

# Identification of Infrastructure Demand to Enhance the Tourism Potential of Tajpur, West Bengal

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**Abstract**—Digha is one of the popular tourist spots in West Bengal, India. But due to vast growth of tourist population in Digha it has already become too much congested place which is hampering the recreational activities of tourists. Tajpur, a beachside village near Digha, is calm and peaceful place and nowadays people are attracted to Tajpur more than Digha for its serenity. The tourism potential of Tajpur will augment if sufficient infrastructure facilities are provided. The paper aims to identify infrastructure requirements to expand the tourism potential of Tajpur so that it can sustain future population pressure. To find the tourism infrastructure demand of Tajpur, some parts are identified to study, that includes Chandapur, Khirpal, Bherichauli, Jaldha, Tajpur 1, Tajpur 2, and Berakhana. These mouzas are situated in between Shankarpur and Tajpur which is part of Ramnagar I CD block. Existing scenario of the study area is analysed based on demography, tourism activities, commercial activities, communication and transportation activities, socio-economic condition, social-physical infrastructure and landuse. Demand assessment of study area is prepared depending on the projected tourist population concerning demography, economic base, transportation, recreational facilities, health, education, industry, agriculture and waterbody.

## 1. INTRODUCTION

Tajpur is a beachside village in Midnapore district, which is situated near Bengal's most popular tourist spot Digha. Due to so much pressure of tourists, Digha has already become an over congested place. So, people are recently attracted to Tajpur beach for its calm and peaceful environment. Tajpur has the potential to grow as one of the most popular tourist destinations in India if proper planning strategies are adopted. Infrastructure for development is easily available in Tajpur as it has well connectivity with Kolkata. The sea beach of Tajpur has an unusual shape unlike the most sorted crescent shape. Tajpur has an inverted crescent shape of the beach, which gives an unusual panoramic view of the sea. It is almost unpopulated, consisting just a small hamlet of fisher folks, a wide variety of fauna including the almost extinct wild dolphin, turtle, red crab, and a variety of birds, including cranes, different species of ducks, sea gulls etc. It is

surrounded with patches of forests of casuarina trees. Tajpur is located in Purba Medinipur, West Bengal, India, on the shore of Bay of Bengal. Tajpur is situated between Mandarmani and Shankarpur. Tajpur is 170 km from Kolkata. Summer, monsoon and winter are the main seasons in Tajpur. April to June consists summer with maximum temperature of 37 °C. Although cold wind from sea keeps the weather pleasant in this time. July to September includes monsoon. Tajpur generally experiences an average rainfall with high humidity in the monsoon season. Winter sets in October and lasts till February. July to March is considered as the best time to visit Tajpur as weather stays most pleasant in this time. Frequent bus services are found to Tajpur from Dharmatala bus stand of Kolkata, Burdwan, Bolpur, Siliguri, Asansol, Baharampur and many other parts of West Bengal. Every bus routes towards Digha passes through Tajpur. Otherwise from Digha bus stand taxi, vans are available to reach Tajpur. In 2004, train services have started for Digha railway station. There is one DMU service from Santragachi railway station and there are three new trains from Howrah Station too. Taxi, vans are available to reach Tajpur from Digha railway station.

## 2. EXISTING SCENARIO OF STUDY AREA

To find the tourism infrastructure demand of Tajpur, some parts are identified to study, that includes Chandapur, Khirpal, Bherichauli, Jaldha, Tajpur 1, Tajpur 2, Berakhana. These mouzas are situated in between Shankarpur and Tajpur which is part of Ramnagar I CD block.

As per CENSUS 2011 the total population of Ramnagar-I is 161986. Total population of Tajpur study area is 6158 which is around 4% of total Ramnagar-I population. Tajpur is not highly populated. Some part of the western side of the study area is occupied by some residential zones in unplanned manner. Only 7% area is occupied by residential zone. Jaldha and Chandanpur are more populated than Khirpal, Bherichauli and Tajpur. No residential zone is found in Berakhana (Refer Figure 1). Berakhana is mainly occupied by casuarina trees.

