tourism model adopted by local stakeholders
	-No organized tourism products in the project area
	-Lack of a clear urban and environmental

Opportunities O	Threats T
-The new infrastructures and activities promoted by the World Bank program	-Limited collaboration among public-private tourism stakeholder's and local communities
-Planning to build a bridge connecting the island to the continent	
-Ecotourism development as priority for the local and State policy in the project area	

Eco-tourism Strategy

Considering the present situation as summarized in the SWOT analysis, the ecotourism development strategy should take into account the following key factors:

- 1) Training and aware comparing should have to be addressed to local communities with the aim to prepare them to the tourism sector (tourism quality and services and environmental protection are the most important issues).
- 2) Development of a very well organized public-private entity should have to be a must of the ecotourism development model.
- 3) Promoting the involvement of local population in the ecotourism supply
- 4) A “code of conducts” should have to be developed for local population and tourists, especially referring to the using of public toilettes, solid waste system, environmental preservation, etc.
- 5) Local population should have to be directly involved in the management of the tourism infrastructures and activities with the aim to make ecotourism sustainable for the project area.

7. Conclusions & Recommendation

Beyt Dwarka Island is at its first stage of tourism development circle, and it is possible to say that “the Island is starting its tourism development, slowly”. Globally seen, Beyt Dwarka is an appreciated religious

destination able to attract twenty thousands of tourists / pilgrims within the year. This tourism is mainly concentrated during time every year (Janmashtmi), while during the rest of the year the flows are very limited, with the exception of other festivals and other local and State events. This integrated Ecotourism planning and sustainable Development shall be considered as an opportunity for Beyt Dwarka Island to develop local economy through tourism, especially considering its integrated approach. For this reason, some suggestions that should be taken into consideration during the implementation of the Plan are listed as follows:

1) Involve as much as possible local NGOs and state universities for capacity building and training activities.

As stated in the study and survey analysis, local stakeholders and population are not used to the tourism industry yet. Local economy is mainly based on traditional agriculture and fishing, while there is a general lack of skills and competences on how the tourism product is structured and the tourism sector is organized. Training and technical assistance are two very important activities to be addressed to local population with the aim to involve them into the tourism sector. To do this, it will be very important to collaborate with local NGOs, already working in the project area, and state universities. It is because they already know the local stakeholders, making easier their involvement in the next project activities (organization of the Community-based Tourism Council, Committees, etc.)

2) Establish the Community Based Tourism Council and Committees as important tools where public and private sectors and local communities works together for promoting economic development through tourism.

There is growing consensus that successful tourism development entails integrating the participation of local businesses, tourists, local governments, and local residents. Maximum visitor enjoyment and local economic benefit can only be attained by a coordinated focus that brings local issues and concerns to the attention of regional and state decision-makers. The structural organization of integrated Ecotourism planning and sustainable Development Model has been conceived to stimulate the collaboration of all key actors of the project area for tourism development. For this purpose, permanent information and communication with all key actors will make the process transparent and so accessible to all stakeholders, without preferences or discriminations.

3) More appropriate roles for government as a facilitator rather than as an actor in the tourism industry.

Very often, the most important role played by local governments in tourism development is not only referred to its financial funds availability, but also to its role as legislation maker. In Beyt Dwarka Island, local government will be responsible to develop the present legislation framework in a way to help the development of new tourism services, mainly managed by micro enterprises. The Consultant will dedicate specific training for public officers with the purpose to develop skills and competences of the public sector on this issue.

REFERENCES

1. <https://www.unwto.org/>
2. <https://niti.gov.in/https://www.nio.org/>
3. http://sagarmala.gov.in/sites/default/files/TEFR_Beyt_Dwarka_0.pdf
4. <http://cgwb.gov.in/Regions/WCR/index.html>
5. https://www.researchgate.net/publication/235660257_The_Role_of_Ecotourism_for_Sustainable_Development_in_East_Coast_Economic_Region_ECEC_Malaysia
6. https://www.researchgate.net/publication/27668720_Archaeology_of_Bet_Dwarka_Island
7. <https://www.yourarticlelibrary.com/india-2/development-of-islands-in-india/42431>
8. file:///E:/M.PLAN%204%20TH%20SEM/ISLAND/inception_report_full_version.pdf
9. <file:///E:/M.PLAN%204%20TH%20SEM/ISLAND/g-greenecotourism-undp.pdf>
10. file:///E:/M.PLAN%204%20TH%20SEM/ISLAND/09_synopsis%20sagar%20island.pdf
11. <file:///E:/M.PLAN%204%20TH%20SEM/ISLAND/Transforming-the-Islands-through-Creativity-&-Innovation.pdf>

BIOGRAPHIES



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