Tourists are attracted by the virginity and secludeness of Tajpur beach. But there is lack of recreational area on the beach. No viewing platform is found near sea beach. A long stretch of Tajpur seaside is covered by casuarina trees. But there is lack of facilities to explore the natural beauty of casuarina trees. Another attraction of Tajpur is red crab. Many visitors from Digha and Mandarmani come to visit Tajpur beach to view the beauty of red crabs on sea coast. A water channel is running along the Tajpur main road which is crossing the central part of study area (Refer figure 2). The canal has high potential to attract the tourists.

Digha-Mandarmani area is becoming very congested. So tourists prefer to stay in Tajpur for the secludeness. In the year of 2001 the number of hotels in Tajpur was 2 which have been increased to around 25 in 2011. The percentage of Hotel is yet too short. In peak hours visitors face difficulties in finding hotels. Hotels and Resorts of Tajpur are situated on the eastern part of study area. Most of the hotels are established near sea beach. 1% of total land area is covered by commercial hotels and resorts which are very less for tourism based area. Less number of shops and markets are seen to support the visitors. There is a lack of shopping areas for local craft in Tajpur. A huge percentage of area is covered by fishing area on the eastern part. But a fish market is required to attract the tourists.

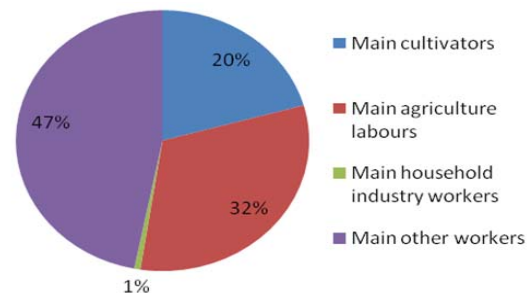


**Figure 2. Canal running through study area**

Tajpur is well connected from each part of West Bengal. Netaji Subhas Chandra Bose International airport at a distance of about 180 Km is the nearest airport. Bus is available from Esplanade Bus Terminus to Digha. Ramnagar railway station and Digha railway station are the two nearest railway station of Tajpur. From the railway station vehicle is available to reach Tajpur. Plenty of buses are available throughout the day that goes to Digha. Balisahi is the stoppage between Chowkhola and Digha from where van rickshaw is available to reach Tajpur. Parking Area for cars and other vehicles are not available near sea beach. It causes difficulties for tourists. Parking lot is very urgent need for the visitors who want to have only one day visit without a night stay in Tajpur.

Among the total population of 6158, only 2050 persons are working population i.e. 33% of total population. That means a huge percentage of people are having in scarcity of work. It can be assumed that if the commercial facilities as well as recreational activities are increased more number of people will be hired from the area and the economic condition of Tajpur will be increased. Equal percentage of people is involved in main and marginal work. 1032 persons are main worker and 1018 persons are marginal worker. Most of the people from main and marginal worker are agriculture based labors (Refer figure 3).

Around 8 schools are found in the study area. Most of the schools are primary school. One Higher Secondary school is found in Jaldha. More or less in every residential area temples are found. No electrical substation is found in the study area. It will be very difficult in upcoming days to sustain in the area without the provision of electrical substation as the commercial and recreational activities will increase in future. There is a lack of proper water supply system. Bore well is used for drinking water purpose in hotels as well as residential communities. No proper sewerage and waste water drainage system is found. Hotels and residences have septic tanks and soak pits. In some parts of planning area open kachha drains and small canals are found for storm water drainage.



**Figure 3. Type of main workers (Source: Census 2011)**

Most of the lands of study area are agricultural. Around 34% of total area is cultivation land. Area for communication and transportation activities is very less. There is immediate requirement of transportation facilities like road, parking stand etc. to support the growing number of visitors. Around 16% lands are occupied by canals, ponds, sea water. Some parts of Berakhana and Tajpur 2 Mouza are occupied by sea water. Around 6% of land is used for fishing and pisciculture. Private salt produced area is 12%. As a tourist spot the commercial area is very less which is around 1%.

### 3. DEMAND ASSESSMENT

Population of Ramnagar I as per CENSUS 2011 is 161986 which was 123402 in 1991 and 145418 in 2001. The growth rate was 17.84% from 1991 to 2001 and 11.39% from 2001 to 2011. The average decadal growth rate of Ramnagar I is 14.62%. If the decadal growth rate of Tajpur study area is

assumed to be 14.62%, the population will increase in 2021 from 6158 to 7058. The population will be around 8090 in 2031.

Assuming the decadal density growth rate as per Ramnagar I which is average 14.62 the projected density in 2031 of the study area will be 50 persons per hectare (Refer figure 4). At present total density of the area are 38 persons per hectare. As per URDPFI Guideline the areas having 75 to 125 pph density can be defined as small town. The projected density in 2031 of study area is 50 pph. So, the area can be described as small town.

The tourist inflow of Digha-Mandarmani-Sankarpur area in peak month was 355788 in 2008 (Source- Digha Shankarpur Integrated Beachfront Development Plan) which was increased to 371130, 403669 in 2009, 2010. The growth rate of tourist inflow in peak month was 4.3, 8.1 in 2008 to 2009 and 2009 to 2010. The average growth rate of Digha-Mandarmani-Shankarpur area is 6.18. As per reconnaissance survey it is observed that in peak month tourist inflow in Tajpur is around 1600 in 2011. If the average growth rate of tourists are assumed as Digha-Mandarmani-Shankarpur area i.e 6.18%, the tourist inflow in 2021 and 2031 will be 4371, 7962.

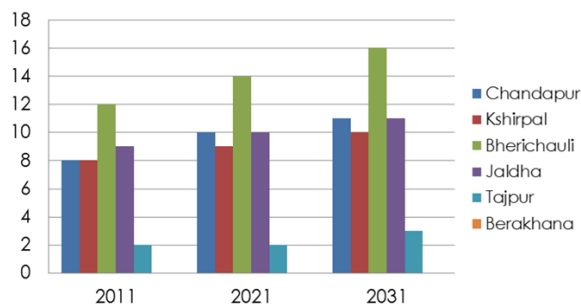


Figure 4. Projected density (pph) of study area

Sex ratio has been defined as the number of females per 1000 males in the population. Assuming the decadal male-female population growth rate as per Ramnagar I which is average 14.62 the projected male population in 2031 of Tajpur study area will be 4182 and projected female population will be 3908. In 2031 there will be 934 female per 1000 male.

Assuming the literacy rate growth same as like population growth rate which is 14.62 the total literate population in 2031 will be 6210 and total illiterate population will be 1880. It can be concluded that 77% of total population is literate which is quite high.

If the growth of workforce population is assumed as per the population growth rate the overall working population will be 2693 and non-working population is 1356 in 2031 (Refer figure 5). Non-working population may be employed to serve the tourism commerce in future

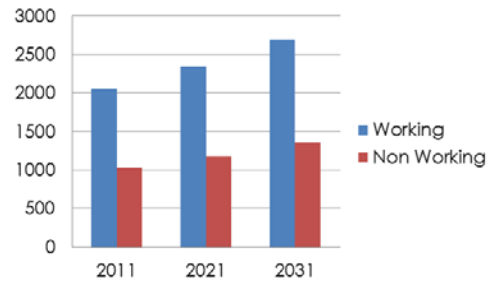


Figure 5. Projected workforce of study area

Projecting the occupations of the study area population same as the population growth rate it is observed that in 2031 most of the population will be involved in agricultural labor works and other works which is mainly service involved. 280 populations will be cultivator (Refer figure 6). As there is a potential for tourism development in Tajpur, most of the area will be occupied by commercial activities. A huge number of employment generations will be observed in commerce sector in near future. Population who are involved in agricultural works will shift to serve the commerce sector due to increased number of employment opportunity and economic growth.

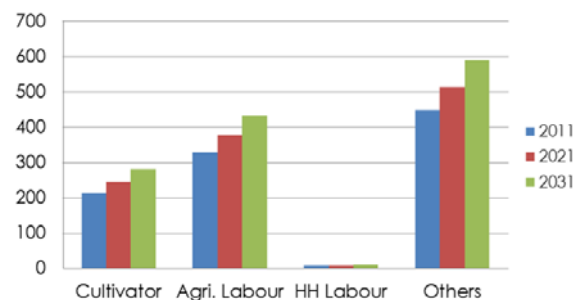


Figure 6. Projected occupational structure of study area

Commercial areas of study area are divided into two parts. One is for commercial shops, retail, services and another part is for resorts and hotels.

As per URDPFI guideline 2 to 3 % of the total developed area is required for commercial shops for a small town, which are around 33 ha for Tajpur study area. Type of shops which are to be included in the zone are formal general retail, formal fruit and vegetable shop, formal service and repairs, informal general retail, informal service and repairs.

As per tourist inflow projection, number of tourist population in 2031 in Tajpur will be around 8000. If it is assumed that 10 nos. of double bedroom cottage units will be proposed for each resort, only 20 nos. of tourists can be accommodated in each resort. To accommodate 8000 tourists in 2031 total 400 nos. of resorts required. If the land area of each resort is assumed to be 6000 sqm, total land area required for commercial resorts are 2400000 sqm.

As per URDPFI at least 10% of the total developed area is required for transportation in a small town. Distributor/Collector road, Local Street and Access road is required in the study area for better communication. Distributor/Collector road of 12 to 30 m width is required to distribute the traffic from access streets to arterial and sub arterial roads. They are characterized by mobility and access equally. It carries moderate traffic volumes compared to the arterial roads. Due to its overlapping nature, distributor roads can act as sub arterial and as access streets, depending upon the function and the land use of the surroundings.

Local Street of 12 to 20 m width is required for neighborhood (or local) use on which through traffic is to be discouraged. These roads should be made pedestrian and bicycle friendly by using modern traffic calming designs to keep the speeds within limits as per design. Access road of 6 to 15 m width is required for access functions to adjoining properties and areas. A majority of trips in urban areas usually originate or terminate on these streets.

As per tourist inflow projection in 2031 during peak months, the number of tourists will be around 8000. It can be assumed that 50% of the tourists will travel by car and 50% by bus. Tourist bus can accommodate 55 passengers and a car can accommodate 5 passengers at a time. So to accommodate total 8000 tourists 800 cars and 75 buses are required. Parking area is required for these vehicles in the master planning area. ECS for 800 cars are 800 and 75 buses are 187.5. Total ECS is 987.5. As per parking standard for open parking 23 sqm space per ECS is required for parking. In this case around 20000 sqm space is required for the vehicles. If another 20000 sqm is added to that for circulation purpose, around 40000 sqm is required for open parking.

As per URDPFI at least 12% of the total developed area is required for recreational facilities in a small town which is around 1400000 sqm in this case. The study area is going to be planned for tourism based activities. So the percentage of recreational area may be increased as per requirement.

The study area is highly concentrated to tourism activities. So it'll be better not to place educational facilities in that area. At the peak time when there will be a large number of tourist population, the noise may hamper the concentration of students, educationists, researchers.

The occupation of the local people is mainly based on salt production and pisciculture. For accommodating the commercial activities less percentage of that industrial land area should be used.

Waterbody should be kept intact to reserve nature. Forest area can be utilized as recreational purposes like, nature trail, canopy walk etc. There will be a high percentage of job opportunity in future due to the growth of tourism activities. Local people will tend to shift their occupations from agriculture to commercial services for higher economic gain.

#### 4. CONCLUSION

Digha is one of the popular tourist spots in West Bengal. But due to vast growth of tourist population in Digha it has already become too much congested place which is hampering the recreational activities of tourists. Tajpur, a beachside village near Digha, is calm and peaceful place and nowadays people are attracted to Tajpur more than Digha for its serenity. The tourism potential of Tajpur will augment if sufficient infrastructure facilities are provided to sustain future population pressure.

#### 5. ACKNOWLEDGEMENTS

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